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Theater Missile Defense Extended Test Range

Volume I

Final

Environmental Impact Statement

November 1994

UNCLASSIFIED
SECURITY CLASSIFICATION OF THIS PAGE

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1a. REPORT SECURITY CLASSIFICATION UNCLASSIFIED	1b. RESTRICTIVE MARKINGS
2a. SECURITY CLASSIFICATION AUTHORITY	3. DISTRIBUTION/AVAILABILITY OF REPORT On Request; Distribution F
2b. DECLASSIFICATION/DOWNGRADING SCHEDULE	
4. PERFORMING ORGANIZATION REPORT NUMBER(S)	5. MONITORING ORGANIZATION REPORT NUMBER(S)
6a. NAME OF PERFORMING ORGANIZATION U.S. Army Space and Strategic Defense Command 6b. OFFICE SYMBOL (*If applicable*) CSSD-EN-V	7a. NAME OF MONITORING ORGANIZATION
6c. ADDRESS (*City, State, and ZIP Code*) P.O. Box 1500 Huntsville, Alabama 35807-3801	7b. ADDRESS (*City, State, and ZIP Code*)
8a. NAME OF FUNDING/SPONSORING ORGANIZATION Ballistic Missile Defense Organization 8b. OFFICE SYMBOL (*If applicable*) GST	9. PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER
8c. ADDRESS (*City, State, and ZIP Code*) The Pentagon, Room 1E180 Washington, DC 20301-7100	10. SOURCE OF FUNDING NUMBERS PROGRAM ELEMENT NO. / PROJECT NO. / TASK NO. / WORK UNIT ACCESSION NO.
11. TITLE (*Include Security Classification*) Theater Missile Defense Extended Test Range Final Environmental Impact Statement (Unclassified)	
12. PERSONAL AUTHOR(S) Theater Missile Defense Extended Test Range Final Environmental Impact Statement Team, Mr. Dennis R. Gallien, Chairman	
13a. TYPE OF REPORT 13b. TIME COVERED FROM_____ TO_____ 14. DATE OF REPORT (*Year, Month, Day*) November 1994 15. PAGE COUNT 1,544	
16. SUPPLEMENTARY NOTATION	

17. COSATI CODES			18. SUBJECT TERMS (*Continue on reverse if necessary and identify by block number*)
FIELD	GROUP	SUB-GROUP	Final Environmental Impact Statement, Theater Missile Defense Extended Test Range

19. ABSTRACT (*Continue on reverse if necessary and identify by block number*)

The proposed action is to conduct extended range tests of target missile, defensive missiles, and sensor systems at one or more of four alternative test range areas. The tests would involve target and defensive missiles launches from existing test ranges and from off-range locations. Potential off-range launch locations may include land areas and sea-based platforms. Missile-to-missile intercepts would occur over existing test range areas or over open sea areas. Approximately 100 flight tests could occur during the period 1995 to approximately 2000, from more than on off-range location, and potentially from more than one test range area. Alternative locations for conducting these missile flight tests and intercepts, which are evaluated in the Theater Missile Defense Extended Test Range Final Environmental Impact Statement, are White Sands Missile Range, New Mexico; Air Force Base, Florida; Western Range, California; and Kwajalein Missile Range, U.S. Army Kwajalein Atoll, Republic of the Marshall Islands.

The Final Environmental Impact Statement address, to the extent possible, the potential environmental impacts that would result from test site modifications, launch preparation requirements, missile flights along the proposed flight paths, and intercepts of targets over existing ranges or open sea areas. Environmental resource topics evaluated include air quality, airspace, biological resources, cultural resources, geology and soils, hazardous materials/waste, health and safety, land use, noise, socioeconomics, infrastructure and transportation, and water sources. The potential for cumulative effects for each of these areas has also been addressed.

20. DISTRIBUTION/AVAILABILITY OF ABSTRACT	21. ABSTRACT SECURITY CLASSIFICATION
☒ UNCLASSIFIED/UNLIMITED ☐ SAME AS RPT. ☐ DTIC USERS	Unclassified

22a. NAME OF RESPONSIBLE INDIVIDUAL	22b. TELEPHONE (*Include Area Code*)	22c. OFFICE SYMBOL
Mr. Dennis R. Gallien	(205) 955-3887	CSSD-EN-V

FOREWORD

The Theater Missile Defense (TMD) Extended Test Range Final Environmental Impact Statement (EIS) comprises two volumes.

Volume I begins with the Executive Summary and Acronyms and Abbreviations. Section 1.0 of the Final EIS contains the introduction. Section 2.0 contains the additions and revisions to the Draft EIS and to the Supplement to the Draft EIS. Section 3.0 contains the responses to comments that were made on the two documents, and Section 4.0 includes an index to the commenters. Section 5.0 contains the agency comment letters and responses that pertain to the Draft EIS and the Supplement to the Draft EIS, while Section 6.0 lists the references used in the preparation of the Final EIS. Section 7.0 contains the list of preparers of the EIS, and Section 8.0 contains the distribution list for the document. Section 9.0 contains copies of the transcripts, exhibits, and written comments pertaining to the Draft EIS relevant to the Western Range Candidate Test Area. Section 10.0 contains copies of the transcripts, exhibits, and written comments pertaining to the Draft EIS relevant to the Eglin Air Force Base Candidate Test Area. Appendix A contains a discussion of cumulative impacts for the EIS, and Appendix B contains information pertaining to health and safety.

Volume II begins with an introduction as Section 1.0. Section 2.0 contains copies of the transcripts, exhibits, and written comments pertaining to the Draft EIS relevant to the White Sands Missile Range Candidate Test Area. Section 3.0 contains copies of the transcripts, exhibits, and written comments pertaining to the Supplement to the Draft EIS. No comments were received pertaining to the Kwajalein Missile Range Candidate Test Area.

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LEAD AGENCY: U.S. Army Space and Strategic Defense Command

COOPERATING AGENCIES: Ballistic Missile Defense Organization; United States Air Force; United States Navy; Federal Aviation Administration

TITLE OF PROPOSED ACTION: Conduct extended-range tests of U.S. Army ground-based Theater Missile Defense missiles and sensor systems at one or more of four alternative test range areas located within and outside the United States

AFFECTED JURISDICTION: White Sands Missile Range and Fort Wingate Depot Activity, New Mexico; Green River Launch Complex, Utah; Eglin Air Force Base (Santa Rosa Island and Cape San Blas), Florida; Naval Air Warfare Center-Weapons Division, (San Nicolas Island), Vandenberg Air Force Base, and Naval Air Station North Island (San Clemente Island), California; U.S. Army Kwajalein Atoll, Republic of the Marshall Islands; and Wake Island (Pacific)

PROPONENT:

Colonel Gregory Stolt
Director, Targets, Test and Evaluation Directorate
U.S. Army Space and Strategic Defense Command (CSSD-TE)
P.O. Box 1500
Huntsville, AL 35807-3801

Brigadier General Richard Black
Program Executive Officer Missile Defense (SFAE-MD)
P.O. Box 16686
Arlington, VA 22215-1686

APPROVED BY:

Brigadier General J.A. Van Prooyen
Deputy Commander
U.S. Army Space and Strategic Defense Command (CSSD-ZB)
P.O. Box 1500
Huntsville, AL 35807-3801

Rear Admiral R.D. West
U.S. Navy
Deputy for Acquisition/Theater Missile Defense
7100 Defense Pentagon
Washington, DC 20301-7100

DOCUMENT DESIGNATION: Final Environmental Impact Statement

ABSTRACT: The proposed action is to conduct extended range flights of target missiles and tests of defensive missiles and sensor systems at one or more of four alternative test range areas. The tests would involve target and defensive missile launches from existing test ranges and from off-range locations. Potential off-range launch locations may include land areas and sea-based platforms. Missile-to-missile intercepts would occur over existing test range areas or over open sea areas. Approximately 100 flight tests could occur during the period 1995 to 2000, from more than one off-range location, and potentially from more than one test range area. Alternative locations for conducting these missile flight tests and intercepts, which are evaluated in the Theater Missile Defense Extended Test Range Final Environmental Impact Statement, are White Sands Missile Range, New Mexico; Eglin Air Force Base, Florida; Western Range, California; and Kwajalein Missile Range, U.S. Army Kwajalein Atoll, Republic of the Marshall Islands.

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EXECUTIVE SUMMARY

ES.1.0 INTRODUCTION

The Environmental Impact Statement (EIS) for the Theater Missile Defense (TMD) Extended Test Range consists of the Draft EIS released for public review in January 1994, the Supplement to the Draft EIS released in July 1994, and the Final EIS released in November 1994. These documents were prepared in accordance with Council on Environmental Quality (CEQ) and Department of Defense (DOD) regulations implementing the National Environmental Policy Act (NEPA). The U.S. Army Space and Strategic Defense Command is the lead agency for the EIS. Cooperating agencies included the Ballistic Missile Defense Organization, U.S. Air Force, U.S. Navy, and Federal Aviation Administration (FAA).

The Draft EIS analyzes the potential environmental consequences of conducting missile program demonstration and operational test flights and target intercept tests involving both proposed off-range missile flight path extensions and existing test ranges at four candidate test areas: White Sands Missile Range (WSMR), New Mexico; Eglin Air Force Base (AFB), Florida; Western Range, California; and the U.S. Army Kwajalein Atoll (USAKA) in the mid-Pacific.

In order to reduce environmental impacts identified in the Draft EIS resulting from off-range booster drops, the U.S. Army proposed new potential booster drop zones at the WSMR Candidate Test Area based on revised target vehicle flight trajectory analysis, consultation with appropriate government agencies, meetings with the public and environmental groups, contacts with local land owners, and additional technical analysis. The Supplement to the Draft EIS documents the analysis of these additional potential booster drop zones located along the missile flight paths from the Green River Launch Complex (GRLC), Utah, and Fort Wingate Depot Activity (FWDA), New Mexico, to WSMR.

The Final EIS makes additions and revisions to the Draft EIS and Supplement to the Draft EIS and provides responses to all comments documented in public hearing transcripts and written comments received. The two volumes of the Final EIS, the two volumes of the Draft EIS, and the Supplement to the Draft EIS constitute the complete EIS. A Record of Decision will be issued no sooner than 30 days after publication of the Final EIS.

ES.2.0 RELATED NEPA DOCUMENTATION

The TMD Programmatic Life-Cycle EIS was completed in January 1994. This programmatic EIS is an umbrella or "first-tier" document which provides a description of the potential environmental impacts over the entire life-cycle of the proposed TMD program and alternatives. As such, it addressed in the broad terms that were possible at that time the potential environmental impacts of the proposed research, development, and testing; production; basing (not deployment); and eventual decommissioning activities supporting all of TMD. The Record of Decision for the TMD Programmatic Life-Cycle EIS was signed in August 1994. It necessarily focused on the technologies involved and is neither system- nor site-specific. It also committed to preparation of lower-tier documents to assess site- and program-specific environmental impacts as the TMD program matured and possible locations were identified for the individual actions. Some of those documents have been prepared; others will be.

In order to provide environmental support to the wide range of Army TMD activities, the Army's TMD program has been divided into three basic program efforts:

1. Specific TMD weapons development
2. Extended test range development
3. TMD program development support activities

The current and future environmental documents being prepared in connection with these three efforts are related to each other. However, each effort is being analyzed as a separate element because it requires a separate decision. In order to adequately incorporate environmental considerations into program decisions for TMD, this tiered-document approach is necessary. The environmental documentation for each program effort is described as follows.

1. Specific TMD Weapons Development

In the case of specific TMD weapons, the TMD program encompasses the potential for developing and testing several types of ground-based defensive radar and missile interceptor systems. The Army is preparing individual environmental assessments (EAs) for each of these systems as they reach decision points. Consequently, an EA has already been prepared for the Phased Array Tracking to Intercept of Target (PATRIOT), Extended Range Interceptor (ERINT [also known as the PAC-3 missile]), Army Tactical Missile System (ATACMS), Theater High Altitude Area Defense (THAAD), and Ground-Based Radar (GBR). An EA is currently in progress to assess HERA target missile launches from the Firing in Extension area north of WSMR with intercepts by defensive missiles on WSMR with particular emphasis on cumulative impacts. An EA for the Corps Surface-to-Air Missile (Corps SAM) has not yet been started because the weapon system is still in the conceptual stage.

2. Extended Test Range Development

The Army needs to identify one or more occasional-use, off-range extensions of existing test ranges where development of ground-based TMD systems can be conducted over longer distances than currently available. Unlike weapons which can be developed individually, the Army must find the right combination of extended test range sites that allow all TMD program testing needs to be met. Consequently, the TMD Extended Test Range EIS addresses all of the potential extended test range alternatives in a single document. This approach will allow decisions to be made that will address all TMD test range needs rather than making the decision on a weapon-by-weapon or site-by-site basis without the benefit of an analysis of cumulative and related impacts. This current EIS represents a second-tier document which is site-specific but takes a broad, programmatic approach in covering types of programs over multiple years. It describes the potential environmental impacts resulting from test site modifications and launch preparation requirements and from multiple missile demonstration and operational flights along extended-range flight paths with intercepts of targets occurring over existing ranges or open sea areas. These tests are in support of developmental and operational requirements for various planned ground-based TMD missile and sensor systems being developed by the DOD.

3. TMD Program Development Support Activities

In addition to weapon and test range development, there are other TMD program experiments and tests that must be conducted in order to develop the tools and criteria by which the Army can evaluate whether a proposed TMD weapon is effective or not. Program activities include the development of target missiles for flight testing the TMD weapons and tests to determine what constitutes sufficient damage ("lethality") to a theater missile or its warhead to remove it as a

threat. To date, these program development support activities have generated the need for several environmental documents, including the TMD Bulk Chemical Experiment EA (April 1991), the TMD Lethality Program EA (August 1993), and the TMD HERA Target Systems EA (January 1994).

Installation Environmental Documents--Various military installations are also in the process of preparing environmental documents that examine their continuing use and potential changes or additions to their present missions. These include WSMR (an EIS), Eglin AFB (an EIS), the USAKA (a Supplemental EIS), and Wake Island (an EA). The potential addition of a TMD program activity at a particular installation would be one of the items that an installation-wide EA or EIS would typically address. These subsequent installation-wide environmental documents may use the research and analysis found in TMD program environmental documents when assessing those aspects of the TMD program that are proposed for possible siting at their installation. This is an accepted procedure under the CEQ regulations implementing the NEPA and is referred to as "incorporated by reference."

As the TMD program continues to develop and mature into subsequent stages of production, basing, and decommissioning, the U.S. Government will undoubtedly identify other environmental analyses that need to be conducted to support the decision-making process. The timing of these analyses will be determined by the progression of the programs through the various stages that require decisions.

ES.3.0 PURPOSE AND NEED

In the Missile Defense Act of 1991 Congress called for the provision of a highly effective TMD program to defend forward deployed and expeditionary elements of the armed forces of the United States and U.S. friends and allies. Additional Congressional guidance in the fall of 1992 directed that all "theater and tactical missile defense activities of the Department of Defense . . . be carried out under the Theater Missile Defense Initiative" which will be established as the responsibility of an office within the DOD (Strategic Defense Initiative Organization, 1993). The Ballistic Missile Defense Organization (BMDO) (previously known as the Strategic Defense Initiative Organization [SDIO]) has been designated as the management office, with various elements of the TMD program being delegated to the Army, Air Force, Navy and Marine Corps. Each service will participate in the defense acquisition process in developing and acquiring its respective TMD program elements.

The purpose of conducting TMD extended-range tests is to provide realistic test situations for TMD missile systems within a simulated theater of operations, which includes defense against threat-representative target missiles. This requires conducting target and other missile system flights over medium-range distances (i.e., up to approximately 1,207 kilometers [750 miles]). These missile flight tests are needed to fully validate system design and operational effectiveness of ground-based TMD missile and sensor systems. Currently, there are no operational overland ranges and few over-water ranges operated by the United States that provide realistic distances for defense testing within such a simulated theater of operations.

ES.4.0 PROPOSED ACTION AND ALTERNATIVES

Under the proposed action it is anticipated that approximately 100 missile flight tests would be conducted between 1995 and approximately 2000 from more than one off-range location and potentially at more than one test range. A maximum of four tests per month was used for purposes

of environmental analysis; however, for overland testing at WSMR only 6 to 10 tests per year would be anticipated.

For the purpose of this document, a "flight test" or "test event" is defined as either a target missile flight, a defensive missile flight, or a defensive missile intercept of a target missile. Some test events proposed for later in the program may require multiple target and/or defensive missile flights to validate specific defensive missile performance. If multiple flights require additional analyses, because of additional or different hazard areas, booster drop zones, access to public lands, etc., those analyses will be performed at a later date. Tests involving intercepts of targets would be conducted at a variety of altitudes, with missile intercepts occurring over existing ranges or open sea areas. Surface-to-surface missile tests are also proposed.

The NEPA requires the consideration of reasonable alternatives to a proposed action. This EIS considered the use of four alternative test range areas and a no-action alternative. Eleven candidate test range areas, both within and outside the United States, were originally evaluated for TMD extended-range tests. Following the applications of various selection criteria (e.g., scheduling, range safety, and range instrumentation) it was determined that four test ranges could potentially satisfy some or all of the extended-range (medium distance) test requirements.

The candidate test area alternatives analyzed in the EIS are shown in figure ES-1 and are discussed as follows:

- **WSMR, New Mexico** – This alternative includes missile launches and sensor testing at WSMR and Fort Bliss, Texas, with off-range missile launches from FWDA, New Mexico, and the GRLC, Utah.

- **Eglin AFB, Florida** – This alternative includes missile launches and sensor testing at Eglin AFB on Santa Rosa Island and at Cape San Blas with off-range missile launches from a sea-based platform in the Gulf of Mexico.

- **Western Range, California** – This alternative includes missile launches and sensor testing at Vandenberg AFB, San Nicolas Island of the Naval Air Warfare Center-Weapons Division, and San Clemente Island of the Naval Air Station North Island with off-range missile launches from a sea-based platform in the Pacific Ocean.

- **Kwajalein Missile Range, USAKA, Republic of the Marshall Islands** – This alternative includes missile launches and sensor testing at Kwajalein Missile Range and Wake Island with off-range missile launches from a sea-based platform in the Pacific Ocean.

To fully validate the effectiveness of intercepts and surface-to-surface missile systems, it is desirable to use an overland test range for some tests to allow for the recovery and analysis of missile debris following an actual intercept or ground impact. The overland test range must be large enough to safely and effectively conduct these types of tests and have appropriate equipment (e.g., radars, telemetry equipment, and optical instruments) in place.

No single test range area is expected to satisfy all test objectives, consequently some combination of test range areas would likely be required. As individual TMD system programs mature to the point of defining specific flight/intercept test requirements, the most appropriate test range area(s) capable of meeting test requirements can then be identified.

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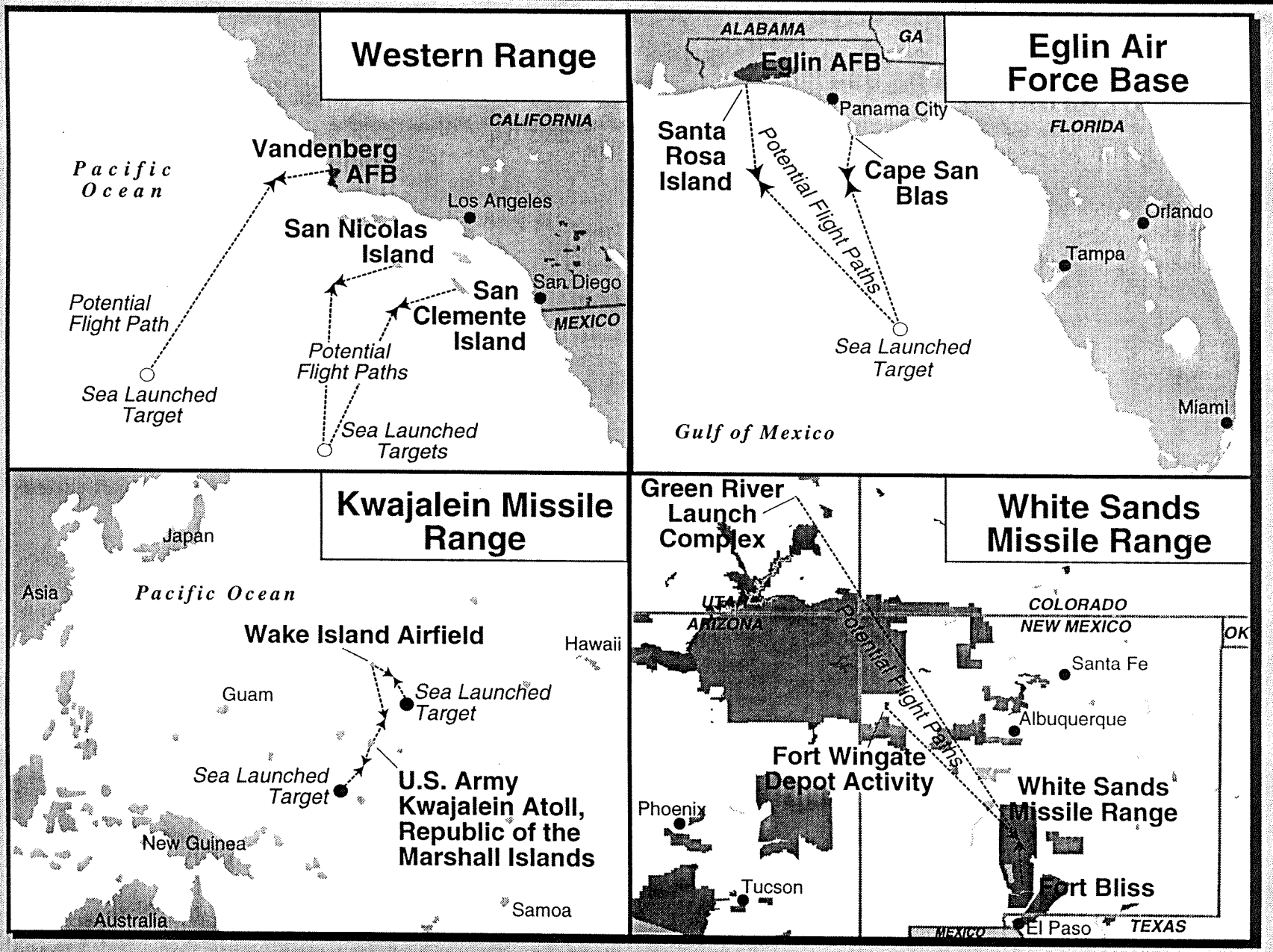


Figure ES-1 - Alternative Test Ranges

If the no-action alternative is selected, ongoing activities and operations would continue to be performed within existing ranges. The development of ground-based TMD missile and sensor systems would continue, with missile flight tests and target intercepts being conducted utilizing existing test ranges.

Such restrictions of test areas by increasing reliance on shorter-range missile flights conducted at WSMR would place artificial limits on system test capabilities. This would make it impossible to fully validate system design and operational effectiveness in a variety of realistic theater environments.

ES.5.0 DECISION TO BE MADE

The decision to be made is to determine which candidate test range(s) and range extensions may be used to conduct ground-based TMD extended-range missile and sensor tests.

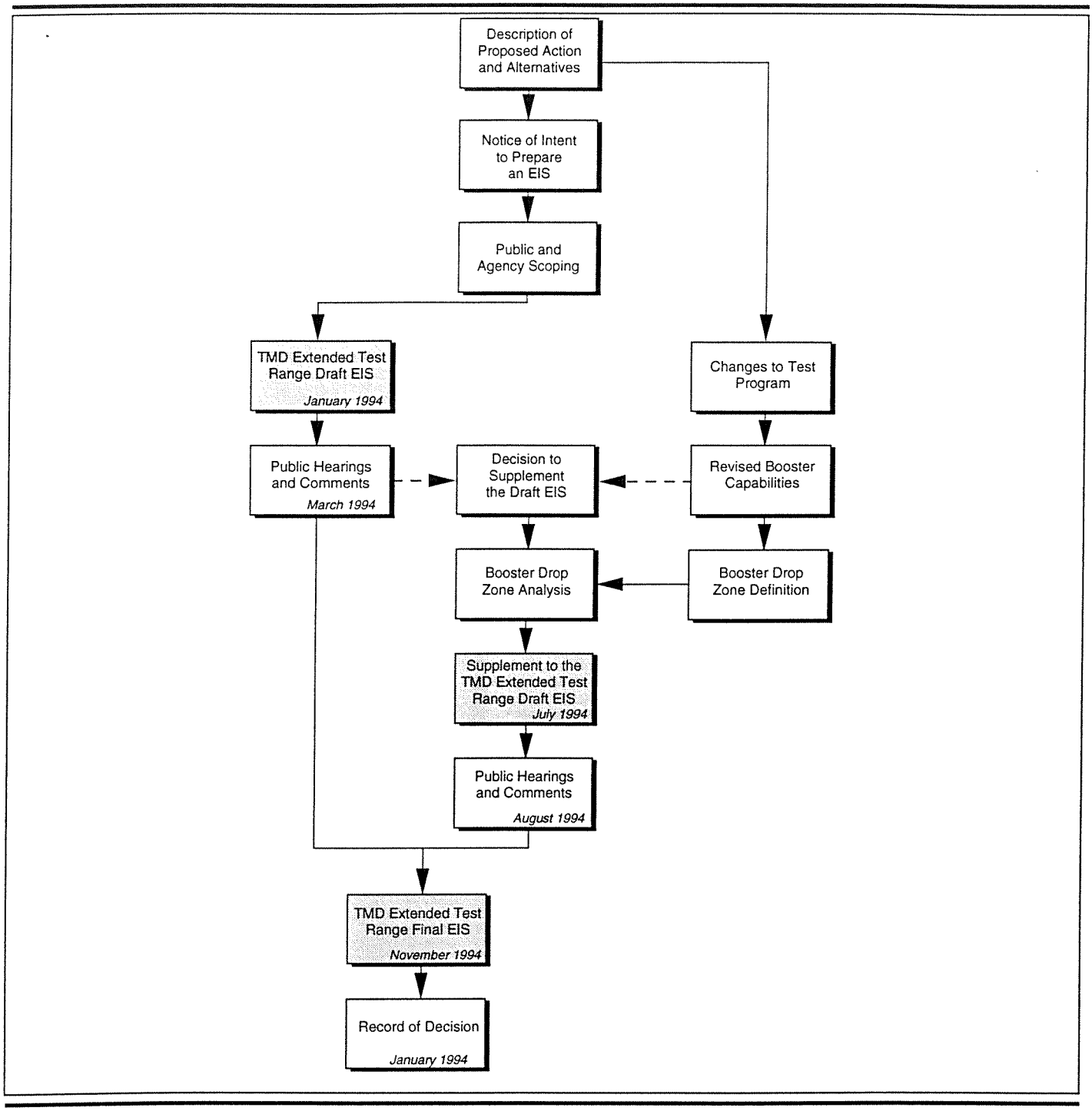
ES.6.0 SCOPE OF THIS EIS

This EIS discusses the potential environmental impacts associated with implementing the proposed action at each of the four alternative test range areas and with the no-action alternative. To provide the context for understanding the potential environmental impacts, the affected environment for each environmental resource and its principal attributes was described. The following environmental resources are covered in this document: air quality, airspace, biological resources, cultural resources, geology and soils, hazardous materials and waste, health and safety, land use, noise, socioeconomics, infrastructure and transportation, and water resources.

ES.7.0 OUTLINE OF THE EIS PROCESS

The key milestones in the preparation of the TMD Extended Test Range EIS are graphically depicted in figure ES-2. This Final EIS is the culmination of a process begun with preparation of a description of the proposed action and alternatives and publication of a Notice of Intent to prepare an EIS in the *Federal Register*, local community newspapers, and other media on April 7, 1993. In accordance with CEQ regulations for implementing the procedural provision of the NEPA, public scoping meetings were held in April and May 1993, in Green River, Salt Lake City, and Moab, Utah; Gallup and Albuquerque, New Mexico; Fort Walton Beach and Port St. Joe, Florida; and Oxnard and Lompoc, California. Additional meetings were held in Window Rock, Arizona, during June and July 1993 and in Crownpoint, New Mexico, in October 1993.

The environmental issues and concerns identified during the scoping process were addressed in the Draft EIS, released in January 1994. Public hearings on the Draft EIS were held in March 1994 in Moab and Salt Lake City, Utah; Crownpoint, Gallup, Ramah, and Shiprock, New Mexico; Fort Walton Beach and Port St. Joe, Florida; and in Lompoc and Oxnard, California, to obtain the public's comments. Due to the selection of a new booster and a desire to reduce environmental impact resulting from booster drops that were identified in the Draft EIS, new additional booster drop zones were identified in Utah and New Mexico. A Supplement to the Draft EIS, addressing the environmental consequences of including the new booster drop zones, was prepared an released in July 1994. Public hearings on the Supplement were held in August 1994 in Monticello and Salt Lake City, Utah, and in Grants and Magdalena, New Mexico. This Final EIS incorporates the public



EXPLANATION

Documents that comprise the Extended Test Range Documentation

TMD Extended Test Range Environmental Documentation

Figure ES-2

and agency comments and concerns identified in both the Draft EIS and Supplement to the Draft EIS public hearings.

ES.8.0 SUMMARY OF ENVIRONMENTAL CONSEQUENCES

Table ES-1 provides a summary of the environmental consequences associated with the implementation of the proposed action at each candidate test area by individual environmental resource. The information presented in the table is based on the environmental impact analysis presented in Section 4.0 of the Draft EIS and Supplement to the Draft EIS.

The following sections summarize the principal impacts of implementing the proposed action by alternative candidate test area. Section ES.8.1 discusses the impacts deemed to be significant, using the significance criteria outlined in 40 CFR 1508.27. Section ES.8.2 summarizes the consequences identified as either a not significant impact or having no impact predicted.

Section 3.0 of the Final EIS provides detailed responses to all of the comments received during the public comment period on the Draft EIS and Supplement to the Draft EIS. The breadth and depth of comments on the Draft EIS and its Supplement mirror the breadth and depth of issues identified during the scoping period.

Appendix A of the Final EIS addresses key issues associated with potential cumulative impacts resulting from proposed TMD testing activities on extended ranges.

ES.8.1 SIGNIFICANT IMPACTS

White Sands Missile Range Candidate Test Area

Significant impacts were identified with respect to launch hazard areas and booster drop zones.

Infrastructure

Impact: Interstate Highway 70 in Utah would be temporarily closed during any proposed launches from the GRLC utilizing either Booster Drop Zone A or B.

Mitigation: This impact could be partially mitigated by scheduling launches in the early morning hours when traffic is light both on Interstate 70 and through the town of Green River. Use of the preferred Booster Drop Zone C1 or C2 would not require closure of Interstate 70.

Land Use

Impact: The use of GRLC's Booster Drop Zone A would result in a significant land use impact by restricting public access to the Island in the Sky District of Canyonlands National Park and Dead Horse State Park in Utah.

Mitigation: The impacts on recreational uses can be partially mitigated by providing sufficient notice to travelers on all roads into the affected areas, particularly on Highway 313 to the Island in the Sky district of Canyonlands National Park and to Dead Horse State Park and the Needles/Anticline Overlook Road including all off-road trails, well in advance of the planned road closures and impact-area evacuations.

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Table ES-1. Comparison of the Environmental Consequences of the Alternatives

Candidate Test Areas / Environmental Resource	Air Quality	Air-space	Biological Resources	Cultural Resources	Geology/ Soils	Hazardous Mat/Waste	Health & Safety	Land Use	Noise	Socio-economics	Infrastructure/ Transportation	Water Resources
WSMR/Fort Bliss	○	○	○	○	○	○	○	○	○	○	○	○
GRLC Launch Site/LHA												
Launch Site[1]/LHA for BDZ A	○	○	○	○	○	○	○	○	○	○	●	○
Launch Site/LHA for BDZ B	○	○	○	○	○	○	○	○	○	○	●	○
Launch Site/LHA for BDZ C1	○	○	○	○	○	○	○	○	○	○	○	○
Launch Site/LHA for BDZ C2	○	○	○	○	○	○	○	○	○	○	○	○
FWDA Launch Site/LHA												
Launch Site [2]/LHA for BDZ A	○	○	○	○	○	○	○	○	○	○	○	○
Launch Site/LHA for BDZ B	○	○	○	○	○	○	○	○	○	○	○	○
Launch Site/LHA for BDZ C	○	○	○	○	○	○	○	○	○	○	○	○
GRLC Flight Corridor												
BDZ A	○	○	○	○	○	○	○	●	○	○	○	○
BDZ B	○	○	○	○	○	○	○	○	○	○	○	○
BDZ C1	○	○	○	○	○	○	○	○	○	○	○	○
BDZ C2	○	○	○	○	○	○	○	○	○	○	○	○
FWDA Flight Corridor												
BDZ A	○	○	○	○	○	○	○	○	○	○	○	○
BDZ B	○	○	○	○	○	○	○	●	○	○	○	○
BDZ C	○	○	○	○	○	○	○	○	○	○	○	○

□ No Impact ○ Not Significant Impact ● Significant Impact

Note: 1 - GRLC Launch Site remains unchanged while the location and size of Launch Hazard Areas (LHAs) change depending on the location of the respective Booster Drop Zones (BDZs).

2 - FWDA Launch Site remains unchanged while the location and size of Launch Hazard Areas (LHAs) change depending on the location of the respective Booster Drop Zones (BDZs).

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Table ES-1. Comparison of the Environmental Consequences of the Alternatives (Continued)

Candidate Test Areas / Environmental Resource	Air Quality	Air-space	Biological Resources	Cultural Resources	Geology/ Soils	Hazardous Mat/Waste	Health & Safety	Land Use	Noise	Socio-economics	Infrastructure/ Transportation	Water Resources
Eglin AFB												
Santa Rosa Island	○		○		○	○	○	○	○	○	○	○
Cape San Blas	○	○	○	○	○	○	○	○	○	○	○	○
Sea Launch	○	○	○				○					○
Flight Corridor		○	○			○	○					○
Western Range												
San Nicolas Island	○	○	○	○	○	○	○	○	○	○		○
Vandenberg AFB	○	○	○	○	○	○	○	○	○	○	○	○
San Clemente Island	○	○	○	○	○	○	○	○	○		○	○
Sea Launch	○	○	○				○					○
Flight Corridor		○	○			○	○					○
Kwajalein Missile Range												
USAKA	○	○		○	○	○	○	○	○	○	○	○
Wake Island	○	○	○	○	○	○	○		○	○		○
Sea Launch	○	○	○				○					○
Flight Corridor						○	○					○

□ No Impact ○ Not Significant Impact ● Significant Impact

In addition to clearly posting such closures on the entrances to highways, access roads, and off-road trails, other notification is advisable. The following should be notified: all hotels, motels, and campgrounds in the area; visitor centers; National Park Headquarters; Ranger Stations; BLM and U.S. Forest Service offices; and tour operators and outfitters. In this way, travelers and recreational users could anticipate and plan for the closure and area evacuations. This would go a long way to ameliorate the unavoidable impacts on recreational use of the affected areas.

Impact: The use of GRLC's booster drop zones C1 and C2 could have potentially significant impacts on the Bridger Jack Mesa and Fish Creek Canyon Wilderness Study Areas if the booster impact areas were allowed to overlap the wilderness study area lands.

Mitigation: The booster impact area can be located outside the Wilderness Study Areas, thus mitigating the potentially significant impact.

Impact: The use of FWDA Booster Drop Zone B which includes portions of the El Malpais National Monument and the El Malpais National Conservation Area, which includes Wilderness Areas and Wilderness Study Areas, would be considered a significant impact on land use. These lands have been set aside in order to protect the resources within the area.

Mitigation: For FWDA Booster Drop Zone B, there were no mitigation measures identified for the use of El Malpais National Monument for a booster drop zone because it would conflict with both the intent of the laws that established the areas as well as the El Malpais National Monument General Management Plan (National Park Service, 1990) and the El Malpais National Conservation Area General Management Plan (Bureau of Land Management, 1991). The use of wilderness study areas for booster drop zones is also restricted by the Bureau of Land Management's (BLM's) nonimpairment standard which protects lands under wilderness review in order to not impair their suitability for preservation as wilderness.

ES.8.2 NOT SIGNIFICANT IMPACT AND NO IMPACT PREDICTED

ES.8.2.1 Impacts Common to All Candidate Test Areas

Air Quality

Emissions from flight preparation and flight support activities fall below the minimal levels of the applicable Federal and state regulations. Gasoline and diesel-powered generators would only run intermittently. Application of Environmental Protection Agency (EPA) screening models and more detailed dispersion models revealed that emissions from target and defensive missile launches and on-pad failures are quickly dispersed, and emissions along the flight corridor occur largely at altitudes that allow dilution of the pollutants before they reach the ground.

Airspace

Airspace use impacts within existing or new restricted areas is a scheduling matter, not an environmental issue. The scheduling and rerouting of aircraft outside the existing and new restricted areas to avoid the flight tests would be directed and coordinated by the FAA.

Biological Resources

For the most part no ground-disturbing activities would be involved. Launch activities would take place in previously disturbed areas. Where new ground disturbance is proposed, preconstruction surveys would be undertaken, and if the presence of sensitive species is confirmed, appropriate mitigation measures would be implemented. The probability of early flight termination impacting plant or animal species through fire is low, and activity and noise associated with launch activities would have cleared the area of most wildlife before launch anyway. Missile launch noise quickly attenuates, and no noise-sensitive species are known to exist near the proposed launch sites. In terms of flight termination or intercept debris, critical species of wildlife are widely scattered, and the probability of them being hit by a single piece of debris is on the order of less than 1 in a million. Debris-recovery operations are likely to have larger impacts, but a qualified wildlife biologist would monitor debris-recovery activities to reduce impacts.

Cultural Resources

For the most part no new ground-disturbing activities would be involved. Where new ground disturbance is proposed, preconstruction surveys would be undertaken, and if the presence of cultural resources is confirmed, appropriate mitigation measures would be implemented. Noise-induced vibration impacts to historic structures is highly unlikely, due to the low overpressures predicted from sonic booms. In terms of flight termination or intercept debris, archaeological deposits are scattered, and the probability of them being hit by a single piece of debris is extremely remote. Debris-recovery activities have a greater potential to damage archaeological deposits, but ground disturbance would be minimized through the use of helicopters and monitoring by a qualified archaeologist in areas requiring use of wheeled vehicles. Illegal collection of artifacts by program personnel is possible but, with the proper briefing, considered unlikely.

Geology and Soils

Accidental spills of toxic materials during launch preparation are highly unlikely with the implementation of standard spill prevention, containment, and control measures. Deposition of missile exhaust products, particularly Al_2O_3 and HCl, is a possibility, but deposits would be dispersed by the time they reached the ground and would be further neutralized by the buffering capability of the relatively alkaline soils in arid regions or diluted by rainfall in coastal areas. The amount of soil disturbance from direct physical impacts of early termination or intercept debris would be minimal. Debris-recovery efforts would have minor impacts on soil.

Hazardous Materials and Waste

Some hazardous materials, such as cleaning solvents, hydraulic fluids, lubricants, radioactive materials (such as Nickel-63 in on-board electrical devices), solid fuel, and small quantities of pre-packaged liquid propellants, would be used. However, all would be handled in accordance with strict regulatory guidelines that would either totally avoid or minimize program personnel exposure. Fuel and propellants would be consumed during missile launch and flight. Proper handling, packaging, and disposal of any hazardous waste ensure that both program personnel and the public are not exposed to undue hazards.

Health and Safety

Standard handling and disposal procedures ensure that both program personnel and the public would not be affected by any hazardous materials used or waste generated. The risks from the transportation of rocket boosters and other system components are minimal. The probability of an

accident, regardless of transportation mode, is extremely low, and only a small fraction of accidents would actually affect missile system transportation because of the use of specialized shipping containers. The careful designation of launch hazard areas and booster drop zones, from which all nonessential personnel and the public would be excluded, and the containment of all intercept debris either within Government property (which is off-limits to the public) or verified clear open-water areas ensure the safety of program personnel and the public. Potential electromagnetic radiation (EMR) exposure from the various sensors and tracking radars is not an issue due to the establishment of EMR hazard safety zones and the exclusion of personnel from them.

Land Use

Flight test programs conducted on existing military installations do not present a conflict with either current land use or land use plans, policies, and controls.

Noise

Program personnel and the public's exposure to launch noise and sonic boom overpressures is minimized by the exclusion of nonessential personnel and the public from launch hazard areas and the absence of noise-sensitive receptors.

Socioeconomics

Potential adverse socioeconomic impacts are precluded by the relatively low program-related personnel requirements and the fact that personnel would be both temporary and transient.

Infrastructure and Transportation

Use of existing facilities and infrastructure and the relatively low program personnel requirements preclude both Government facility and local community infrastructure impacts. Similarly, the relatively small number of temporary, transient personnel mitigates transportation impacts.

Water Resources

Accidental spills of toxic materials during launch preparation are highly unlikely with the implementation of standard spill prevention, containment, and control measures. Deposition of missile exhaust products, particularly Al_2O_3 and HCl, is a possibility, but deposits would be dispersed by the time they reached surface water bodies or groundwater and would be further neutralized by the buffering capability of the water bodies or open ocean areas. The amount of surface water disturbance from direct physical impacts of early termination or intercept debris would be minimal. Debris-recovery efforts would have minor impacts on surface water bodies and no impact on groundwater.

ES.8.2.2 Impacts Unique to Specific Candidate Test Areas

Airspace

For both the Eglin AFB and Western Range candidate test areas, impacts within the warning areas off the coasts of Florida and California, respectively, would be avoided by the issuance of Notices to All Mariners and ensuring that the launch, booster drop, and intercept debris impact areas are clear of all air traffic before proceeding with the test flights. For the USAKA Candidate Test Area, which

lies in international airspace, well-removed from regular trans-Pacific airways and jet routes, similar pre-test flight procedures would be implemented.

Biological Resources

For the Western Range Candidate Test Area, San Nicolas Island launch option, the presence of California sea lions, northern elephant seals, and sea otters near the proposed launch sites is of concern. Noise impacts, however, are expected to be minimal because the proposed launches are intermittent and of short duration.

Geology and Soils

Deposition of missile exhaust products, particularly Al_2O_3 and HCl, is a concern for the Eglin AFB Candidate Test Area. However, deposits would be diluted by the time they reached the ground and would be further diluted by rainfall and neutralized by quick migration to the Gulf of Mexico.

Health and Safety

For the WSMR Candidate Test Area, detailed analysis of the risk to the population under the flight corridors in the event of an in-flight termination indicates that the overall hazard associated with a single flight operation is less than 1×10^{-6} (less than 1 casualty in 1 million flight terminations).

Land Use

For the WSMR Candidate Test Area, program activities would take place on land that has been set aside and devoted to military uses for some time. The current use of private land, co-use public land, or other public land is covered by an existing lease, evacuation, or co-use agreement with the appropriate land owners or stewards. Use of the proposed new booster drop zones would not proceed until similar agreements had been negotiated to the satisfaction of all parties. Denial of access to and evacuation of public recreational areas not identified as significant in Section ES.8.1 would occur only for areas which experience relatively low levels of utilization and/or are not particularly recognized for their recreational value.

Potential conflicts with other proposed uses of FWDA, currently closed and in caretaker status, would be resolved through the Army's Base Realignment and Closure process. As part of this process, the BMDO has identified a potential use for sufficient property to conduct launch activities, establish safety zones, and ensure access. Lands not needed for missile testing activities would be returned to the public domain since the lands comprising FWDA were originally public domain lands. Lands retained for missile testing activities could potentially accommodate compatible additional uses, subject to acceptable security arrangements. Lands returned to the Department of the Interior would be subject to that agency's procedures and priorities in identifying potential uses.

Socioeconomics

For the WSMR Candidate Test Area, intangible economic or social effects that would not have the potential for indirect environmental consequences were not addressed per 40 CFR 1508.14.

Infrastructure/Transportation

For the WSMR and Eglin AFB candidate test areas, road closures not identified as significant in Section ES.8.1 either carry small volumes of traffic or are governed by an existing agreement with the appropriate state Department of Transportation.

ES.8.3 ADDITIONAL STUDIES

Several additional studies were carried out in support of the TMD Extended Test Range Final EIS summarized as follows:

- A separate appendix (Appendix A) was prepared to address key issues associated with potential cumulative impacts resulting from proposed TMD testing activities on extended test ranges.
- The health and safety discussion in Appendix B now includes additional information regarding the flight safety approach for overland testing.
- Consultation with potentially affected American Indian tribes was carried out to identify areas of American Indian significance related to traditional resources such as archaeological sites, water sources, plant habitat or gathering areas, or any other natural area important to a culture for religious or heritage reasons. Results of these consultations were incorporated into the appropriate Cultural Resources sections.
- Additional agency consultation was carried out to ensure compliance with appropriate regulations and to establish a framework for ensuring implementation of the mitigation measures described in this Final EIS and adopted in the Record of Decision. Responses to agency comments are included as Section 5.0 of this Final EIS.

ACRONYMS AND ABBREVIATIONS

ABM	Antiballistic Missile
ABRES	Advanced Ballistic Re-entry System
AC	Advisory Circulars
ACGIH	American Conference of Governmental Industrial Hygienists
ACHP	Advisory Council on Historic Preservation
ADIZ	Air Defense Identification Zone
AEU	Antenna Equipment Unit
AFB	Air Force Base
AFR	Air Force Regulation
AGL	Above ground level
AICUZ	Air Installation Compatible Use Zone
AIT	Atmospheric Intercept Technology
Al_2O_3	Aluminum oxide
AMC	Army Materiel Command
APE	Area of Potential Effect
AQCR	Air Quality Control Region
AQRV	Air Quality Related Values
AR	Army Regulation
ARC	Atlantic Research Corporation
ARTCC	Air Route Traffic Control Center
ASRM	Advanced Solid Rocket Motor
ATC	Air Traffic Control
ATCAA	Air Traffic Control Assigned Airspace
ATU	Array Transmitter Unit
BACM	Best Available Control Measure
BACT	Best Available Control Technology
BLM	Bureau of Land Management
BMD	Ballistic Missile Defense
BMDO	Ballistic Missile Defense Organization
BOD	Biochemical Oxygen Demand
BOE	Bureau of Explosives
BOS	Base Operating Support
BOMARC	Boeing Michigan Aeronautical Research Center
BP	Brilliant Pebbles
BTV	Ballistic Target Vehicle
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAP	Collection-accumulation Point
CARB	California Air Resources Board
CARF	Central Air Reservation Facility
CBRA	Coastal Barrier Resource Act
CCAA	California Clean Air Act

CDNL	C-weighted Day-night Sound Level
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERL	Construction Engineering Research Laboratory
CEU	Cooling Equipment Unit
CFA	Controlled Firing Area
CFC	Chlorofluorocarbon(s)
CFR	Code of Federal Regulations
CO	Carbon monoxide
CO_2	Carbon dioxide
COA	Corresponding Onshore Area
CONUS	Continental United States
Corps SAM	Corps Surface-to-air Missile
CTA	Controlled Area
CWA	Clean Water Act
CY	Calendar Year
CZM	Coastal Zone Management (Federal)
DAC	Divert and Attitude Control
Dem/Val	Demonstration/Validation
DEP	Department of Environmental Protection
DFM	Diesel Fuel Marine
DNL	Day-night Average Sound Level
DOI	Department of the Interior
DOD	Department of Defense
DOT	Department of Transportation
DRMO	Defense Reutilization and Marketing Office
EA	Environmental Assessment
EEGL	Emergency Exposure Guidance Level
EEU	Electronics Equipment Unit
EIS	Environmental Impact Statement
EMI	Electromagnetic Interference
EMR	Electromagnetic Radiation
EPA	Environmental Protection Agency
ERC	Emission Reduction Credits
ERINT	Extended Range Interceptor
ESQD	Explosive Safety Quantity-distance
EWTA	Eglin Water Test Area
FAA	Federal Aviation Administration
FAC	Florida Administrative Code
FACSFACDET	Fleet Area Control and Surveillance Facility Detachment
FAR	Federal Aviation Regulation
FEMA	Federal Emergency Management Authority
FIP	Federal Implementation Plan

FIR	Flight Information Region
FIX	Firing In Extension
FL	Flight Level
FSA-2	Fire Support Area 2
FTS	Flight Termination System
FWDA	Fort Wingate Depot Activity
FY	Fiscal Year
GBR	Ground-based Radar
GRLC	Green River Launch Complex
GSA	General Services Administration
GSE	Ground Support Equipment
H_2	Hydrogen (molecular)
H_2O	Water
H_2S	Hydrogen sulfide
HAP	Hazardous Air Pollutant
HCl	Hydrogen chloride
HEDI	High Endoatomospheric Defense Interceptor
HMMWV	High Mobility Multipurpose Wheeled Vehicle
HWSA	Hazardous Waste Storage Area
ICAO	International Civil Aviation Organization
ICBM	Intercontinental Ballistic Missile
IFR	Instrument Flight Rules
INF	Intermediate-range Nuclear Force
IR	Infrared
J	Jet Route(s)
KADA	Kwajalein Atoll Development Authority
KKV	Kinetic Kill Vehicle
KMR	Kwajalein Missile Range
L_{eq}	Equivalent Sound Level
L_{max}	Maximum Sound Level
LATS	Launch Area Theodolite System
LC	Launch Complex
LCEA	Life Cycle Environmental Assessment
LEAP	Lightweight Exoatmospheric Projectile
LF	Launch Facility
LHA	Launch Hazard Area
LORAN	Long Range Navigation
LOX	Liquid oxygen
MAB	Missile Assembly Building
MACT	Maximum Achievable Control Technology
MCAS	Marine Corps Air Station
MLE	Maximum Likelihood Estimate
MLS	Missile Launch Ship
MMA	Millimeter Array

MMH	Monomethyl hydrazine
MMS	Minerals Management Service
MOA	Military Operations Area
MSDS	Material Safety Data Sheet
MSL	Mean sea level
MTA	Missile Tracking Annex
MTV	Maneuvering Target Vehicle
N_2	Nitrogen (molecular)
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NAS	National Airspace System
NASA	National Aeronautics and Space Administration
NAWC	Naval Air Warfare Center
NAWC-WPNS	Naval Air Warfare Center Weapons Division
NEPA	National Environmental Policy Act
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NHPA	National Historic Preservation Act
Ni	Nickel
NMD	National Missile Defense
NMCRIS	New Mexico Cultural Resources Information System
NMEIB	New Mexico Environmental Improvement Board
NOA	Nearest Onshore Area
NOAA	National Oceanic and Atmospheric Administration
NO_2	Nitrogen dioxide
NO_x	Nitrogen oxides
NOI	Notice of Intent
NOTAM	Notice to Airmen
NPDES	National Pollutant Discharge Elimination System
NRC	National Research Council
NRHP	National Register of Historic Places
NSPS	New Source Performance Standards
NSR	New Source Review
NWS	Naval Weapons Station
O	Atomic oxygen
O_2	Molecular oxygen
O_3	Ozone
OAB	Ordnance Assembly Building
OC	Oceanic Control
OCS	Outer Continental Shelf
OCU	Operator Control Unit
ODS	Ozone-depleting Substance
OP	Operational Procedure
OSHA	Occupational Safety and Health Administration
PAC	PATRIOT Advanced Capability

PAN	Peroxyacetyl nitrate
PATRIOT	Phased Array Tracking to Intercept of Target
Pb	Lead
PCB	Polychlorinated biphenyl
PL	Public Law
PLO	Public Land Order
PM-10	Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 microns
POTW	Publicly Owned Treatment Works
PPU	Prime Power Unit
PSD	Prevention of Significant Deterioration
RACM	Reasonably Available Control Measures
RACT	Reasonably Available Control Technology
RCRA	Resource Conservation and Recovery Act
REEDM	Rocket Exhaust Effluent Diffusion Model
RMI	Republic of the Marshall Islands
ROG	Reactive Organic Gases
ROI	Region of Influence
RV	Reentry Vehicle
SARA	Superfund Amendments and Reauthorization Act
SBCAPCD	Santa Barbara County Air Pollution Control District
SCAQMD	South Coast Air Quality Management District
SDIO	Strategic Defense Initiative Organization
SEL	Sound Exposure Level
SHOBA	Shore Bombardment Area
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SLAM	State and Local Air Monitoring
SLC	Space Launch Complex
SLV	Strategic Launch Vehicle
SO_2	Sulfur dioxide
SOP	Standard Operating Procedure
SPEGL	Short-term Public Emergency Guidance Level
SPW	Space Wing
SRM	Solid-propellant Rocket Motor
SRMA	Special Recreation Management Area
STP	Sewage Treatment Plant
SUA	Special Use Airspace
TACMS	Tactical Missile System
TCMP	Theater Missile Defense Countermeasures Mitigation Program
TDS	Total Dissolved Solids
THAAD	Theater High Altitude Area Defense
THC	Toxic Hazard Corridor
THI	Temperature-humidity Index

TLV	Threshold Limit Valve
TMD	Theater Missile Defense
TMD-GBR	Theater Missile Defense Ground-based Radar
TOG	Total Organic Gases
TSCA	Toxic Substance Control Act
TSP	Total Suspended Particulates
TWA	Time-weighted Average
UDMH	Unsymmetrical dimethylhydrazine
UEC	Unit Environmental Coordinator
UOE	User Operational Evaluation
UPH	Unaccompanied Personnel Housing
USAKA	U.S. Army Kwajalein Atoll
USASSDC	U.S. Army Space and Strategic Defense Command
USC	U.S. Code
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UTTR	Utah Test and Training Range
VCAPCD	Ventura County Air Pollution Control District
V	Victor Airway(s)
VIP	Very Important Person
VFR	Visual Flight Rules
VLA	Very Large Array
VLBA	Very Long Baseline Array
VOC	Volatile Organic Compound
WESTPAC	Western Pacific
WSMR	White Sands Missile Range
WSNM	White Sands National Monument
WTA	Water Test Area
WWTP	Wastewater Treatment Plant

UNITS OF MEASURE

$\mu g/m^3$	microgram(s) per cubic meter
ac	acre(s)
C	Celsius
cm	centimeter(s)
dB	decibel(s)
dBA	A-weighted Decibel
F	Fahrenheit
fps	foot (feet) per second
ft	foot (feet)
ft^2	square foot (feet)
ft^3	cubic foot (feet)

g	gram(s)
gal	gallon(s)
gpd	gallons per day
ha	hectare(s)
in	inch(es)
kg	kilogram(s)
km	kilometer(s)
km^2	square kilometer(s)
kv	kilovolt(s)
kw	kilowatt(s)
L	liter(s)
lb	pound(s)
Lpd	liter(s) per day
m	meter(s)
m^2	square meter(s)
m^3	cubic meter(s)
mg	milligram(s)
mg/m^3	milligram(s) per cubic meter
mi	mile(s)
mi^2	square mile(s)
mm	millimeter(s)
mph	mile(s) per hour
nm	nautical mile(s)
oz	ounce(s)
ppm	part(s) per million
pCi/L	Picocuries per liter
psf	pound(s) per square foot
tpy	ton(s) per year
yd	yard(s)
yd^3	cubic yard(s)

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1.0 INTRODUCTION

1.1 FORMAT OF THE ENVIRONMENTAL IMPACT STATEMENT

The Theater Missile Defense (TMD) Extended Test Range Environmental Impact Statement (EIS) consists of the Draft EIS issued in January 1994, the Supplement to the Draft EIS issued in July 1994, and this Final EIS, which responds to agency and public comments. For readers who may not have convenient access to the Draft EIS and Supplement to the Draft EIS, copies of the executive summaries from both documents are included as appendices to Volume I of the Final EIS.

The Final EIS is in two volumes. Volume I contains the additions and revisions to the Draft EIS and to the Supplement to the Draft EIS and responses to the comments of government agencies and the public on both documents. Volume I also contains Western Range Candidate Test Area- and Eglin Air Force Base (AFB) Candidate Test Area-related copies of the transcripts of the public hearings on the Draft EIS, copies of the exhibits turned in at the public hearings, and copies of comment letters sent to the Army. Volume II contains White Sands Missile Range (WSMR) Candidate Test Area-related copies of the transcripts of the public hearings on the Draft EIS and on the Supplement to the Draft EIS, copies of exhibits turned in at the public hearings, and copies of comment letters sent to the Army. The responses to comments in Volume I are coded so that readers may find their corresponding comments in sections 9.0 and 10.0 of Volume I and in sections 2.0 and 3.0 of Volume II.

1.2 PUBLIC NOTICE, PUBLIC AND AGENCY SCOPING, AND PUBLIC HEARINGS

The Department of Defense (DOD) published in the *Federal Register* on April 7, 1993, a Notice of Intent (NOI) to prepare an EIS for the TMD Extended Test Range program. The NOI described the proposed action and requested written comments from public agencies and from the public.

The Draft EIS was filed with the Environmental Protection Agency (EPA) on January 28, 1994, and was made available for public and agency review. The 45-day public comment period ended on March 28, 1994. Public hearings were held in Crownpoint, Gallup, Ramah, and Shiprock, New Mexico; Moab and Salt Lake City, Utah; Fort Walton Beach and Port St. Joe, Florida; and Lompoc and Oxnard, California, between February 22 and March 3, 1994.

The Supplement to the Draft EIS was filed with the EPA on August 5, 1994, and was made available for public and agency review. The 45-day public comment period ended on September 28, 1994. Public hearings on the Supplement were held in Grants and Magdalena, New Mexico, and Monticello and Salt Lake City, Utah, on August 23 and 24, 1994.

Statements, exhibits, and written comments have been organized into 17 broad categories. These are shown in table 1-1 with the total number of comments listed as well. There are separate totals for the Draft EIS and the Supplement to the Draft EIS.

Table 1-1: Comment Summaries

Resource Area	Number of Comments		
	WSMR	Eglin AFB	Western Range
Draft EIS			
Policy	195	9	17
Program	578	146	93
Air Quality	36	1	7
Airspace	19	1	0
Biological Resources	129	11	59
Cultural Resources	58	2	1
Geology and Soils	47	0	0
Hazardous Materials/Waste	35	5	7
Health and Safety	344	85	57
Land Use	194	2	31
Noise	44	5	3
Socioeconomics	181	22	57
Infrastructure and Transportation	71	12	19
Water Resources	26	1	1
EIS Process	221	4	18
American Indian Issues	134	0	0
Other	33	5	2
Total	2,345	311	372
Supplement to the Draft EIS			
Policy	16		
Program	187		
Air Quality	3		
Airspace	5		
Biological Resources	33		
Cultural Resources	92		
Geology and Soils	15		
Hazardous Materials/Waste	2		
Health and Safety	155		
Land Use	99		
Noise	6		
Socioeconomics	79		
Infrastructure and Transportation	32		
Water Resources	2		
EIS Process	32		
American Indian Issues	21		
Other	51		
Total	830		

2.0 ADDITIONS AND REVISIONS

2.1 ADDITIONS AND REVISIONS TO THE DRAFT EIS

The following section contains additions and revisions to the Draft EIS. These modifications provide new information, clarify the analysis, or correct errors. These modifications appear in bold typeface.

Page 1-5, table 1.7-1, under Water Resources add:

Marine Protection, Research, and Sanctuaries Act (33 USC 1401 et seq)

Page 2-1, para. 2, line 7 should read:

Tests would begin **no earlier than** 1995 and continue through approximately 2000.

Page 2-16, para. 4, line 1 should read:

LHA dimensions can be reduced from the nominal dimensions by reducing the reaction time for termination of an errant missile **or by changing the flight profile of the missile.**

Page 2-16, para. 4, line 11 should read:

. . . action if necessary. For the HERA B system, **two LHAs were developed. The initial LHA was developed for flight profiles that utilized M57 first-stage boosters and associated drop zones. These flight profiles include considerable near-vertical flight prior to first-stage separation. This extended time of relatively unstable flight and the preliminary nature of the M57 HERA modeling resulted in a conservative LHA of 7.2 km (4.5 mi). The second LHA was developed for flight profiles that utilized SR19 first-stage boosters and new booster drop zones. These flight profiles include very little vertical flight prior to first-stage separation. Using the SR19 flight profiles, additional site-specific modeling was completed, and the extent of the SR19 HERA LHA was reduced considerably.**

Page 2-32, after para. 2, add the following new paragraph:

When possible, the TMD-GBR system would be located in an area that has been previously disturbed. TMD-GBR system operation would limit the exposure to birds and other wildlife and to cultural resources due to several significant factors (U.S. Program Executive Office Missile Defense, 1993). For biological resources these factors are as follows. The main radar beam normally would be located at least 4 degrees above horizontal. The radar beam normally would be in motion, tracking targets, thereby making it extremely unlikely that a bird would stay within the most intense area of the beam for any considerable period of time. The size of the beam is rather small; therefore, the probability of a bird remaining within this limited region of space, even if the beam were motionless, is low. A 15-meter (49-foot) area in front of the TMD-GBR antenna would be maintained in a nonvegetative state to prevent potential exposure of wildlife to EMR. For cultural resources these factors are as follows. TMD-GBR siting would avoid newly discovered cultural sites. If construction is required, a preconstruction archaeological survey, would be performed if the site is in an area that has not been previously surveyed. If required, monitoring would be performed

during construction by an on-site archaeologist. There would be distribution of educational literature to all TMD-GBR-related personnel that would provide information about the National Historic Preservation Act and the importance of archaeological and historical resources.

Page 2-32, add after para. 3:

2.1.4 INTERCEPTOR TESTS

Successful test operations involve the successful destruction/interception of target missiles by defensive missiles. The debris created might include quantities of hazardous materials that might be released to the environment. Specific hazards would depend on the types and quantities of materials present in the missile systems, as well as the type of destruct mechanism (kinetic energy, explosion, etc.). Debris might also represent a potential impact hazard to facilities, personnel, and other objects on the ground or in the water. The footprint for debris impact would be calculated before launch, and testing would be permitted only if all debris would impact within an acceptable impact zone that could be controlled to restrict access to authorized personnel only. This impact zone would be within DOD-controlled boundaries to ensure public safety. Each test intercept is carefully planned, and outcomes are predicted. As circumstances warrant, more detailed analyses and evaluations would be conducted should debris or hazardous materials be predicted to fall outside existing safety zones or areas covered by environmental documentation. Models currently developed specifically determine dispersion of substances after target destruction and predict their fate. They also predict the conditions that would cause test postponement or modification due to debris impacting in uncontrolled areas resulting in significant impacts.

Page 2-33, para. 4 should read:

Fort Bliss is located adjacent to El Paso, Texas, and the range areas extend northward into New Mexico and adjoin WSMR (figure 2.2-2). **The potential launch site for defensive missiles is located in the southwest corner of the McGregor Range in New Mexico.** Fort Bliss contains 4,529 km (1,749 mi) of land.

Page 2-35, figure 2.2-2: Figure has been revised as shown.

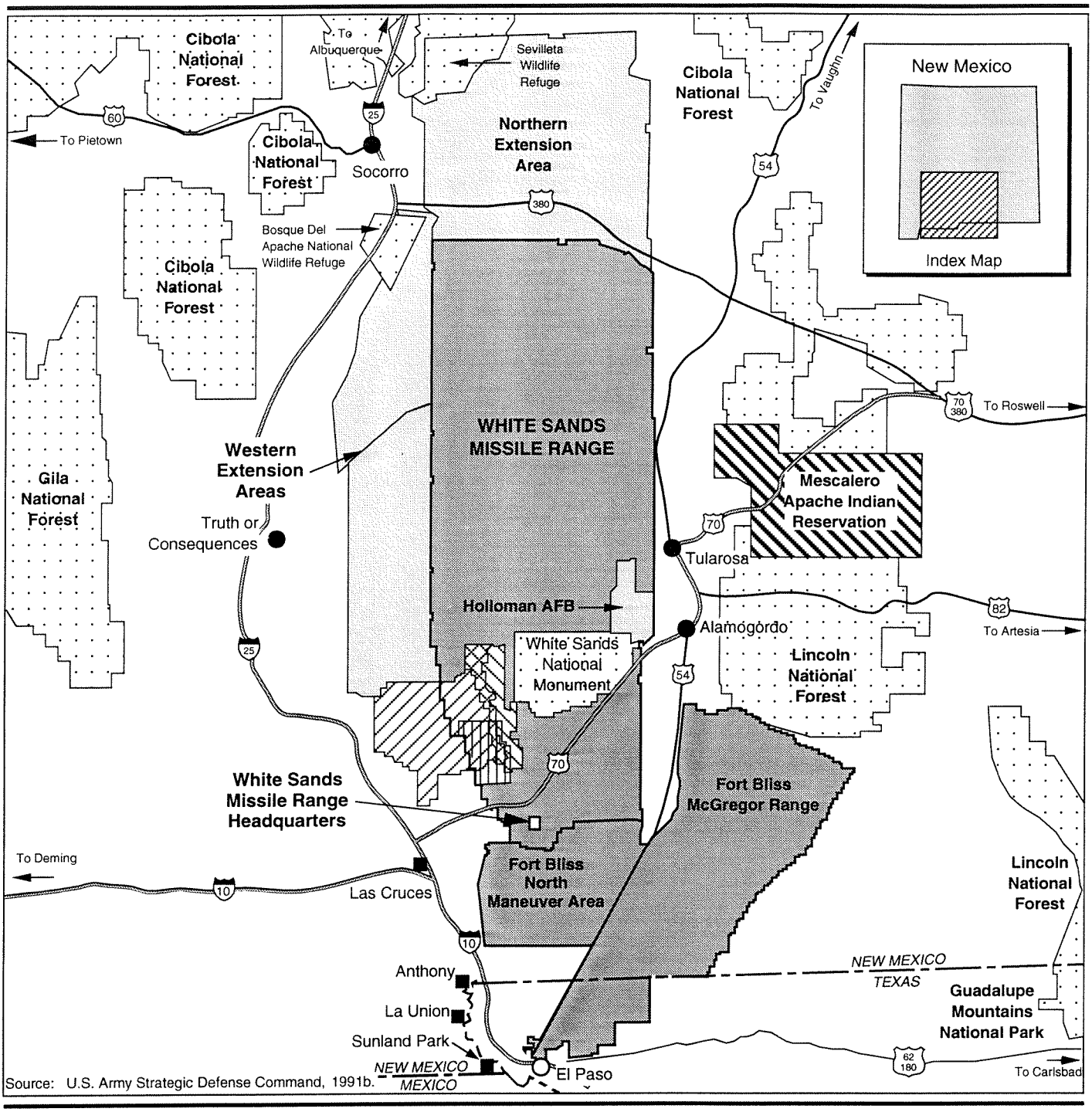
Page 2-40, para. 4, line 2 should read:

An additional site is located on BLM land **16** km (10 mi) east of Green River off U.S. Highway 6 as shown in figure **2.2-11**.

Page 2-41, para. 2, line 3, should read:

. . . status under the control of Tooele Army Depot, Utah. **In order to preserve the option of launching target missiles from FWDA, the BMDO formally notified the Army of its identification of a use for sufficient real property at the facility to launch missiles and establish safety zones in support of its TMD testing and development program. A sufficient property interest to meet testing requirements would be retained for BMDO TMD testing activities if the WSMR/FWDA alternative is selected.** The proposed launch . . .

Page 2-45, figure 2.2-7: Figure has been revised as shown.



EXPLANATION

- Environmental Protection Agency Air Quality Data Collection Site
- New Mexice State Air Quality Data Collection Site
- NASA White Sands Test Facility
- San Andres National Wildlife Refuge
- Jornada Experimental Range
- Indian Reservation

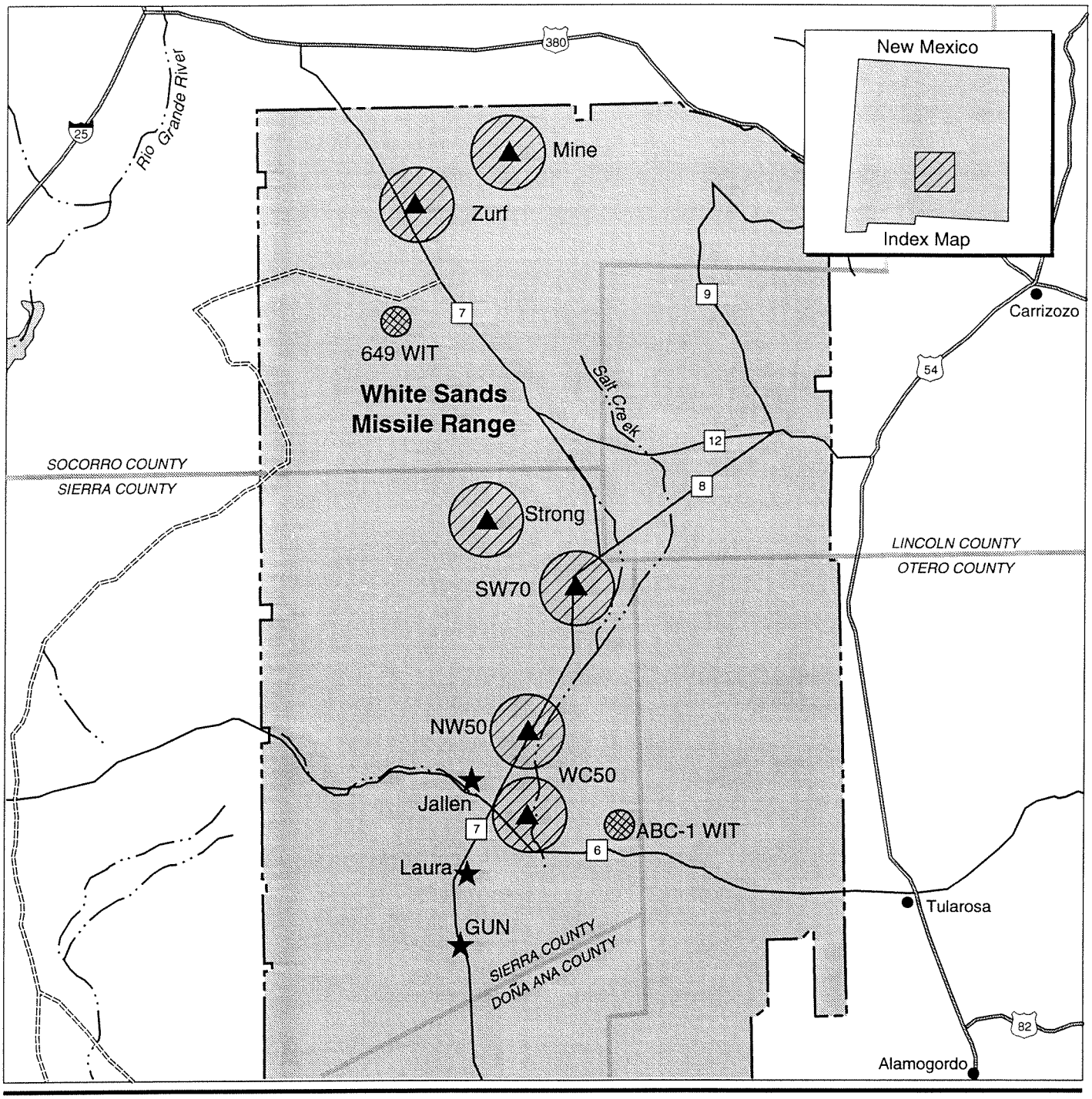
0 20 40 Kilometers

0 15 30 Miles

Vicinity Location Map, White Sands Missile Range

White Sands Missile Range
Candidate Test Area

Figure 2.2-2



EXPLANATION

- Nominal Launch Hazard Area (12,000 Ft. Radius)
- WIT (Warhead Impact Target)
- Candidate Launch Site
- Candidate TMD GBR Sites

Note: TMD GBR sites could also be located

0 10 20 Kilometers
0 5 10 Miles

Test Facilities Location Map, Northern White Sands Missile Range

White Sands Missile Range
Candidate Test Area

Figure 2.2-7

Page 2-47, para. 5 should read:

Most test scenarios under the WSMR alternative would include a target missile being launched from either the GRLC or FWDA toward WSMR where it would be intercepted by a defensive missile launched from WSMR. The target missile LHAs are shown in figures 2.2-11 and 2.2-12. **The larger LHAs would be necessary if Booster Drop Zone A or B is used in Utah and New Mexico. For the preferred alternative of using Booster Drop Zone C1 or C2 in Utah, or Booster Drop Zone C in New Mexico, the smaller LHAs would be utilized. As discussed in Section 2.1.1.3, the smaller LHAs were developed for flight profiles that utilized SR19 first-stage boosters and new booster drop zones. These flight profiles include very little vertical flight prior to first-stage separation. Additional refined site-specific modeling considering the new flight profiles resulted in the smaller LHAs.** The booster drop zones **A and B** are shown in figures 2.2-3 and 2.2-4. **Booster drop zones C1 and C2 in Utah and Booster Drop Zone C in New Mexico are described in the Supplement to the Draft EIS.** Only one booster drop zone . . .

Page 2-50, figure 2.2-11: Figure has been revised as shown.

Page 2-51, figure 2.2-12: Figure has been revised as shown.

Page 2-52, add to the end of para. 2:

The Evacuation Plan (Appendix B of the Supplement to the Draft EIS) provides additional information on evacuation procedures.

Page 2-52, para. 3, line 5 should read:

At the GRLC, **if Booster Drop Zone A or B is used**, this would include closure of Interstate 70 and some secondary roads during launch for periods up to 1 hour and 10 minutes. **If Booster Drop Zone C1 or C2 is used then Interstate 70 could remain open during launches of target missiles from the GRLC.** At WSMR it . . .

Page 2-52, para. 4, line 5 should read:

. . . when the notice is issued. New areas of restricted airspace would be required at the GRLC and FWDA and for each potential booster drop zone as discussed in sections 4.1.2.2, 4.1.3.2, and 4.1.4.2 **of the Draft EIS and sections 4.1.2 and 4.2.2 of the Supplement to the Draft EIS.**

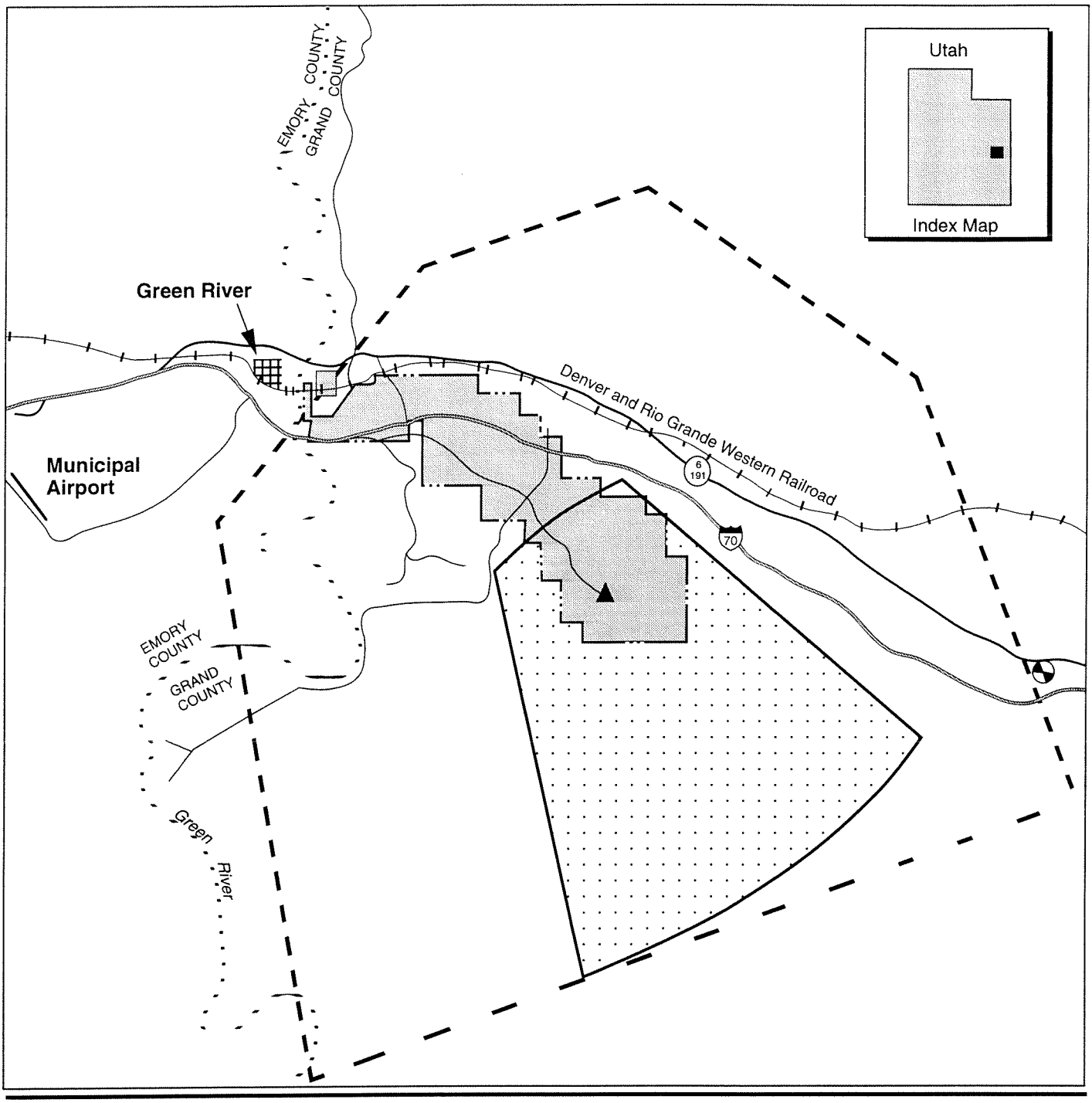
Page 2-53, para. 1 should read:

In the event of a flight termination, WSMR would assume primary responsibility for investigation of the impact site and recovery of missile debris. **The WSMR Extended Test Range Emergency Response Plan (Appendix C of the Supplement to the Draft EIS) provides information regarding response to a missile flight termination.**

Page 2-53, add to end of para. 2:

The Booster Recovery Plan (Appendix B of the Supplement to the Draft EIS) provides information regarding booster-recovery procedures.

Page 2-55, figure 2.2-13: Figure has been revised as shown.



EXPLANATION

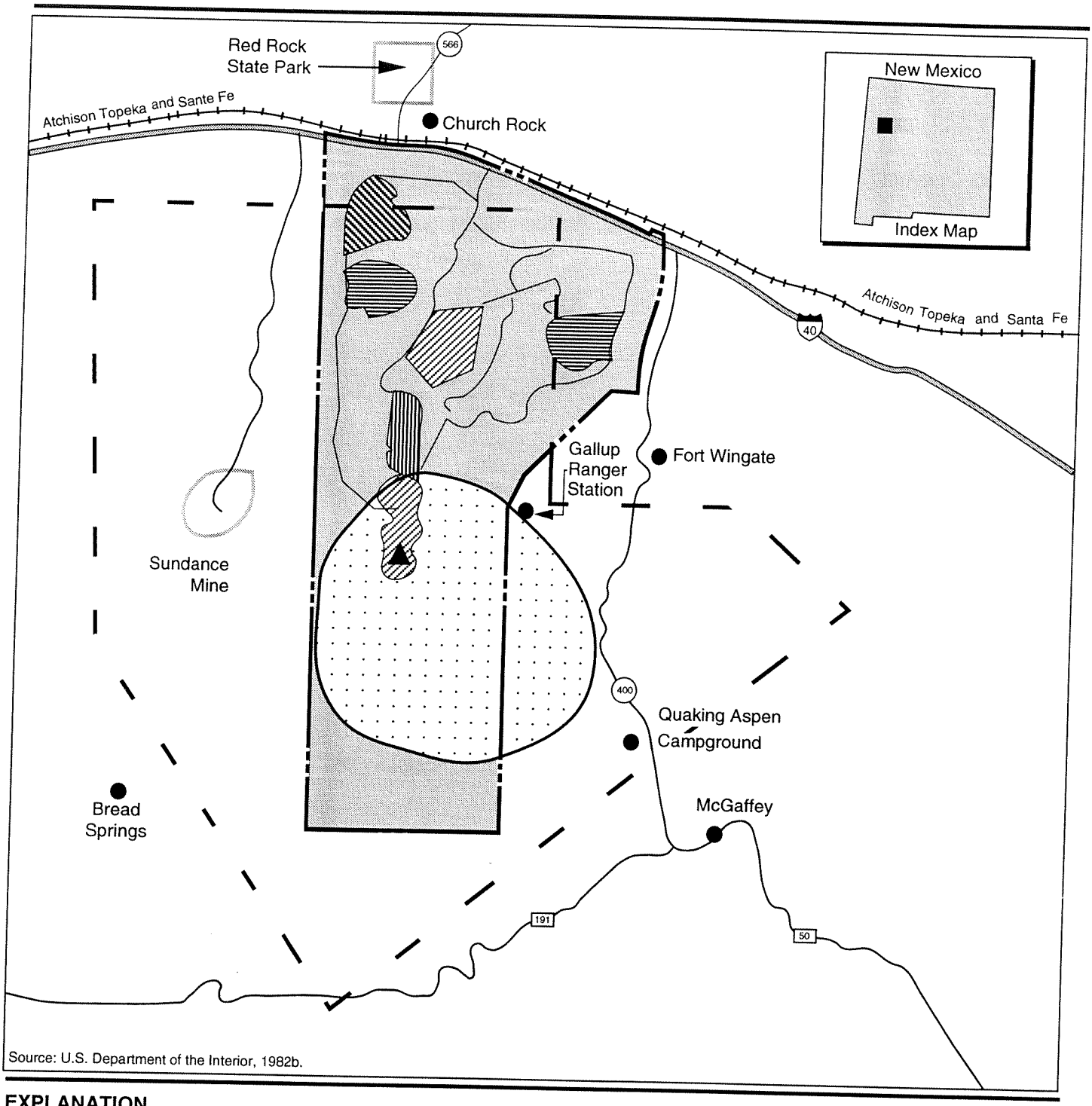
- Launch Hazard Area for Booster Drop Zones A & B (Target Missile)
- Candidate Launch Site
- Launch Hazard Area for Booster Drop Zones C, & C_2 (Target Missile)
- Green River Launch Complex
- Potential Remote Instrumentation Site

0 1.6 3.2 Kilometers
0 1 2 Miles

Launch Hazard Area, Green River Launch Complex

White Sands Missile Range
Candidate Test Area

Figure 2.2-11



EXPLANATION

- Launch Hazard Area for Booster Drop Zones A & B (Target Missile)
- Candidate Launch Site
- Launch Hazard Area Booster for Drop Zone C (Target Missile)
- Fort Wingate Depot Activity

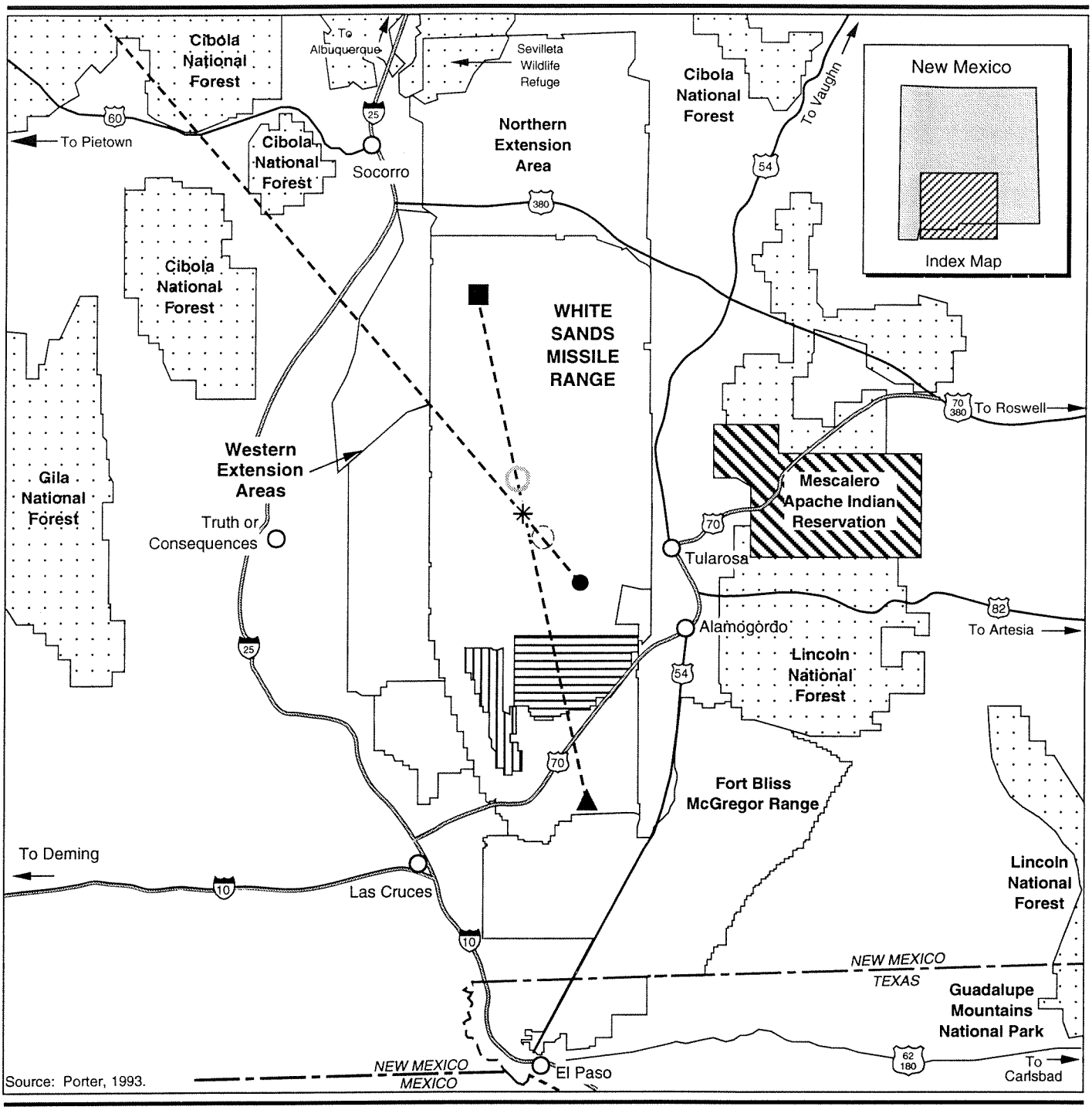
0 1.6 3.2 Kilometers
0 1 2 Miles

gr/Range/779.mwn-11/21/94

Launch Hazard Area, Fort Wingate Depot Activity

White Sands Missile Range
Candidate Test Area

Figure 2.2-12



EXPLANATION

- Representative Flight Paths
- Candidate Launch Location
- Target Vehicle Impact Point (In event of failed intercept)
- Intercept Point
- Target Debris
- Interceptor Debris
- Interceptor Impact Point (In event of failed intercept)
- San Andres National Wildlife Refuge
- White Sands National Monument

0 20 40 Kilometers
0 15 30 Miles

Representative Impact Locations

White Sands Missile Range, Candidate Test Area

Figure 2.2-13

Page 2-62, para. 5, line 3 should read:

Nominal flight intercept areas and most of the flight corridor would be within the presently established over-water test ranges (figure 2.2-19) **or open ocean areas**.

Page 2-62, para. 6, line 2 should read:

Booster, payload, and debris impact areas would be confined to the existing over-water test ranges **or open ocean areas**.

Page 2-67, para. 1, line 2 should read:

This alternative also includes surface-to-surface missile launches from southern Vandenberg AFB with impacts in the existing impact area on San Clemente Island **or in open ocean areas**.

Page 2-81, para. 7, line 1 should read:

The FSA-2 impact area on San Clemente Island would be used for **those** Army TACMS flights launched from Vandenberg AFB **which do not impact in the ocean**.

Page 2-85, figure 2.2-32: Figure has been revised as shown.

Page 2-94, para. 4, should read:

Personnel living, working, or transiting within the LHA would be required to vacate the area (figure 2.2-32). The anticipated evacuation period would be ...

Page 3-1, para. 3, line 6 should read:

. . . the TMD Programmatic Life-Cycle EIS (**September 1993**), the TMD Lethality Programmatic . . .

BIOLOGICAL RESOURCES — WSMR AND FORT BLISS MCGREGOR RANGE

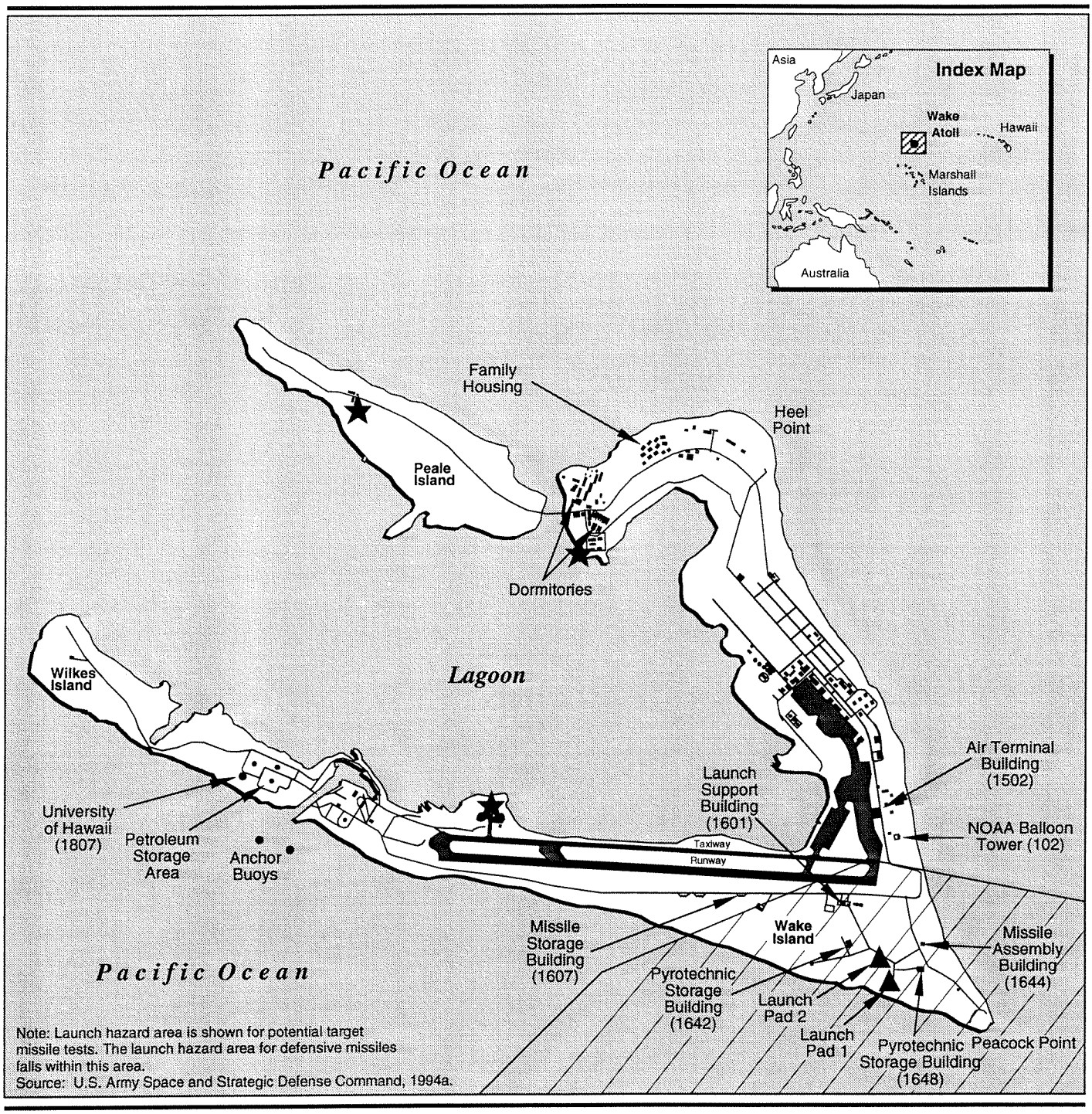
Page 3-18, para. 2 should read:

The ROI for biological resources is coincidental with the boundaries of WSMR, **the southwestern portion of** Fort Bliss McGregor Range, and the Fort Bliss Northern Maneuver area.

Page 3-18, para. 3 should read:

Existing information on plant and animal species and habitat types in the vicinity of the launch or impact sites at WSMR and launch sites at Fort Bliss McGregor Range was reviewed, with special emphasis on the presence of any species listed**, or proposed to be listed,** by Federal, state, or local agencies as rare, threatened, or endangered. Biological studies consisted of literature review, field reconnaissance, and map documentation.

Page 3-19, figure 3.1-2: Figure has been revised as shown.



EXPLANATION

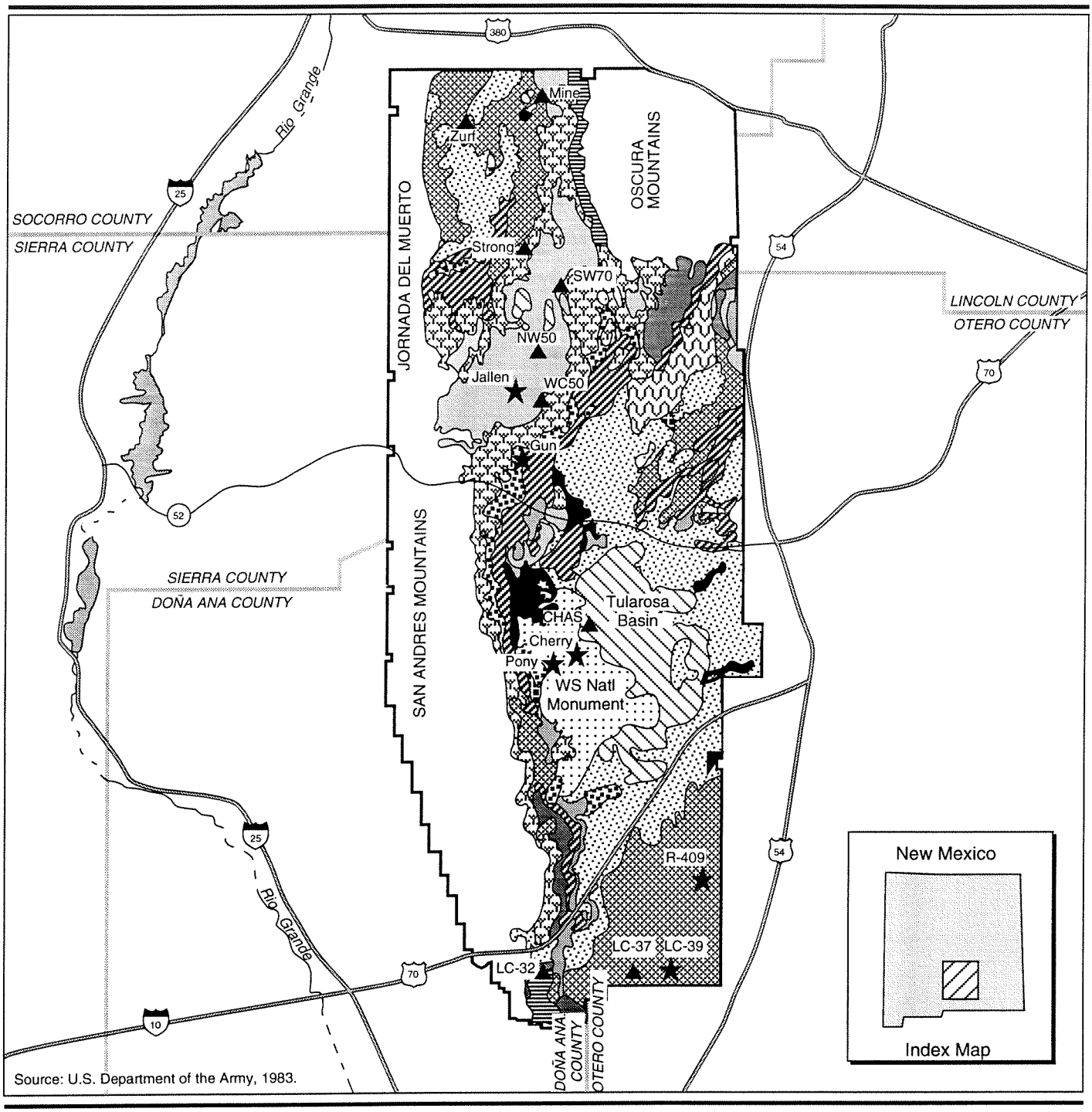
- ▲ Candidate Launch Site
- Launch Hazard Area
- ★ Candidate TMD GBR Sites

0 500 1000 Meters
0 2000 4000 Feet

Vicinity Location Map, Wake Island

Kwajalein Missile Range
Candidate Test Area

Figure 2.2-32



EXPLANATION

- Clay Grasslands
- Gypsum Grasslands & Dunes
- Gypsum Dunes Barren
- Intermittent Lakes & Ponds
- Lakes & Level Gypland
- Lava Flows
- Pinyon-Juniper Mountains
- Salt Flats
- Sand Grasslands & Dunes
- Semi-Desert Shrubs
- Foot Slopes, Grasslands
- Mountains
- Salt Flats Barren
- Candidate Launch Sites
- Candidate TMD GBR Sites

0 15 30 Kilometers
0 10 20 Miles

Vegetation Communities, White Sands Missile Range

White Sands Missile Range, New Mexico

Figure 3.1-2

Page 3-20, figure 3.1-3: Figure has been revised as shown.

Page 3-21, Wildlife Section should read:

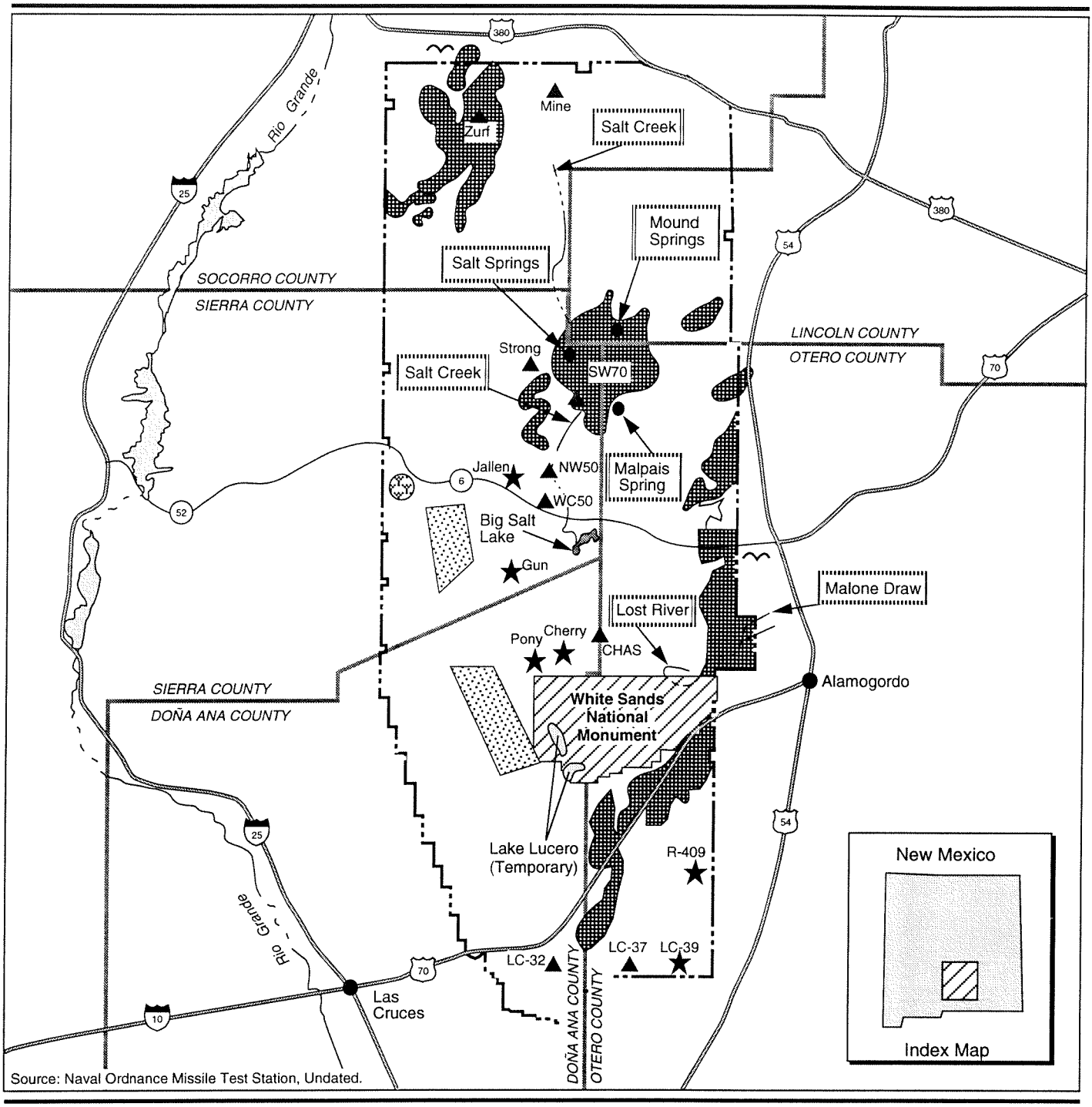
More than 200 species of birds have been observed at WSMR, although less than half of the species are known as regular residents. Many species of migratory waterfowl and shorebirds are winter occupants of wastewater ponds, ephemeral playas, and spring-fed streams in the Tularosa Basin. A variety of raptors are common in mountain and basin areas, including Swainson's hawk (*Buteo swainsoni*), red-tailed hawk (*Buteo jamaicensis*), northern harrier (*Circus cyaneus*), American kestrel (*Falco sparverius*), prairie falcon (*Falco mexicanus*), golden eagle (*Aquila chryaetos*), great horned owl (*Bubo virginianus*), and burrowing owl (*Speotyto cunicularia*). Mourning dove (*Zenaida macroura*), Gambel's quail (*Callipepla gambelii*), and scaled quail (*Callipepla squamata*) are the most abundant game birds present at WSMR.

The bird fauna of McGregor Range is typical of the Chihuahuan Desert. Although the desert supports a diverse group of birds, only the scaled quail and white-necked raven are considered characteristic species, and both commonly extend their range outside the desert (U.S. Army Corps of Engineers, 1993). Common species include mourning dove, roadrunner (*Geococcyx californianus*), lesser nighthawk (*Chordeiles acutipennis*), Scott's oriole (*Icterus parisorum*), cactus wren (*Campylorhynchus brunneicapillus*), crissal thrasher (*Toxostoma crissale*), black-throated sparrow (*Amphispiza bilineata*), horned lark (*Eremophila alpestris*), western meadowlark (*Sturnella neglecta*), turkey vulture (*Cathartes aura*), American kestrel, red-tailed hawk, and northern harrier. The spring migration of birds through the southwestern United States occurs during March through May.

Recent field surveys and literature reviews in association with the U.S. Army Corps of Engineers Construction Engineering Research Laboratory (CERL) Land Condition Trend Analysis program have documented the presence of 79 mammalian species at WSMR. The primary native large mammals present within Tularosa Basin are mule deer (*Odocoileus hemionus*) and pronghorn antelope (*Antilocapra americana*). Introduced African oryx (*Oryx gazella*) occur throughout the Tularosa Basin, with large concentrations of these animals in the basin areas east and north of Rhodes Canyon Range Center. Common predatory mammals of the area include coyote (*Canis latrans*), mountain lion (*Felis concolor*), bobcat (*Lynx rufus*), and badger (*Taxidea taxus*). The mountain lion population of the San Andres Mountains is the subject of an ongoing, long-term study funded by the New Mexico Department of Game and Fish. The small mammals present include 17 common species of rodents that occur in various vegetative zones.

The U.S. Army Corps of Engineers (1993) reported over 140 species of native mammals in New Mexico. At least five species have been introduced to the McGregor Range by man, including house mouse (*Mus musculus*), Norway rat (*Rattus norvegicus*), horse (*Equus caballus*), barbary sheep (*Ammotragus lervia*), and gemsbok or oryx. Common big-game mammals include mule deer and pronghorn antelope as well as the African oryx and barbary sheep. Permitted hunts are provided within special hunt areas.

Non-game mammals, mostly small rodents, comprise a large basis of the food supply for the larger carnivorous mammals. Common rodents include spotted ground and rock squirrels (*Spermophilus spilosoma* and *S. variegatus*), plains and desert pocket mice (*Perognathus flavescens* and *P. penicillatus*), kangaroo rats (*Dipodomys* spp.), and several species of mice (*Peromyscus* spp.).



EXPLANATION

- Base Boundary
- Grama Grass Cactus Areas
- Desert Bighorn Sheep
- White Sands Pupfish
- Todsen's Pennyroyal (3 small populations in Chalk Hills area)
- Confirmed Aplomado Falcon Sightings (since 1991)
- Candidate Launch Sites
- Candidate TMD GBR Sites

0 12.5 25 Kilometers

0 7.8 15.6 Miles

Sensitive Habitat

White Sands Missile Range, New Mexico

Figure 3.1-3

Common insectivorous mammals include California bat (*Myotis californicus*), hoary bat (*Lasiurus cinereus*), Brazilian free-tailed bat (*Tadarida brasiliensis mexicana*), pallid bat (*Antrozous pallidus*), and Townsend's big-eared bat (*Plecotus townsendii pallescens*). Common predators in the project area include bobcat, gray fox (*Urocyon cinereoargenteus*), coyote, and mountain lion. Other mammalian predators commonly found in the area include badger and striped skunk (*Mephitis mephitis).*

Reptiles are the most abundant and diverse group of vertebrate animals on the Chihuahuan Desert, which contains McGregor Range. Characteristic lizard species include the greater earless lizard (*Cophosaurus texanus*), the round-tail horned lizard (*Phrynosoma modestum*), whiptail lizards (*Cnemidophorus* spp.), and spiny lizards (*Sceloporous* spp.). Common snakes of the area include whipsnakes (*Masticophis taeniatus*), coachwhips (*M. flagellum testaceus*), ratsnakes (*Elaphe* spp.), and rattlesnakes (*Crotalus* spp.).

Threatened and Endangered Species

Threatened and endangered species at WSMR include plants listed as threatened or endangered by the New Mexico Natural Energy, Minerals, and Resources Department, animals listed as threatened, endangered, or candidates for listing by the New Mexico Department of Game and Fish, and plants and animals listed by the USFWS as threatened, endangered, or as candidate species. Appendix G includes a list of these species.

Todsen's pennyroyal (*Hedeoma todsenii*) is a Federally listed endangered plant species that occurs in only three known populations within the San Andres Mountains on WSMR. Three state-listed endangered plant species that are also known to be present within the San Andres Mountains are the Alamo penstemon (*Penstemon alamosensis*) (also a Federal Candidate 2 species), Mescalero milkwort (*Polygala rimulicola mescalerum*) (also a Federal Candidate 2 species), and Sandberg's pincushion cactus (*Escobaria sandbergii*). Suitable habitat for these species may be present at WSMR.

Appendix G also includes a list of endangered, threatened, and protected species which may potentially occur at Fort Bliss McGregor Range. Alamo beard tongue or penstemon potentially occurs in Doña Ana and Otero counties, New Mexico. Grama grass cactus (*Pediocactus papyracanthus*) potentially occurs in Bernalillo, Cibolo, Dona Ana, Grant, Los Alamos, Otero, Rio Arriba, Sandoval, Santa Fe, Socorro, Torrance, and Valencia counties, New Mexico, and adjacent areas in Arizona and Texas (listed as endangered by New Mexico and as a Federal Candidate 2 species). Occurrence of this species on McGregor Range was documented in 1990 (U.S. Department of the Army, 1991a). Occurrence of Todsen's pennyroyal has been confirmed in Sierra and Otero counties, New Mexico, where it is Federally listed as endangered.

The northern and eastern portions of McGregor Range, which encompass Otero Mesa, including four sites designated as the Black Grama Area of Critical Environment Concern (ACEC), are managed according to an existing Cooperative Agreement between the BLM, the Army, and New Mexico State University. These areas of McGregor Range would not be part of the ROI for Extended Test Range activities.

Several threatened and endangered bird species are known to occur as seasonal inhabitants at WSMR based on known habitat associations of the species. These include Baird's sparrow (*Ammodramus bairdii*), peregrine falcon (*Falco peregrinus*), Bell's vireo (*Vireo bellii*), gray vireo (*Vireo vicinior*), and varied bunting (*Passerina versicolor*). Baird's sparrow is a group 2 state-listed endangered species that has been observed as a fall migrant in grassland habitats of southern New Mexico. Seasonal temporary presence of this species in the

grasslands of WSMR is highly probable. The rock-walled canyons and cliff faces of the San Andres Mountains offer extensive potential habitat for the peregrine falcon, a Federally listed endangered species. Bell's vireo and varied bunting, both group 2 state-listed endangered species, are potential inhabitants of the canyon stream areas. The gray vireo, also a group 2 state-listed endangered species, may be expected to occur in the pinyon-juniper and oak woodlands of the mountain slopes.

The Mexican spotted owl (*Strix occidentalis lucida*), a Federally threatened species, is known to occur on WSMR. Since 1991 there have been three reported sightings of the northern Aplomado falcon (*Falco femoralis*) on or near WSMR. Three loggerhead shrikes (*Lanius ludovicianus*), a Federal and state candidate species, were observed on southern WSMR on December 28, 1993. (U.S. Army Space and Strategic Defense Command, 1994b)

The northern Aplomado falcon is a historic species for Fort Bliss and is now classified as extirpated due to loss of habitat from brush encroachment. The last verified nest was found in 1952 in Deming, New Mexico. However, one adult falcon was sighted near Tularosa, New Mexico, during the summer of 1991. The falcon stayed in the area for approximately 6 weeks. A female Aplomado falcon was sighted in the same area in April 1992. The USFWS reported another sighting in Valentine, Texas, during April 1992 (U.S. Army Corps of Engineers, 1993). It is Federally endangered but is common and local along the Mexican border, which would make the Otero Mesa of McGregor Range a likely spot for recolonization by this species. The falcon's preferred habitat is grassland with very little shrub component other than yucca. Otero Mesa provides this preferred habitat. An unconfirmed report in July 1993 indicated another falcon near the Orogrande gate on Fort Bliss (U.S. Army Space and Strategic Defense Command, 1994b).

Several Federal Candidate 2 species have been sighted on Fort Bliss McGregor Range. Snowy plovers (*Charadrius alexandrinus nivosus*) are migratory from the Pacific coast into the western United States. Snowy plovers have been sighted in Otero County on McGregor Range. The ferruginous hawk (*Buteo regalis*) has been sighted throughout the year as a casual species in Otero County and McGregor Range. The mountain plover (*Charadrius montanus*) has also been sighted in Otero County on McGregor Range.

The bald eagle (*Haliaeetus leucocephalus*) is a winter resident. It is listed as endangered on both Federal and state lists. The bald eagle ranges throughout North America, usually near large water bodies but along mountain ridges during migration. The peregrine falcon is a resident of Otero County and was most recently sighted on Fort Bliss in 1989 (U.S. Department of the Army, 1991a).

The southwestern willow flycatcher (*Empidonax trailii extimus*) occurs throughout the southwest as a migrant in spring and fall. It is proposed for listing as Federally endangered with critical habitat. This species occupies thickets, riparian woodlands, pastures, and brushy areas. It is confined to riparian woodlands during the breeding season of May through July.

The White Sands pupfish (*Cyprinodon tularosa*), which is listed as endangered by New Mexico and is a candidate for Federal listing, is the only fish that is known to naturally occur on WSMR. It has been documented in the waters of Salt Creek, Malone Draw, and Malpais, Mound and Salt springs. It also reportedly exists in Lost River. The population appears relatively stable within its limited range. (U.S. Army Space and Strategic Defense Command, 1994b)

The Texas horned lizard (*Phrynosoma cornutum*), a Federal Candidate 2, and desert bighorn sheep (***Ovis canadensis mexicana***), a state group 1 endangered species, are known to be current residents within the ROI at WSMR. The Texas horned lizard occurs commonly throughout the Tularosa and Jornada basins, primarily in association with shrublands and grasslands on sandy and sandy/gravelly soils. Desert bighorn sheep occupy the upper reaches of the San Andres Mountains, appearing individually or in scattered small bands. The population has remained stable at 20 to 30 animals during the last 8 years.

The Arizona black-tailed prairie dog (***Cynomys ludiovicianus arizonensis***), a Federal Candidate 2 species, inhabits northern portions of McGregor Range on Otero Mesa. The southern portion of McGregor Range has been routinely used for vehicular maneuvers for many years, and most of the range is regularly disturbed.

Page 3-22, figure 3.1-4: Figure has been revised as shown.

LAND USE — WSMR AND FORT BLISS MCGREGOR RANGE

Page 3-38, para. 1, line 3 should read:

. . . Basin of south-central New Mexico. At **828,826** ha (2,048,000 ac), the range . . .

Page 3-38, add after para. 1:

Fort Bliss McGregor Range, created by the Military Lands Withdrawal Act of November 6, 1986 (Public Law 99-606), is bordered by the Texas-New Mexico state line on the south, the Lincoln National Forest on the north, and U.S. Highway 54 on the west. Public and state-owned land adjoin on the east side. Land ownership within the range includes 246,213 ha (608,385 ac) of withdrawn public land, 29,059 ha (71,803 ac) of Army-acquired land, and 409 ha (1,010 ac) of state trust land (U.S. Department of the Interior, 1990). Section 3(e) of the act required the BLM and the Army to enter into a Memorandum of Understanding (MOU) to implement a management plan and established policies, procedures, and responsibilities of the BLM and Department of the Army for coordination and cooperation related to land use planning and resource management (U.S. Department of the Interior, 1990).

Page 3-38, para. 4, line 1 should read:

. . . encompasses about **58,536** ha (144,640 ac) on . . .

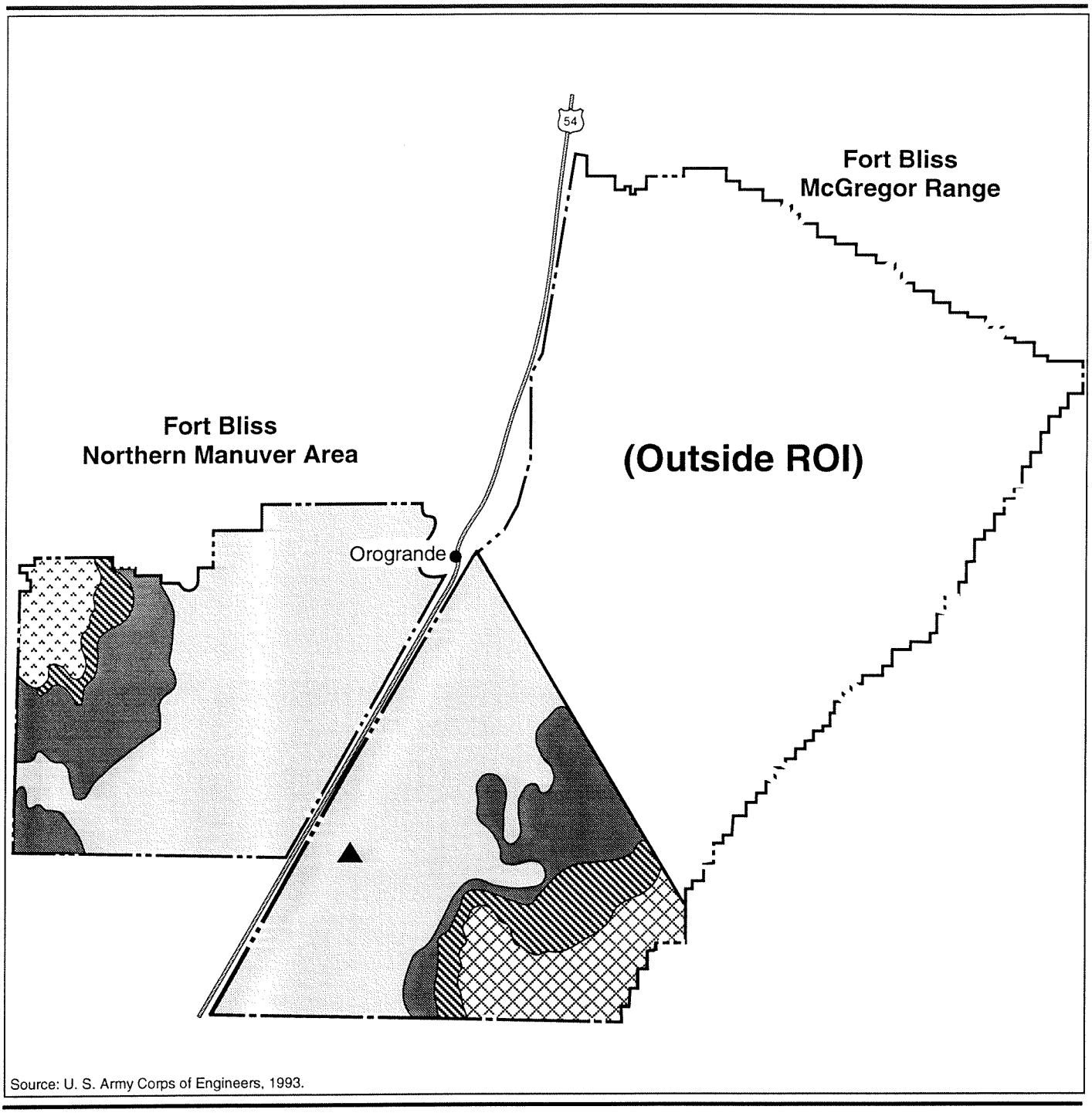
Page 3-38, para. 4, line 6 should read:

. . . land use areas, encompassing **55,428** ha (136,960 ac).

Page 3-38, para. 4, line 8 should read:

. . . overlap, and **7,286** ha (18,004 ac) of Lincoln . . .

Page 3-39, figure 3.1-6: Figure has been revised as shown.



Source: U. S. Army Corps of Engineers, 1993.

EXPLANATION

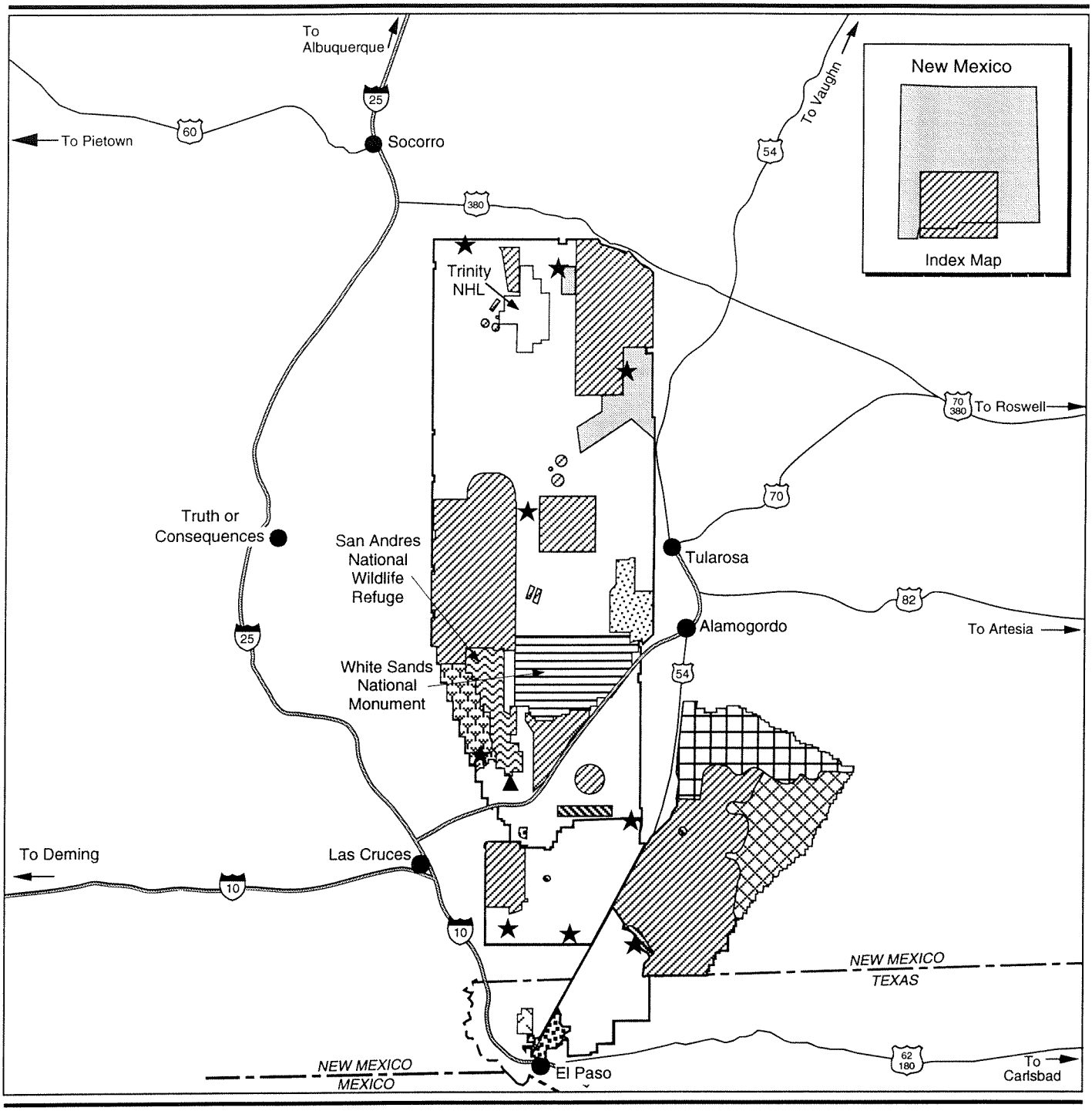
- Potential Launch Location
- Sand Dune-Mesquite
- Alluvial Fans
- Foothills and Draws-Yucca Grassland
- Creosote Bush
- Mountains-Canyon-Pinyon-Juniper

0 7 14 Kilometers
0 4 8 Miles

Vegetation Communities, Fort Bliss ROI

White Sands Missile Range
Candidate Test Area

Figure 3.1-4



EXPLANATION

- Cantonment
- Range Centers/Camp
- Impact Areas
- Launch Complexes
- Hazardous Test Areas
- San Andres National Wildlife Refuge
- NASA Area
- Casner Area
- Holloman Air Force Base
- Approach Zones
- Co-Use Area (Includes grazing units)
- Grazing Units

0 20 40 Kilometers

0 12.5 25 Miles

Land Use on WSMR and Ft. Bliss

White Sands Missile Range
Candidate Test Area

Figure 3.1-6

gr/Range/589.mwn-11/30/94

Page 3-46, para. 1, delete:

The study found no data to indicate a noise impact on the bighorn sheep.

CULTURAL RESOURCES -- GRLC

Page 3-60, add after para. 4:

Earlier hunting points have been located near Green River, which would place the earliest date for human occupation of the area to 13,000 B.C.

BIOLOGICAL RESOURCES – FWDA

Page 3-73, para. 2 should read:

Existing information on plant and animal species and habitat types in the ROI at FWDA were reviewed, with special emphasis on the presence of any species listed **or proposed to be listed** by Federal, state, or local agencies as rare, threatened, or endangered. Biological studies consisted of literature review, field reconnaissance, and map documentation. A site visit to FWDA was conducted on May 14, 1993.

Page 3-74, para. 6 should read:

The bald eagle, a Federally endangered species, and the northern goshawk (*Accipiter gentillis apache*), a Federal Candidate 2 species, are located in the FWDA region and may occasionally be within FWDA boundaries as transitory birds. **The Mexican spotted owl (*Strix occidental lucida*), a Federally threatened species, is known to winter near the Fort Wingate Work Center, located 1/2 mile east of FWDA, and summer nesting occurs on FWDA. Suitable habitat for this species exists on National Forest Service lands and extends onto FWDA. According to the USFWS, the southwestern willow flycatcher, a Federal proposed endangered species, also has the potential to occur on FWDA (U.S. Department of the Interior, 1994a). (U.S. Department of Agriculture, 1994)**

Page 3-74, para. 7 should read:

Zuni fleabane (*Erigeron rhizomatus*), a Federally **threatened** species; Zuni milk vetch (*Astragalus accumbens*), a **Federal Candidate 3** species **and a Regional Forester's sensitive species**; Arizona leather flower (*Clematis hirsutissima var. arizonica*), a Federal Candidate 1 species; and Acoma fleabane (*Erigeron acomas*), Grama grass cactus (*Pediocactus papyracanthus*), Sivinski fleabane (*Erigeron sivinskii*), and cinder cone phacelia (*Phacelia serrata*), Federal Candidate 2 species, are . . .

LAND USE – FWDA

Page 3-78, para. 8, line 1, should read:

FWDA was approved for closure in the 1988 Base Realignment and Closure (BRAC) process, was closed in January 1993, and placed in a caretaker status awaiting transfer of the property. Caretaker responsibility is provided by ...

Page 3-79, para. 1, new sentence at the end of the paragraph:

FWDA supported missile launch activities during the 1960s and early 1970s.

Page 3-79, replace paragraph 3 with the following:

FWDA was closed in 1993 as part of the BRAC process. In accordance with Federal laws and regulations governing disposal of excess government property and the BRAC laws, the BMDO identified approximately 5,261 ha (13,000 ac) in the central portion of FWDA for potential use for missile launch activities. While sufficient control of this property is needed to provide security for launch and radar facilities to ensure site access and to provide clear hazard areas during launches, much of the property could be used for compatible activities for a substantial portion of each year. Property not retained for BMDO missions would revert to the Department of Interior, since FWDA was public domain land prior to becoming an Army facility.

BIOLOGICAL RESOURCES – WSMR FLIGHT CORRIDOR

Page 3-92, para. 2 should read:

Existing information on plant and animal species and habitat types in the ROI was reviewed, with special emphasis on the presence of any species listed, **or proposed to be listed**, by Federal, state, or local agencies as rare, threatened, or endangered. Biological studies consisted of literature review and map documentation. A description of the biological resources of the **WSMR**, GRLC, and FWDA regions can be found in sections **3.1.1.3,** 3.1.2.3, and 3.1.3.3**, respectively**.

Page 3-92, new para. 3 should read:

Appendix I, Health and Safety, addresses the potential for debris impacts should an early flight termination occur within the flight corridor.

GEOLOGY AND SOILS – WSMR FLIGHT CORRIDOR

Page 3-97, para. add after para. 8:

Within the Quaternary-age Malpais lava flows in Booster Drop Zone B there are approximately 35 km (22 mi) of known lava tubes (Maxwell, 1986). Also within this booster drop zone are numerous cinder cones and two shield volcanoes.

LAND USE – WSMR FLIGHT CORRIDOR

Page 3-105, para. 3, line 1 should read:

The Cibola National Forest is divided into **three** types of travel management areas: open areas available for motorized vehicle use on and off roads, **seasonally** restricted areas that may be open or closed to various vehicle types during different seasons, **and restricted areas that are closed to motor vehicle use except for designated routes. The Little River Canyon area is the only restricted area within the ROI.**

WATER RESOURCES – WSMR FLIGHT CORRIDOR

Page 3-110, para. 9 should read:

Groundwater – Most aquifers within the flight corridor are in excess of 61 m (200 ft) below the surface **although localized aquifers are found at much shallower depths.**

BIOLOGICAL RESOURCES – SANTA ROSA ISLAND

Page 3-119, figure 3.2-2: Figure has been revised as shown.

Page 3-120, para. 1 should read:

Typical wildlife is listed in Appendix G by the plant communities in which it is found. Species of wildlife designated as threatened, endangered, or candidate species **and potentially occurring protected marine mammals** are also listed in Appendix G.

CULTURAL RESOURCES – SANTA ROSA ISLAND

Page 3-123, add after para. 1 which ends "Cold War-era site (Wright, 1993).":

Traditional Resources

There are no NRHP-recorded traditional American Indian resources on Santa Rosa Island.

Paleontological Resources

There are no recorded paleontological resources on Santa Rosa Island.

HEALTH AND SAFETY – SANTA ROSA ISLAND

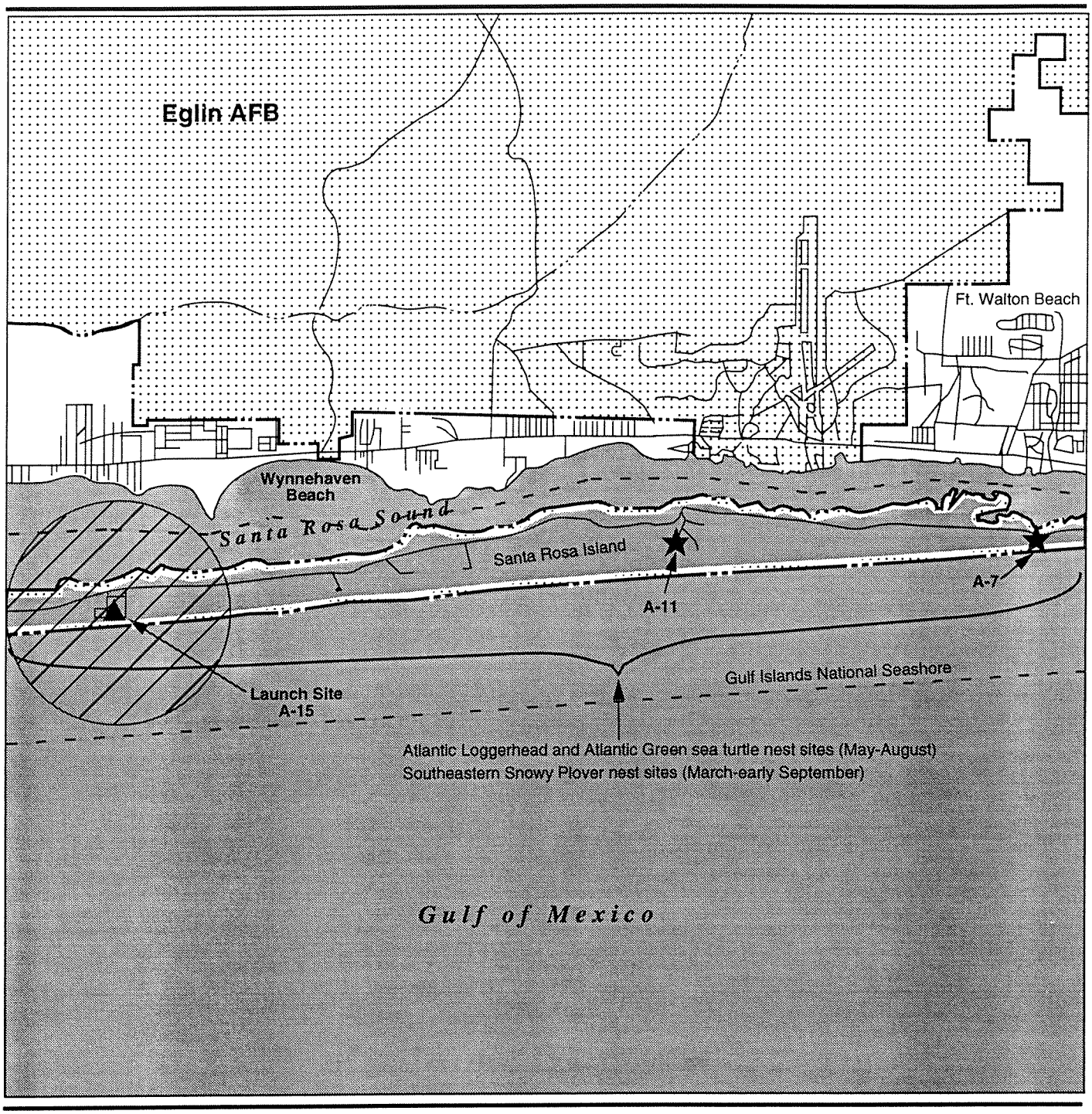
Page 3-126, para. 2 should read:

All program operations must receive the approval of the Air Force Development Test Center. This is accomplished by the user through the presentation of the proposed program data required by AFDTCR 127-1 to the cognizant organization at Eglin AFB. A Hazard Review Board evaluates the proposed program, **assesses** risks involved, and **ensures** that all Air Force Development Test Center safety requirements are met.

INFRASTRUCTURE AND TRANSPORTATION – SANTA ROSA ISLAND

Page 3-131, add to the end of para. 4:

The most recent data, for 1989, indicates that there were 5,067 self-propelled vessels (barges) pulling or towing about twice as many non-self-propelled vessels on the intracoastal waterway between Panama City and Pensacola Bay. Based on a 5-day work week, this represents an average of approximately 20 commercial vessels (barges) per day.



EXPLANATION

- Nominal Launch Hazard Area (6,000 ft. Radius)
- Santa Rosa Island Beach Mouse potential habitat
- Gulf Islands National Seashore
- Candidate TMD GBR Sites
- Candidate Launch Site

0 1 2 Kilometers
0 1 2 Miles

Sensitive Habitat, Santa Rosa Island

Eglin AFB
Candidate Test Area

Figure 3.2-2

WATER RESOURCES – SANTA ROSA ISLAND

Page 3-132, para. 2 should read:

The water for Eglin AFB and the surrounding communities is supplied primarily by wells that tap the upper limestone of the Floridan aquifer. The top of the Floridan aquifer is more than 198 m (650 ft) below sea level at the launch site (Northwest Florida Water Management District, 1978). Recharge of the aquifer is by rainfall in the **northern portions** of Okaloosa and Walton counties and in southern Alabama where the aquifer is at or near the surface (**Pascale, 1974**).

BIOLOGICAL RESOURCES – CAPE SAN BLAS

Page 3-136, para. 3 introductory header should read:

Vegetation

Page 3-136, para. 3, should read:

The Saint Vincent National Wildlife Refuge is located approximately 19 km (12 mi) east of Cape San Blas on Saint Vincent Island. An additional portion of the refuge lies 5 km (3 mi) north of Cape San Blas on Pig Island and includes the southern region of Saint Joseph Bay. Saint Joseph Peninsula State Park is located 11 km (7 mi) northwest of Cape San Blas and north of Pig Island (U.S. Department of the Interior, 1984b). The Pig Island Unit and Saint Vincent Island refuges are known to include areas of nesting bird colonies and endangered wildlife habitats (U.S. Department of the Interior, 1984h). **The Saint Joseph Bay Aquatic Preserve (Aquatic Preserve No. 17) encompasses the west coast of Saint Joseph Peninsula, including the west coast of Cape San Blas.**

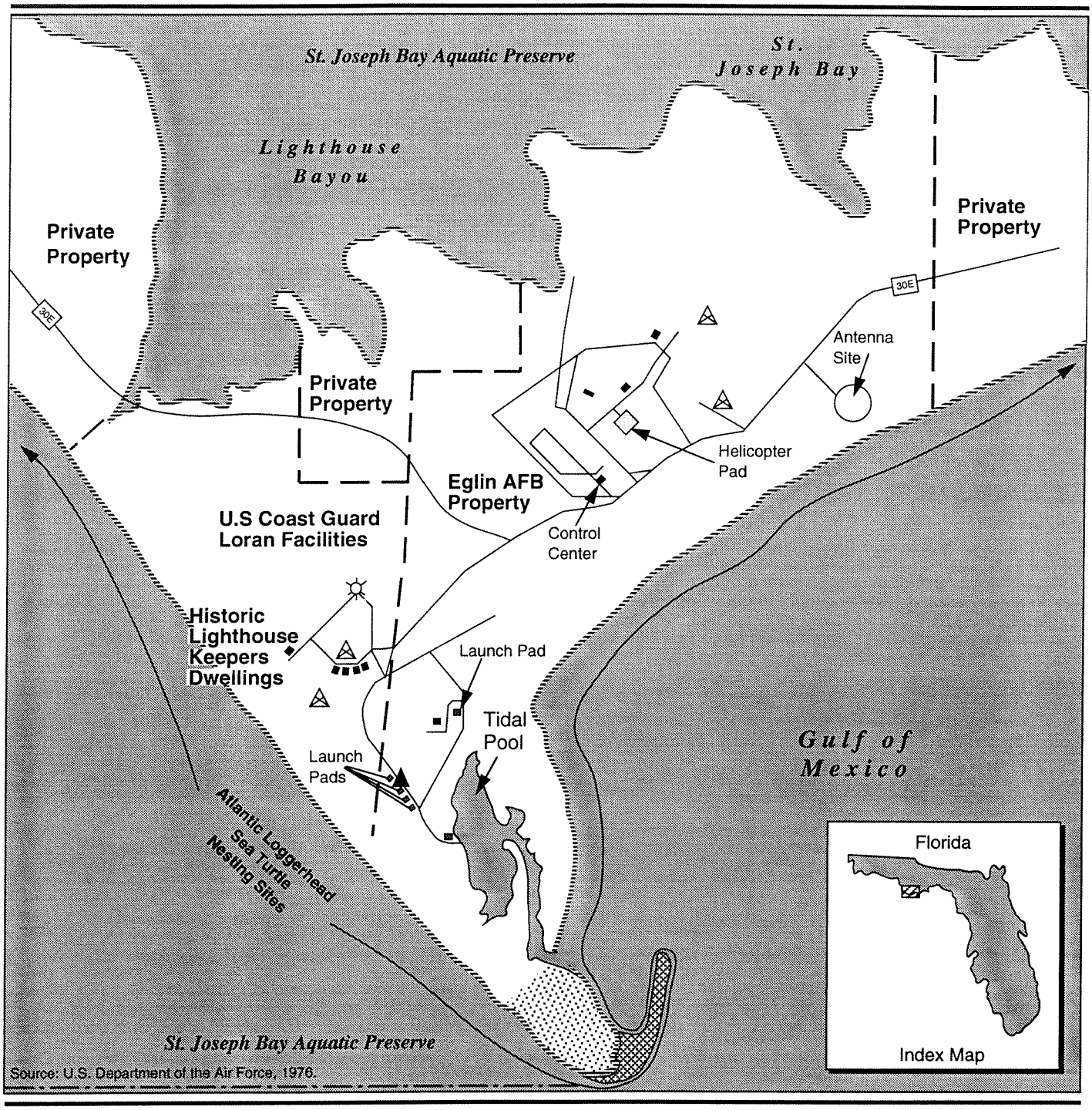
Page 3-136, para. 6 introductory header should read:

Wildlife, Threatened and Endangered Species

Page 3-136, para. 6 should read:

Cape San Blas is within a migratory bird route. **The tidal pool and the sand flats at the southern tip of Cape San Blas provide foraging habitat for a variety of shorebirds and sea birds.** Snowy plover are year-round residents and have been known to nest on the property, **primarily in the tidal pool,** and the **small tidal pool** is a wintering ground for the piping plover. Also of special concern are sea turtles, particularly the Atlantic loggerhead which nests along the Cape San Blas shoreline. The beaches provide potential habitat for a threatened/endangered species of beach mouse (*Peromyscus polionotus peninsularis*). Figure 3.2-4 illustrates sensitive habitat for threatened or endangered species at Cape San Blas. (U.S. Department of the Interior, 1984e) **Marine mammals potentially occurring in the surrounding waters are listed in Appendix G.**

Page 3-137, figure 3.2-4: Figure has been revised as shown.



EXPLANATION

- Shore Bird Nesting Sites
- Least tern, Wilson plover, and snowy plover nesting sites and foraging for piping plovers and numerous species of gulls, terns, waders, and pelicans
- St. Joseph Bay Aquatic Preserve
- Property Boundary
- Potential Beach Mouse Habitat
- Building
- Radio Tower
- Lighthouse (Historic)
- Candidate Launch Area

0 300 600 Meters

0 1000 2000 Feet

Sensitive Habitat, Cape San Blas

Eglin AFB
Candidate Test Area

Figure 3.2-4

CULTURAL RESOURCES – CAPE SAN BLAS

Page 3-138, add after para. 5, which ends "lighthouse properties. (U.S. Department of the Air Force, 1981)":

Traditional Resources

There are no NRHP-listed or -eligible traditional resources on Cape San Blas.

Paleontological Resources

There are no recorded paleontological resources on Cape San Blas.

BIOLOGICAL RESOURCES – EGLIN AFB FLIGHT CORRIDOR

Page 3-155, para. 2 should read:

Appendix G lists marine wildlife, **including marine mammals,** potentially found in the area and any special status or listing.

BIOLOGICAL RESOURCES – SAN NICOLAS ISLAND

Page 3-165, para. 3 should read:

The beach spectaclepod (*Dithyrea maritima*) and Trask's milk vetch (*Astragalus traskiae*) may occur near the 807 Launch Complex, although not in the immediate vicinity, and on southwest facing slopes and plateaus of the island. They are categorized as state Threatened/Federal Candidate 2 and state Rare/Federal Candidate 2, respectively. Trask's cryptantha (*Cryptantha traskiae*), **a Federal Candidate 2 species**, and beach spectaclepod may also be found in the northwest portion of the island as well as on southwest facing slopes and plateaus. Bright green dudleya (*Dudleya virens*) and island marrow (*Lavatera assurgentiflora* ssp. *assurgentiflora*), both Federal Candidate 2 species, are found on southwest facing slopes and mesas on the island. Ashy phacelia (*Phacelia cinerea*) and San Nicolas Island boxthorn (*Lycium verrucosum*) are both Federal Candidate 1 species and are presumed extinct (U.S. Department of the Air Force, 1991b). **Short-lobed broomrape (*Orobanche parishii brachyloba*), a Federal Candidate 2 species, is found on the beach terraces along the eastern and southern portions of the island. San Nicolas Island buckwheat (*Eriogonum grande* var.*Timorum*), a Federal Candidate 2 species, is associated with coastal sage scrub. Channel Island aphanisma (*Aphanisma blitoides*) and southern island morning glory (*Calystegia macrostegia amplissima*), both Federal Candidate 2 species, are also known to occur on San Nicolas Island. (U.S. Department of the Interior, 1994b)**

Page 3-165, para. 4 should read:

The state-listed endangered/Federal Candidate 2 island fox and Federally listed threatened island night lizard (*Xantusia riversiana*) occur on San Nicolas Island. Feral cats threaten fox populations through competition for resources and as vectors for disease and parasites. The island night lizard is only located on San Nicolas Island and remains under vegetation or debris during daylight hours (WESTEC Services, Inc., 1978). The island deer mouse occurs on San Nicolas Island but does not occur near the launch sites. The Federally endangered

brown pelican (*Pelecanus occidentalis californicus*) is a frequent visitor to the island and has established roosting areas on the western shoreline. Brown pelican forage approximately 0.8 km (0.5 mi) off shore in the vicinity of the 807 Launch Complex, and daily movements include flight along the western coastline of the island (Naval Air Warfare Center, Weapons Division, 1994). Western snowy plovers nest on San Nicolas Island but not near the potential launch sites. **The peregrine falcon is also known to occur on San Nicolas Island.**

Page 3-166, para. 1 should read:

Guadalupe fur seals (*Arctocephalus townsendi*), a Federal threatened species, and Steller sea lions (*Eumetopias jubatus*), a protected species, also visit San Nicolas Island. Southern sea otters (*Enhydra lutris nereis*), a Federally listed threatened species, were nearly exterminated by commercial hunters in the 18th and 19th centuries. One-hundred forty sea otters were translocated to San Nicolas Island by the USFWS. Most otters have returned to the mainland coast. Only 10 to 14 sea otters remain on the island and are generally located in kelp beds off the west side of the island **between Cormorant Rock and the westernmost point of the island.** (Schwartz, 1993b; Phillips, 1993; **U.S. Department of the Interior, 1994b**)

Page 3-167, figure 3.3-1: Figure has been revised as shown.

Page 3-168, figure 3.3-2: Figure has been revised as shown.

LAND USE – SAN NICOLAS ISLAND

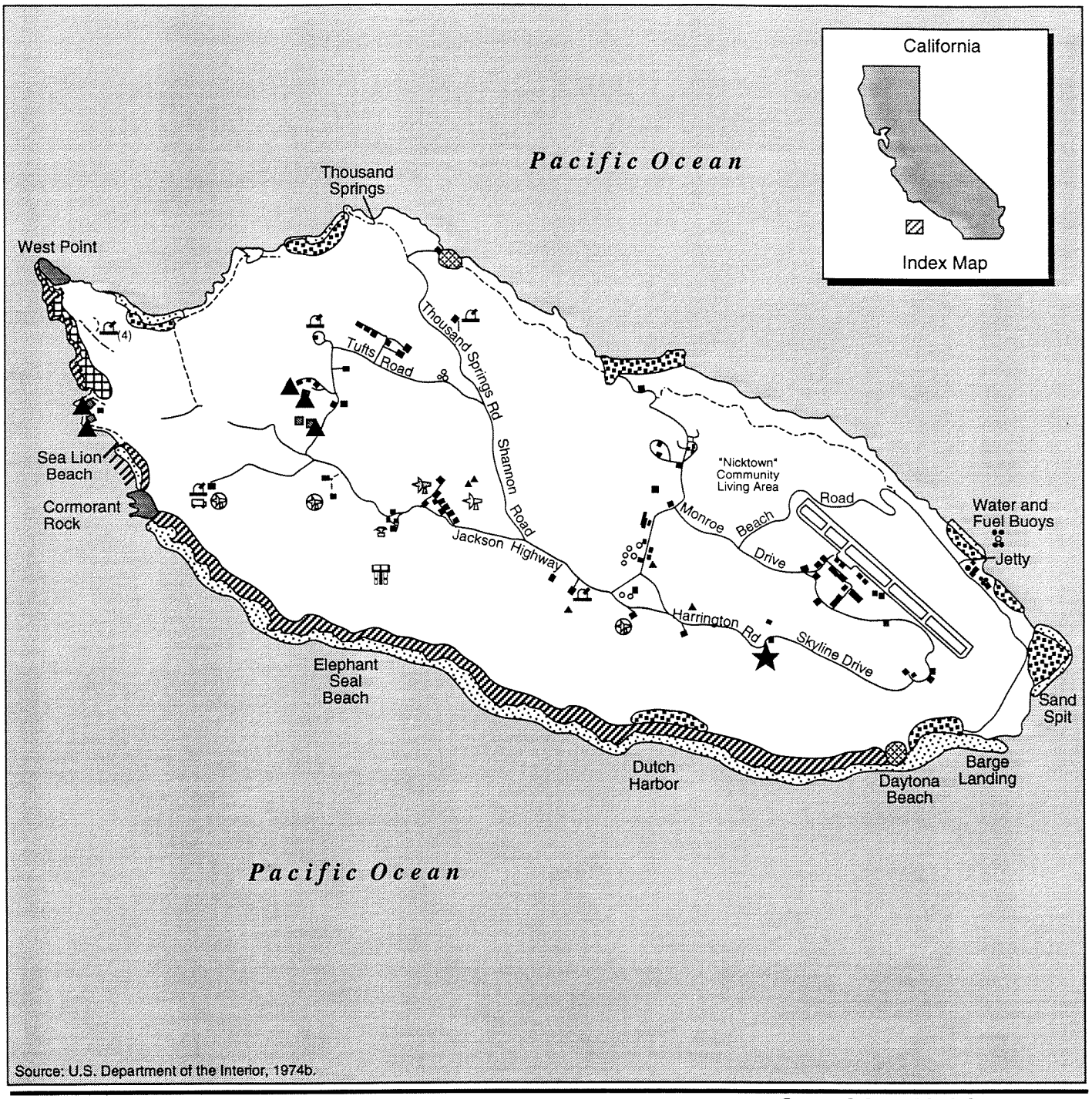
Page 3-172, add the following after para. 5:

Portions of the proposed LHAs for the candidate launch sites extend off the coastline of the western end of San Nicolas Island, especially for the 807 candidate launch site (see figure 2.2-22). These ocean waters offshore are sport and commercial fishing grounds, particularly commercial fishing for lobster between October and March, sea urchin throughout the year with blackout weeks in May through September as dictated by the California Department of Fish and Game, and prawns. Fishing boats come out from San Diego and as far north as Morro Bay, California. The prime commercial fishing season extends from October through January (EARTH TECH, 1994). The summer months are the most important for sport fishing, particularly weekend mornings.

AIR QUALITY – VANDENBERG AFB

Page 3-180, para. 6, Regional Air Quality, should read:

According to EPA guidelines, an area with air quality better than the NAAQS is designated as being in attainment; areas with worse air quality are classified as nonattainment areas. A nonattainment designation is given to a region if the primary NAAQS for any criteria pollutant is exceeded at any point in the region for more than 3 days during a 3-year period. Pollutants in an area may be designated as unclassified when there is a lack of data for the EPA to form a basis of attainment status. The California Air Resources Board also designates areas of the state as either in attainment or nonattainment of the CAAQS. An area is in nonattainment for a pollutant if the CAAQS has been exceeded more than once in 3 years. Federal and state attainment designations for Santa Barbara County are shown in



EXPLANATION

- Northern Elephant Seal
- California Sea Lion
- Brandt's Cormorant Nesting Area
- Harbor Seals
- Western Gull Nesting Area
- Snowy Plover Nesting Area
- Sea Otters
- Surfaced Road
- Unsurfaced Road
- Candidate Launch Site
- Candidate TMD-GBR Site

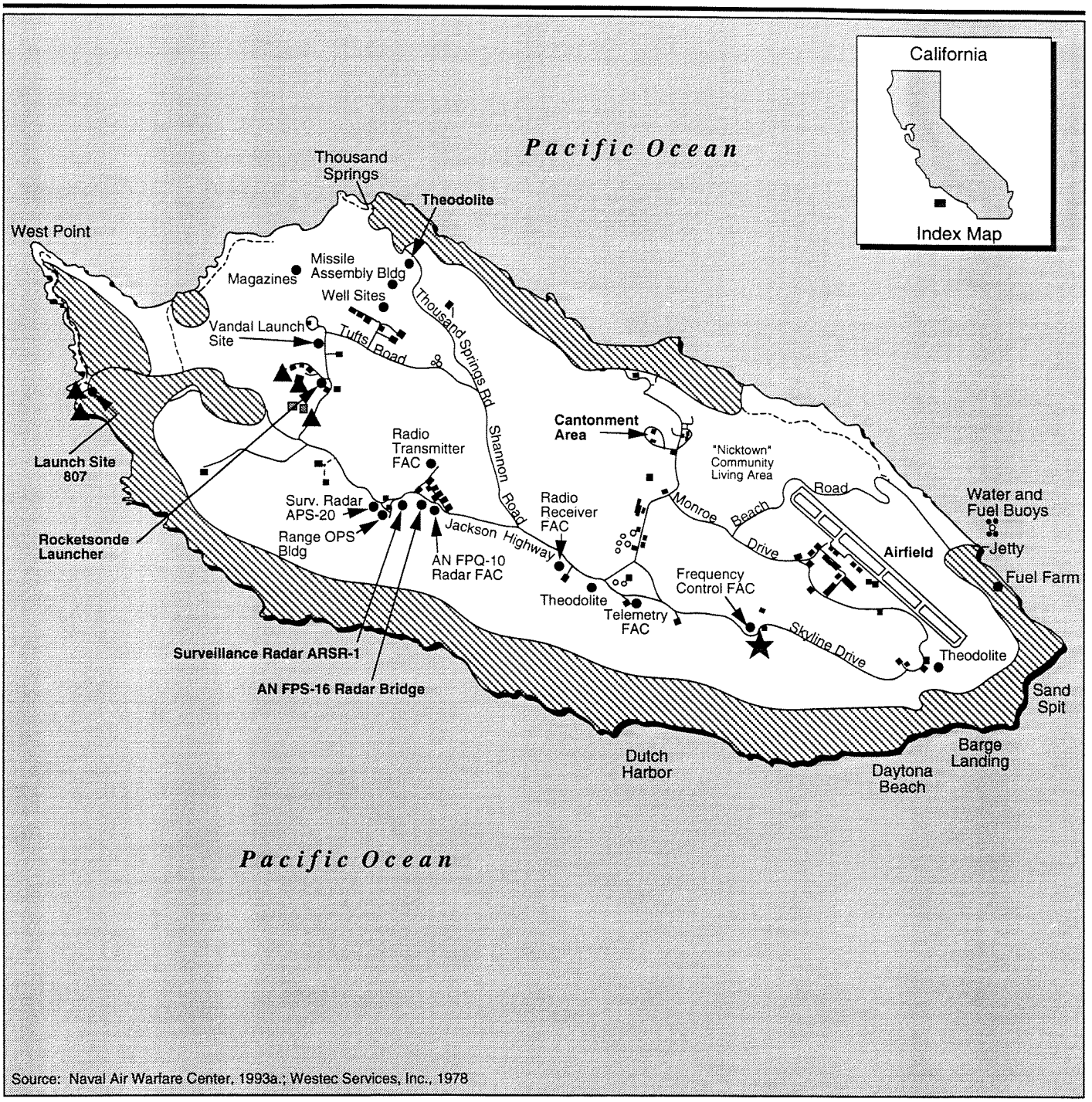
0 1000 2000 Meters
0 3000 6000 Feet

Sensitive Habitat, San Nicolas Island

Western Range
Candidate Test Area

Figure 3.3-1

gr/Range711.mrj-04/27/94



Source: Naval Air Warfare Center, 1993a.; Westec Services, Inc., 1978

EXPLANATION

- Surfaced Roads
- Unsurfaced Roads (Sometimes Unsafe)
- Distribution of Sensitive Plant Species
- Candidate Launch Site
- Candidate TMD-GBR Site

0 1000 2000 Meters

0 3000 6000 Feet

Sensitive Vegetation, San Nicolas Island

Western Range
Candidate Test Area

Figure 3.3-2

table 3.3.2.1-1 (California Environmental Protection Agency, 1992a). **The county attains all applicable air standards except for the Federal and state ozone standards and the state standard for particulate matter.**

BIOLOGICAL RESOURCES – VANDENBERG AFB

Page 3-187, para. 5 should read:

A general discussion of biological resources is provided in **Section 3.1.1.3.**

Page 3-189, figure 3.3-4: Figure has been revised as shown.

Page 3-190, para. 6 should read:

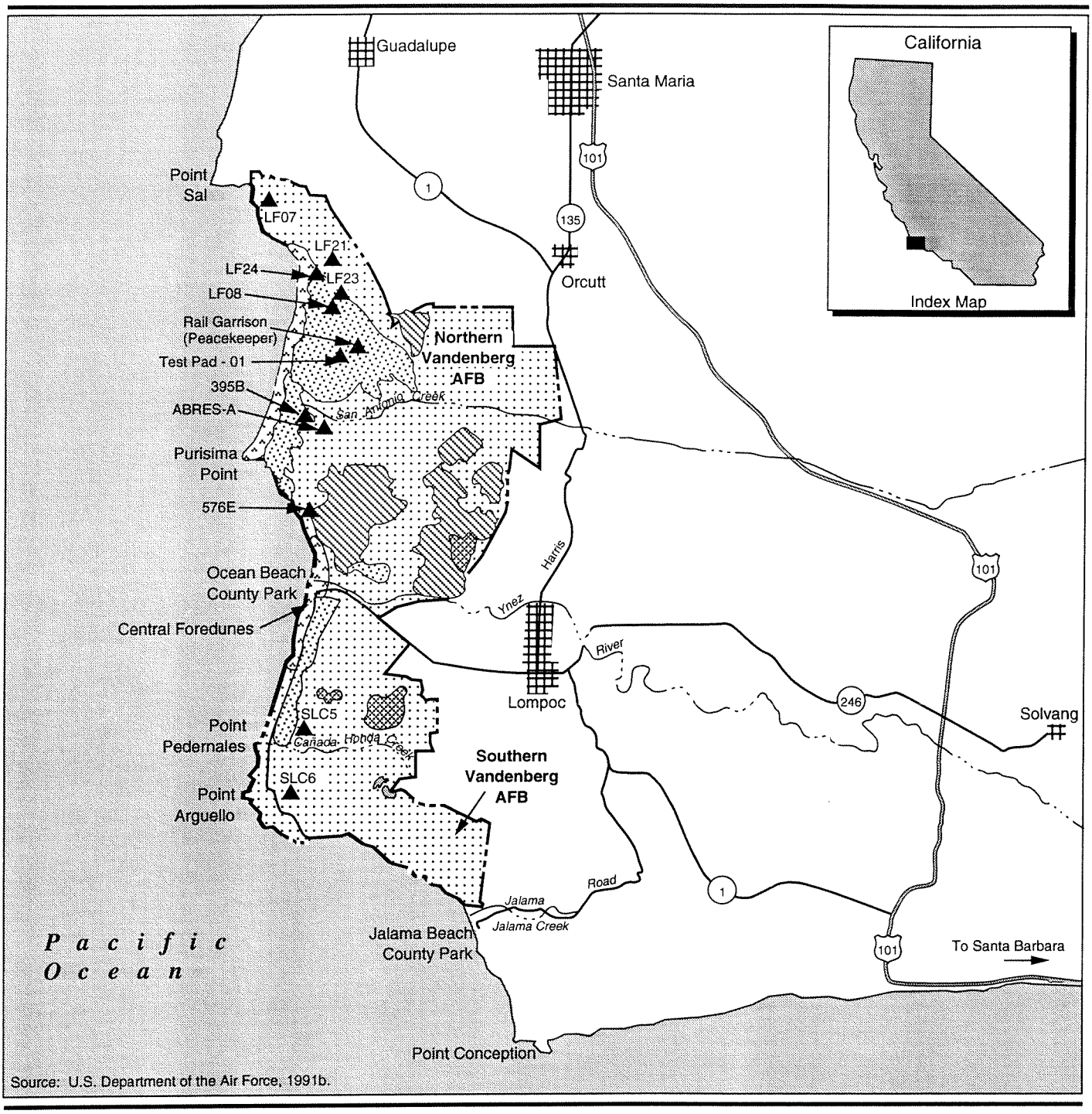
The mosaic of vegetation and corresponding diverse habitats present on Vandenberg AFB supports a variety of sensitive species. These species are summarized in Appendix G. Lompoc yerba santa, as mentioned previously, is located mainly in the southern portion of northern Vandenberg AFB along with shagbark manzanita (*Arctostaphylos rudis*), a Federal Candidate 2 species. Beach spectacle pod (*Dithyrea maritima*), a Federal Candidate 2 species, is found in most coastal dune systems on Vandenberg AFB. Black-flowered figwort (*Scrophularia atrata*), a Federal Candidate 2 species, is found along the southern coast of Santa Barbara County to Point Sal and has an extensive population on Vandenberg AFB. **The Federally endangered beach layia (*Layia carnosa*) is found in the vicinity of SLC 5.** Surf thistle (*Cirsium rhothophilum*), seaside bird's beak (*Cordylanthus rigidus* ssp. *littoralis*), a Federal Candidate 1 species, **and the Federally endangered Gambel's watercress (*Rorippa gambelli*),** are also present on Vandenberg AFB. (U.S. Department of the Air Force, 1988c; 1991a; **U.S. Department of the Interior, 1994b**)

Page 3-191, paras. 1-4 should read:

The loggerhead shrike (*Lanius ludovicianus*), California horned lark (*Eremophila alpestris actia*), Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*, potential; taxonomic status on Vandenberg AFB has not yet been determined), and Bell's sage sparrow (*Amphispiza belli belli*) have recently been categorized as Federal Candidate 2 species. **Least** Bell's vireo (*Vireo bellii pucillus*) occurs on Vandenberg AFB only rarely. **A juvenile bald eagle has been sighted at the mouth of the Santa Ynez River since January 1994 (U.S. Department of the Interior, 1994b).**

The California least tern (*Sterna antillarum browni*), a Federal and state endangered species, has historically established small nesting colonies at Purisima Point, **adjacent to launch site 576E,** and at the mouths of the Santa Ynez River and San Antonio Creek. Several breeding pairs of the California least tern are located on Vandenberg AFB. The nesting season is from April 15 through August 31 (figure 3.3-5) **The least tern foraging areas include the mouths of Shuman Creek, San Antonio Creek, and the Santa Ynez River (U.S. Department of the Interior, 1994b).** Breeding on southern Vandenberg by the peregrine falcon has recently been documented. The species is not represented in figure 3.3-5 due to a request by Vandenberg AFB (Vandenberg Air Force Base, 1993b; **U.S. Department of the Interior, 1994b**).

The California brown pelican (*Pelecanus occidentalis californicus*), a Federal and state endangered species, and the Western snowy plover (*Charadrius alexandrinus nivosus*), a



Source: U.S. Department of the Air Force, 1991b.

EXPLANATION

- Central Foredunes
- Coastal Dune Scrub
- Burton Mesa Chapparal
- Other Vegetation/Cantonment Area
- Bishop Pine Forest
- Tanbark-Oak Forest
- Candidate Launch Sites

0 5 10 Kilometers

0 5 8 Miles

Vegetation Communities, Vandenberg AFB

Western Range
Candidate Test Area

Figure 3.3-4

Federal threatened species, are commonly observed in the Vandenberg area (U.S. Department of the Air Force, 1991b). The habitat of Vandenberg AFB provides winter roosting for the brown pelican and nesting and roosting areas for the Western snowy plover. **The Federally threatened marbled murrelet (*Brachyramphus marmoratus*) occurs in the waters off Vandenberg AFB (U.S. Department of the Interior, 1994b).**

A resident population of sea otters has been observed off Purisima Point. Individuals and small groups of gray whales (*Eschrichtius robustus*) are frequently seen off shore during the spring and fall (U.S. Department of the Air Force, 1991b). Gray whale migration patterns are depicted in Appendix G.

The California red-legged frog (*Rana aurora*), **which is proposed for Federal listing as endangered**, and the Southwestern pond turtle (*Clemmys marmorata*), a Federal Candidate 1 species, are located in Mod III Lake, Pine Canyon Lake, and other riparian wetland areas in the northwestern portion of northern Vandenberg AFB (U.S. Department of the Air Force, 1988c). **The California red-legged frog is also suspected to occur in suitable wetland habitat on the base, including Honda Creek (U.S. Department of the Interior, 1994b).** The unarmored three-spine stickleback (*Gasterosteus aculeatus williamsoni*), a Federal and state endangered species, occurs in San Antonio Creek south of the Test Pad 01/Rail Garrison sites and in Cañada Honda Creek north of SLC 6. The tidewater goby (*Eucyclogobius newberryi*), a **Federal endangered** species and California Department of Game and Fish Special Status Species, occurs at the mouth of Jalama Creek, in the Santa Ynez River, **and Shuman Creek and may occur in other suitable habitat such as San Antonio Creek and Honda Creek (U.S. Department of the Interior, 1994b). The California tiger salamander (*Ambystoma californiense*), a Federal Candidate 2 species, has not yet been documented on base but is likely to occur based on the general description of the region (Vandenberg Air Force Base, 1993).**

Page 3-192, figure 3.3-5: Figure has been revised as shown.

LAND USE – VANDENBERG AFB

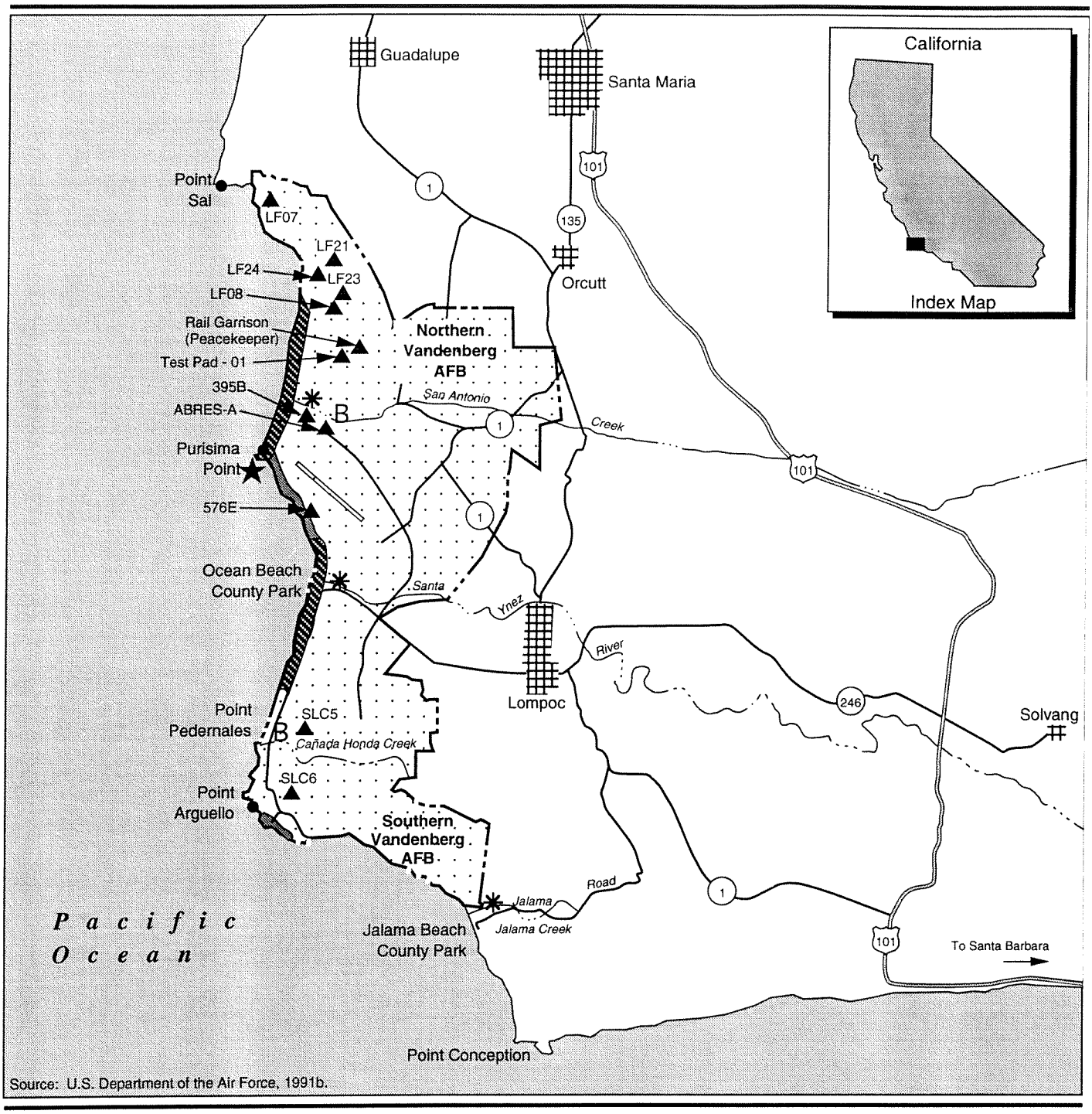
Page 3-199, add after para. 7:

Portions of the LHAs extend off the coast of Vandenberg AFB itself (see figure 2.2-25). These ocean waters off shore represent prime areas for several types of commercial fishing. Both sea urchin and abalone divers operate in shallower waters close to shore, as do lobster and crab trappers. Hook and liners, trawlers, and salmon trollers are active throughout this area. In Federal waters outside the 4.8-kilometer (3-mile) limit of state waters, deepwater rock cod gill netters and drift gill netters are active. Commercial fishermen from Morro Bay and Santa Barbara operate in this area.

Access to many of these commercial fisheries is limited largely by legally prescribed fishing seasons and weather. Additionally, waters off shore of Vandenberg AFB are closed to fishing vessels during rocket and missile launches from the base, currently averaging 15 launches per year.

Page 3-200, add after para. 1:

In addition to the two county parks and one state beach, several coastal areas on Vandenberg AFB itself are open to public use. Sandy beach areas open to the public extend



Source: U.S. Department of the Air Force, 1991b.

EXPLANATION

- Nesting Location of California Least Tern/ Western Snowy Plover
- Haulout Location of California Sea Lion, Northern Elephant Seal, and Harbor Seal
- Sea Otters
- Tidewater Goby
- B Unarmored Threespined Stickleback
- Roosting Location of California Brown Pelican
- Candidate Launch Site

0 5 10 Kilometers
0 4 8 Miles

Sensitive Habitat, Vandenberg AFB

Western Range
Candidate Test Area

Figure 3.3-5

approximately 1.6 km (1 mi) northwest of Jalama Beach County Park and 2.4 km (1.5 mi) north of Ocean Beach County Park. These beaches provide an important recreational asset to the residents of northern Santa Barbara County, as well as to visitors. In addition, Vandenberg AFB allows limited access by permit (weekends and holidays) for surf fishing along another 5.6 km (3.5 mi) of primarily rocky coastline south of Purisima Point, immediately north of the previously cited sandy beach north of Ocean Beach County Park. The county and state parks and the public access beaches on Vandenberg AFB itself are some of the few public coastal access points between Gaviota and Point Sal.

For safety reasons, Vandenberg AFB closes access to one or more of these beaches, whenever a missile launch is scheduled, currently approximately 15 times a year. Vandenberg AFB also has agreements with the county of Santa Barbara for the closure and evacuation of Point Sal State Beach, Ocean Beach County Park, and Jalama Beach County Park. All three closure and evacuation agreements have been consolidated under an Evacuation Agreement, No. SPCVAN/1/93/0006 between Vandenberg AFB and the county, which gives Vandenberg AFB the right to evacuate and close the three beaches, not to exceed 48 hours before a launch (Clemente, 1994).

BIOLOGICAL RESOURCES – SAN CLEMENTE ISLAND

Page 3-211, para. 4, should read:

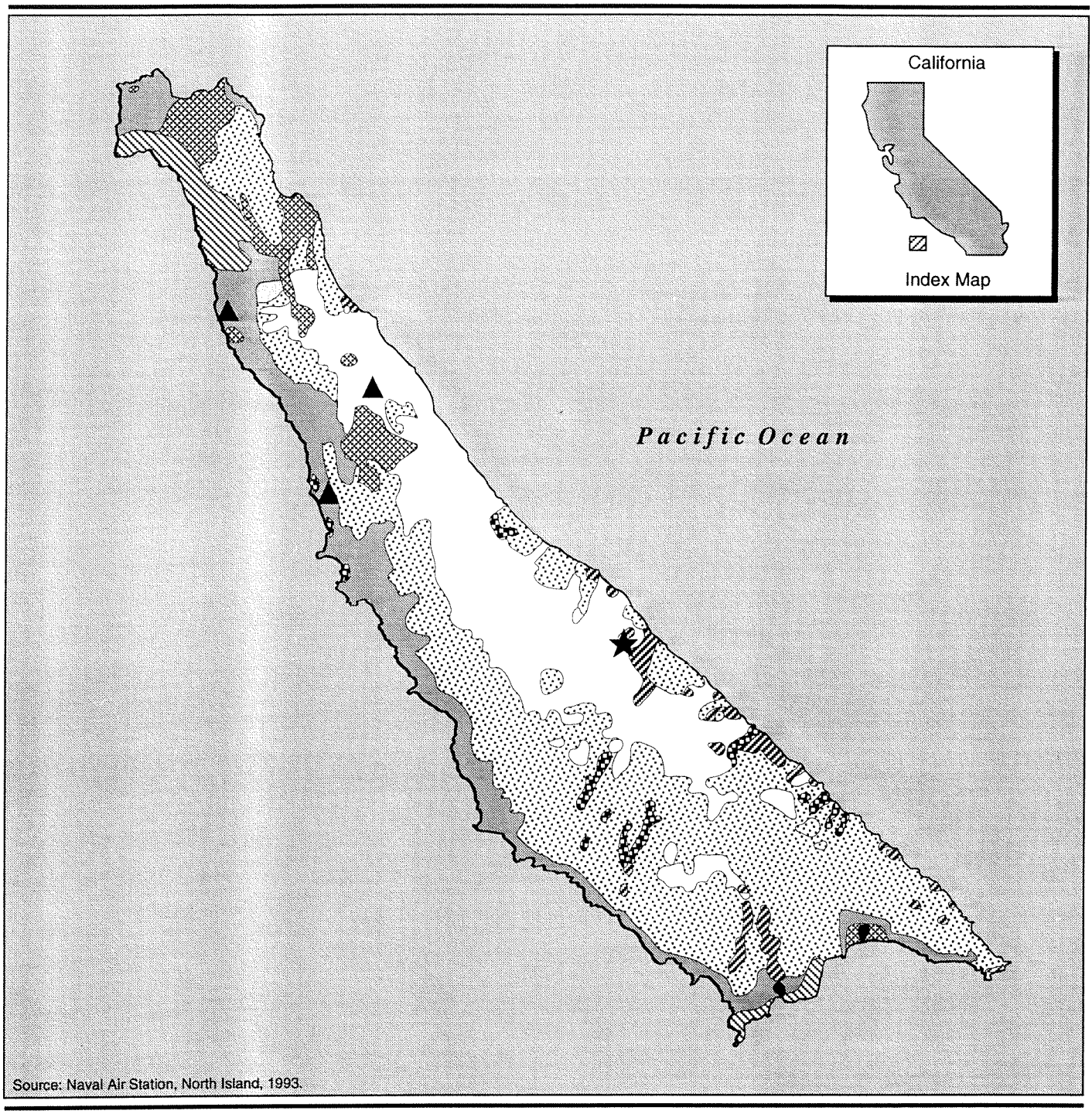
Four endangered plant species occur on San Clemente Island. The endangered species are San Clemente Island bush-mallow (*Malacothamnus clementinus*), San Clemente Island **Island** paintbrush (*Castilleja grisea*), San Clemente Island larkspur (*Delphinium variegatum*), and San Clemente Island broom (*Lotus dendroideus*). **The Harding launch site lies within a largely undisturbed maritime desert scrub habitat with a number of candidate plant species including bright green dudleya. The Gar launch site lies within a geomorphically sensitive dunefield.** Appendix G lists all endangered, threatened, and candidate species found on San Clemente Island, and figure 3.3-9 provides an illustration of the location of the sensitive species and their habitat. A more comprehensive description of these special interest species is found in ***The Natural and Cultural Resources Management Plan for Lands Administered by U.S. Navy, Naval Air Station North Island, San Diego, California***, and the ***Environmental Assessment for Continuing Navy Operations at San Clemente Island, California*** (Naval Air Station North Island, 1981; 1983**; 1994**).

Page 3-212, figure 3.3-8: Figure has been revised as shown.

Page 3-213, figure 3.3-9: Figure has been revised as shown.

Page 3-214, para. 2 should read:

Only four species of fauna typically found on San Clemente Island are candidate, threatened, or endangered species. The San Clemente Island loggerhead shrike (*Lanius ludovicianus mearnsi*) is listed as endangered, and the San Clemente Island sage sparrow (*Amphispiza belli clementeae*), western snowy plover, and the island night lizard (*Xantusia riversiana*) are listed as threatened. **The desert scrub habitat found near the Harding launch site contains nesting sites for the San Clemente sage sparrow and a high density of the island night lizard.** A list of candidate, threatened, or endangered marine species potentially occurring on San Clemente Island is presented in Appendix G.



EXPLANATION

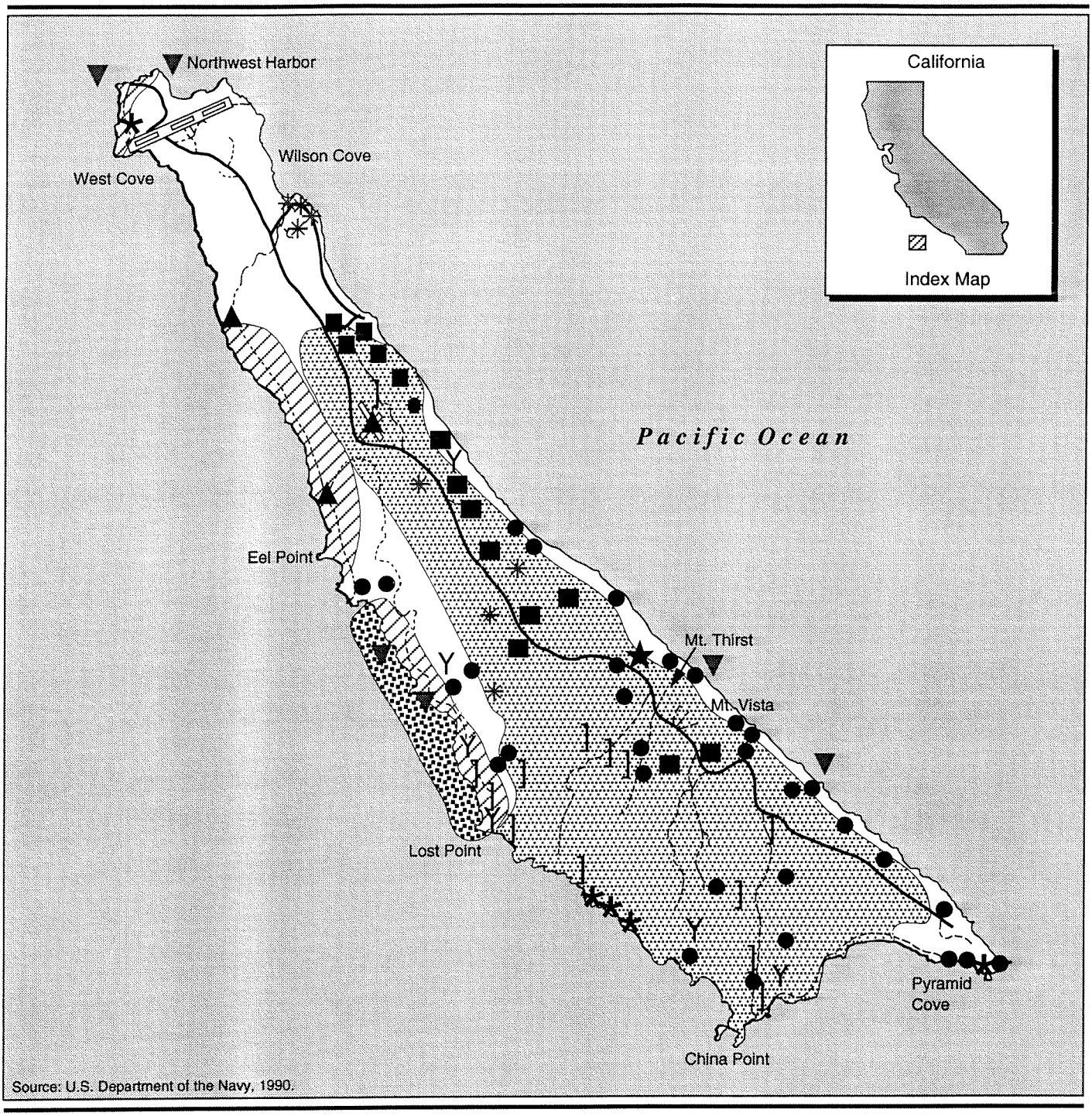
- Coastal Strand and Dunes
- Boxthorn Maritime Desert Dune
- Cholla/Prickly Pear Maritime Desert Scrub
- Maritime Sage Scrub
- Grassland
- Island Oak Woodland
- Marsh
- Ruderal Areas
- Candidate Launch Site
- Candidate TMD-GBR Sites

0 2440 Meters
0 8000 Feet

Vegetation Communities, San Clemente Island

Western Range
Candidate Test Area

Figure 3.3-8



EXPLANATION

- Elephant Seal and California Sea Lions
- Sage Sparrow
- Loggerhead Shrike Feeding Locations
- Primary Road
- Secondary Road
- Lotus
- Malacothamnus
- Brown Pelican
- Loggerhead Shrike Nest Locations
- Western Snowy Plover
- Castilleja
- Delphinium
- Candidate Launch Site
- Candidate TMD-GBR Sites

0 2 4 Kilometers
0 1 2 Miles

Note: Island Night Lizard (Entire Island)

Sensitive Habitat, San Clemente Island

Western Range
Candidate Test Area

Figure 3.3-9

CULTURAL RESOURCES – SAN CLEMENTE ISLAND

Page 3-214, para. 8 should read:

A **Cultural Resources** Management Plan is currently being prepared for San Clemente Island and is expected to be completed in April 1994. **The plan will provide an archaeological** inventory of the island and will present cultural resource strategies for their management. Upon completion, the plan will be submitted to the . . .

Page 3-215, para. 1 should be deleted.

Page 3-215, add after para. 3:

Over 4,000 cultural resources sites have been recorded on San Clemente Island, and an estimated 8,000 may be present (Naval Air Station North Island, 1993a). Approximately 99 percent of both the known and expected sites are prehistoric or protohistoric and in some areas occur in high densities (ranging from 25 to 200 sites per square kilometer (Naval Air Station North Island, 1994).

FSA-2, the shore bombardment area near China Point, has not been surveyed for cultural resources. This area is extremely contaminated with unexploded naval ordnance. During preliminary consultation, the California SHPO has agreed to exclude this area from survey requirements because of safety concerns.

Page 3-215, delete para. 6 and replace with:

Approximately 75 to 100 historic sites remain on San Clemente Island, many of which (approximately 40 percent) are associated with the Chinese abalone industry. As is the case with some of the ranching period sites, most are structures. In addition, there is potential for some structures of the World War II era to be eligible for inclusion in the NRHP.

LAND USE – SAN CLEMENTE ISLAND

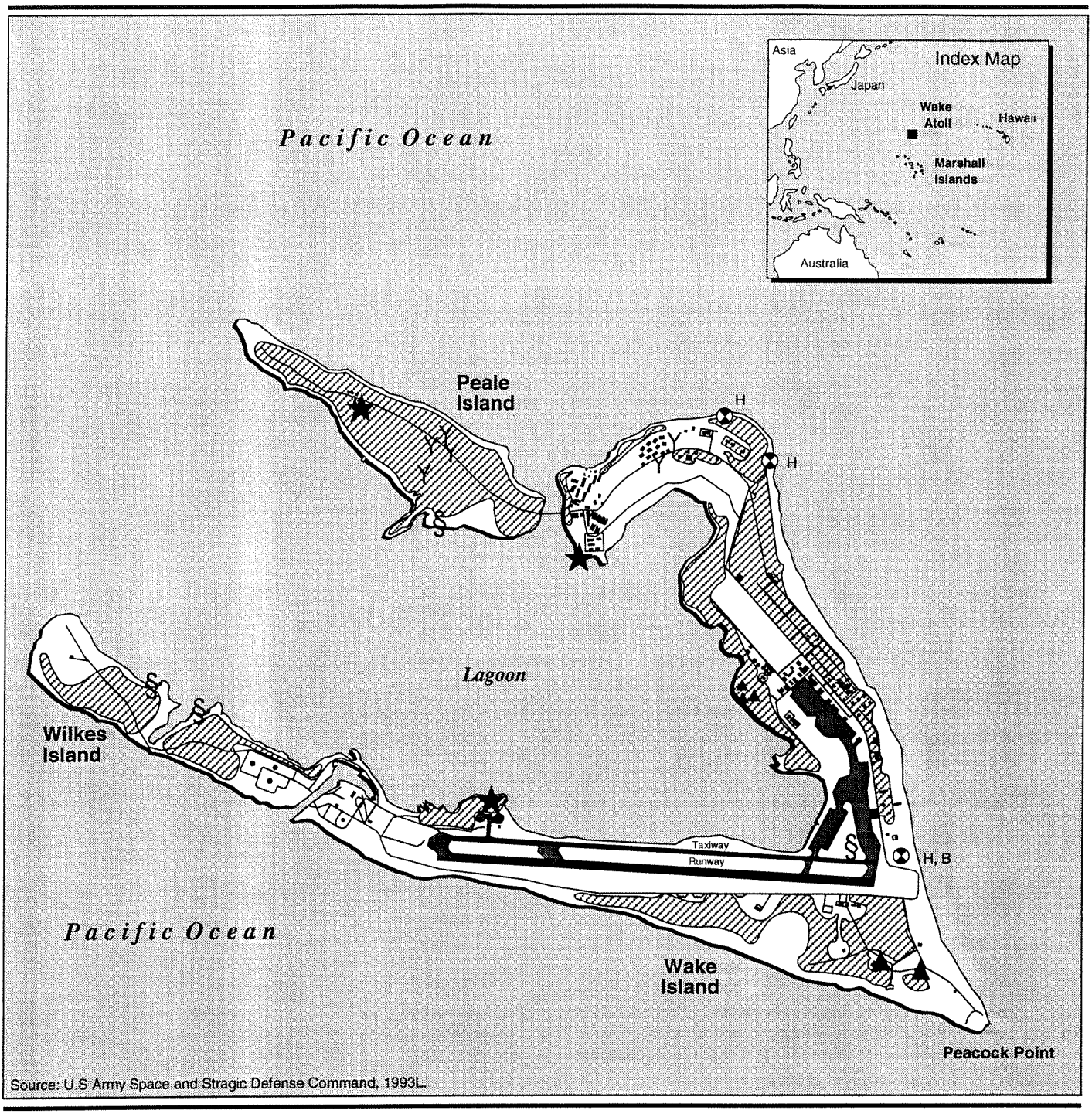
Page 3-219, add after para. 2:

Portions of the proposed LHAs for the candidate launch sites extend off the coastline of the northern end of San Clemente Island (see figure 2.2-27). These ocean waters offshore are sportfishing and commercial fishing grounds, particularly commercial fishing for sea urchin throughout the year with blackout weeks in May through September and abalone throughout the year except for January, February, and August. Fishing boats come out from San Diego and as far north as Ventura, California. The prime fishing season extends from October through January (EARTH TECH, 1994). The summer months are the most important for sport fishing, particularly weekend mornings.

BIOLOGICAL RESOURCES – WAKE ISLAND

Page 3-263, figure 3.4-1: Figure has been revised as shown.

Page 3-264, figure 3.4-2: Figure has been revised as shown.



EXPLANATION

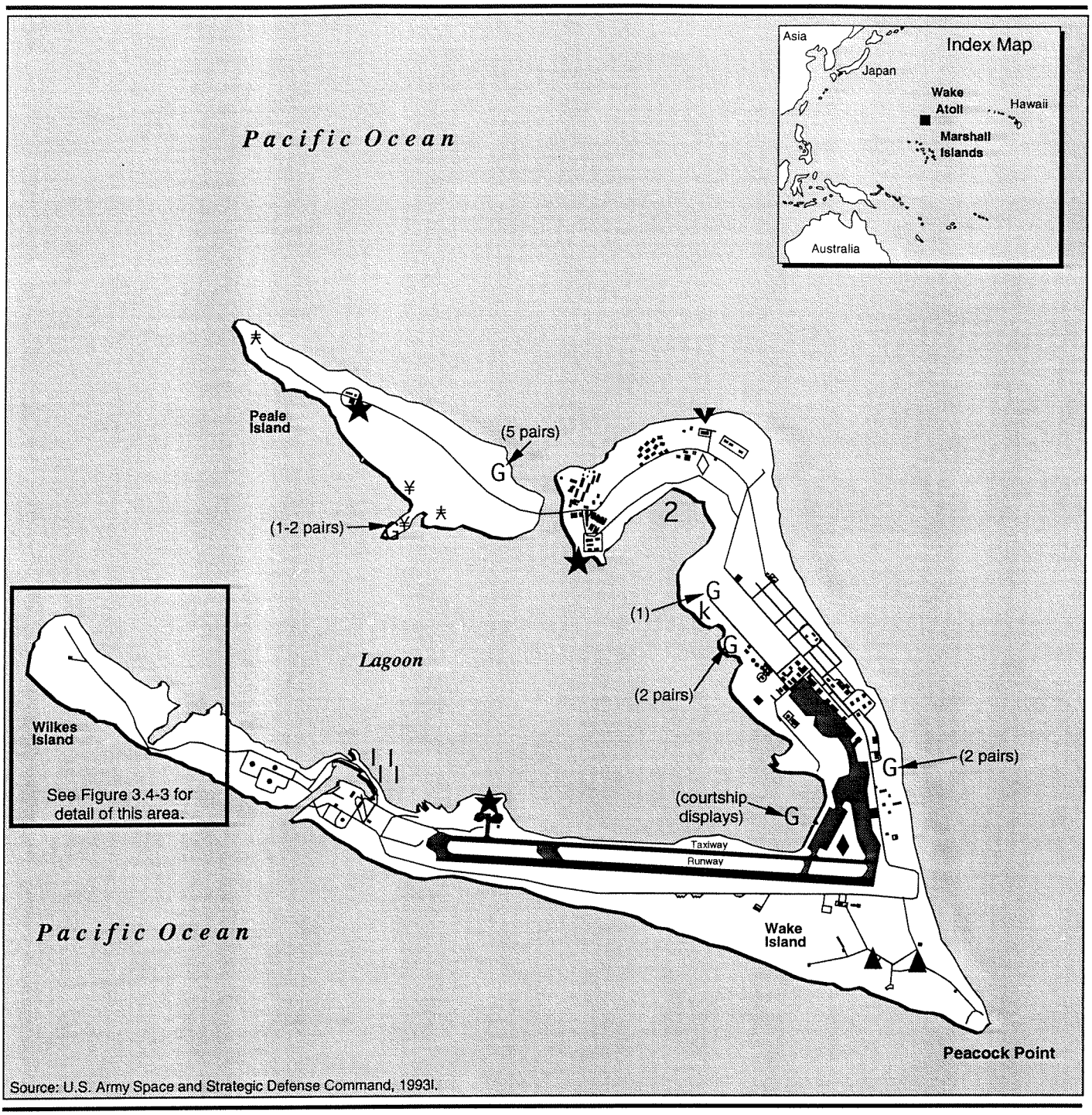
- Major Vegetation Masses
- § Pemphis/Sesuvium Marshland
- Undescribed Species (H = Heliotropium sp., B = Boerhavia sp.)
- Y Pisonia grandis trees (Pisonia/Corida forest remnants)
- Candidate TMD GBR Sites
- Candidate Launch Sites

0 500 1000 Meters
0 2000 4000 Feet

Vegetation Communities, Wake Island

Kwajalein Missile Range
Candidate Test Area

Figure 3.4-1



EXPLANATION

- ¥ Sooty Tern
- ⅄ Sooty Tern (inactive)
- ◊ Gray-backed Tern
- ♦ Siberian Tattler
- I White Tern
- k Short-eared Owl
- ▼ Black Noddy
- G Red-tailed Tropicbird
- 2 Brown Noddy
- ★ Candidate TMD GBR Sites
- ▲ Candidate Launch Site

Sensitive Habitat, Wake Island

Kwajalein Missile Range
Candidate Test Area

0 500 1000 Meters
0 2000 4000 Feet

Figure 3.4-2

AIR QUALITY – WSMR AND FORT BLISS MCGREGOR RANGE

Page 4-7, add to end of para. 4:

Should any one of these three locations be selected for the proposed testing, conformity determinations would be conducted and coordinated with the appropriate agencies for the respective location.

Page 4-9, para. 5, should read:

TMD activities include the launch of both target and defensive missiles (table 2.1-1). The total combustion products for some representative target rocket motors are given in table 4.1-4. The chemical species listed in table 4.1-4 are those that occur shortly after the exhaust exits the rocket motor nozzle. It is likely that due to the high temperature of the exhaust **(1,650°C [3,000°F] is a typical value)** chemical reactions continue to occur in the exhaust. This will probably cause some changes in the relative amounts, and even the occurrence, of the various chemical species. However, data are not known to exist for the exhaust cloud once it reaches equilibrium, and it is not anticipated that the species or their amounts will differ significantly from those given.

Page 4-9, para. 6, should read:

The combustion products representative of defensive missiles are given in table 4.1-5. As can be seen, the greatest amounts of emissions occur from the target boosters. **For this reason, the main analysis in this document is for the emissions from a representative target missile configuration (tables 4.1-6 and 4.1-7). The impacts for the emissions from a defensive missile are also analyzed (table 4.1-7a).**

Page 4-11, para. 3 should read:

The analysis of potential ambient air quality impacts from proposed TMD test range activities considers both normal launch and early flight termination scenarios. It is assumed that during either scenario the only air pollutants emitted are exhaust from the rocket motor combustion products. **Ground impact of pieces of target missiles, whether termination or intercept debris, would momentarily generate a burst of fugitive dust. As discussed in the Draft WSMR Range-Wide EIS (White Sands Missile Range, 1994), because of the very small amount of fugitive dust that typically results from ground impact of missile debris and the atmospheric conditions at WSMR typically favorable to the dissipation of air pollution, ground impact of debris would be expected to produce only a negligible impact on air quality.**

Page 4-11, para. 4, should read:

During a normal launch scenario the missile accelerates while the rocket motors of the missile's stage or stages burn. This boost stage lasts only a few minutes (e.g., for a nominal SR19-AJ-1/M57A-1 TMD target flight, the boost stage lasts only 117 seconds **[U.S. Army Space and Strategic Defense Command, 1993c]**). While the rocket motors are burning, the missile is accelerating; therefore, a higher concentration of combustion products occurs near the launch site than along the rest of the flight path.

Page 4-12, tables 4.1-6 and 4.1-7 have been revised as shown.

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Table 4.1-6: Estimated Concentration from Normal Launch of Castor IV (mg/m^3)[a,b]

Pollutant	Release kg (lb)	Average Period	Guideline (mg/m^3)	Exposure Term	Distance Downwind km (mi) 1 (0.6)	3 (1.9)	5 (3.1)	7 (4.3)	10 (6.2)	30 (18.6)
Hydrogen Chloride	2,007 (4,425)	1 hour	6	MLE[c]	1.379	2.411	1.963	1.440	1.030	0.666
		15 minutes	20	MLE[c]	5.517	9.239	6.250	3.738	2.472	1.177
Carbon Monoxide	2,597 (5,725)	8 hours	10	NAAQS[d]	1.178	2.058	1.676	1.229	0.879	0.569
		1 hour	40	NAAQS[d]	1.785	3.120	2.540	1.863	1.332	0.862
Aluminum Oxide	2,447 (5,395)	8 hours	10	TLV-TWA[e]	1.110	1.940	1.579	1.158	0.828	0.536
		1 hour	–	–	1.682	2.940	2.393	1.755	1.255	0.812

[a]Emissions from representative first-stage rocket motor

[b]Values used in TSCREEN PUFF model (U.S. Environmental Protection Agency, 1990):
release height = 200 m (656.2 ft)
wind speed = 1 m/s (3.3 ft/s)
mixing height = 320 m (1,049.7 ft)

[c]Maximum Likelihood Estimate (Environmental Protection Agency, 1992)

[d]National Ambient Air Quality Standards (40 CFR 50.109)

[e]Threshold Limit Value – Time-weighted Average (American Conference of Government Industrial Hygienists, 1992)

Table 4.1-7: Estimated Concentration from Two-Stage Accident of Castor IV and M57A-1 (mg/m^3)[a,b]

Pollutant	Release kg (lb)	Average Period	Guideline (mg/m^3)	Exposure Term	Distance Downwind km (mi) 1 (0.6)	3 (1.9)	5 (3.1)	7 (4.3)	10 (6.2)	30 (18.6)
Hydrogen Chloride	2,338 (5,154)	1 hour	30	EEGL[c]	1.607	2.809	2.286	1.677	1.200	0.776
		1 hour	1.5	SPEGL[d]	–	–	–	–	–	–
Carbon Monoxide	3,017 (6,651)	8 hours	10	NAAQS[e]	1.368	2.392	1.946	1.428	1.021	0.661
		1 hour	40	NAAQS[e]	2.073	3.625	2.950	2.164	1.548	1.002
Aluminum Oxide	2,980 (6,570)	8 hours	10	TLV-TWA[f]	1.351	2.362	1.923	1.411	1.009	0.653
		1 hour	–	–	2.048	3.580	2.914	2.138	1.529	0.990

[a]Emissions from representative first- and second-stage rocket motors

[b]Values used in TSCREEN PUFF model (U.S. Environmental Protection Agency, 1990):
release height = 200 m (656.2 ft)
wind speed = 1 m/s (3.3 ft/s)
mixing height = 320 m (1,049.7 ft)

[c]Emergency Exposure Guidance Level (National Research Council, 1987)

[d]Short-term Public Emergency Guidance Level (National Research Council, 1987)

[e]National Ambient Air Quality Standards (40 CFR 50.109)

[f]Threshold Limit Value ? Time-weighted Average (American Conference of Government Industrial Hygienists, 1992)

Page 4-12, table 4.1-7a has been added as shown.

Page 4-13, para. 2 should read:

Exhaust from combustion products is much hotter than the ambient air (e.g., approximately **1,900°C** [3,500°F] for the SR19-AJ-1 [U.S. Army Space and Strategic Defense Command, 1993d]). Because of this, buoyancy causes the cloud of rocket exhaust that is released near the ground to rise until it reaches an equilibrium height. For missiles similar to a TMD target missile, the ground cloud is expected to rise to heights of 300 m (984 ft) or more (Strategic Defense Initiative Organization, 1991). This process is discussed in detail in the Space Shuttle Advanced Solid Rocket Motor Program Supplemental EIS (National Aeronautics and Space Administration, 1990).

Page 4-15, para. 2 should read:

Missile failure of a target missile at FWDA and of a representative defensive missile at Santa Rosa Island and Cape San Blas were also modeled with the Rocket Exhaust Effluent Diffusion Model (REEDM) computer program. The REEDM was developed specifically to predict pollution dispersion from missile launches and launch failures (U.S. Department of the Air Force, 1990f). The REEDM is a refined air quality model that requires site-specific topographic and meteorological data. Details of the options used for the REEDM modeling are given in Appendix E.

Page 4-15, paras. 5 and 6 should be replaced with:

Results from the TSCREEN PUFF air quality modeling for the missile failure accident scenario of a representative target missile are given in table 4.1-7. For both CO and Al_2O_3 the predicted concentrations are all clearly below the corresponding NAAQS and indicator values for distances of 1 km (0.6 mi) or greater.

For HCl the predicted concentrations are below the EEGL and MLE indicator values for distances of 1 km (0.6 mi) or greater. The TSCREEN PUFF results give HCl concentrations less than the SPEGL indicator value for distances greater than 8 km (5 mi). For a specified distance downwind of the source, TSCREEN PUFF is designed to calculate a concentration that is an upper bounds to the maximum possible ground-level pollutant concentration.

Results from the TSCREEN PUFF air quality modeling for the missile failure accident scenario of a representative defensive missile are given in table 4.1-7a. For both CO and Al_2O_3 the predicted concentrations are all clearly below the corresponding NAAQS and indicator values for distances of 1 km (0.6 mi) or greater.

For HCl the predicted concentrations are below the EEGL and MLE indicator values for distances of 1 km (0.6 mi) or greater. The TSCREEN PUFF results give HCl concentrations below the SPEGL indicator value for distances of 3,600 m (12,000 ft) or more. Therefore, the concentration of HCl expected to occur during an on-pad missile failure is expected to be below the 1.5 mg/m^3 SPEGL indicator value for all locations outside a 3,600-meter (12,000-foot) radius.

Page 4-16, paras. 6 and 7 should be replaced with:

As previously designed, the thrust vector control system of the SR19-AJ-1 rocket motor used approximately 120 kg (250 lb) of Freon 114B2 (CF_2BrCF_2Br), also known as Halon

Table 4.1-7a: Estimated Concentration from Representative Defensive Missile (mg/m^3)[a,b]

Pollutant	Release (kg [lb])	Average Period	Guideline (mg/m^3)	Exposure Term	Distance Downwind km (mi) 1 (0.6)	3 (1.9)	5 (3.1)	7 (4.3)	10 (6.2)	30 (18.6)
Hydrogen Chloride	154 (340)	1 hour	30	EEGL[c]	1.710	1.659	1.066	0.709	0.436	0.467
		1 hour	1.5	SPEGL[d]						
Carbon Monoxide	151 (334)	8 hours	10	NAAQS[e]	1.108	1.075	0.691	0.460	0.282	0.303
		1 hour	40	NAAQS[e]	1.680	1.680	1.047	0.697	0.428	0.459
Aluminum Oxide	261 (576)	8 hours	10	TLV-TWA[f]	1.915	1.915	1.193	0.794	0.488	0.523
		1 hour	–	–	2.902	2.902	1.808	1.204	0.739	0.792

[a] Emissions from representative defensive missile rocket motor

[b] Values used in TSCREEN PUFF model (U.S. Environmental Protection Agency, 1990):

release height = 50 m (164 ft)

wind speed = 1 m/s (3.3 ft/s)

mixing height = 320 m (1,049.7 ft)

[c] Emergency Exposure Guidance Level (National Research Council, 1987)

[d] Short-term Public Emergency Guidance Level (National Research Council, 1987)

[e] National Ambient Air Quality Standards (40 CFR 50.109)

[f] Threshold Limit Value – Time-weighted Average (American Conference of Government Industrial Hygienists, 1992)

2402. However, none of the target missiles involved with TMD Extended Test Range activities will contain Halon 2402 because either none of the target missiles will use the SR19-AJ-1 rocket motor or they will use SR19-AJ-1 rocket motors that have been redesigned not to use any ozone-depleting chemicals.

Page 4-17, paras. 1, 2, 3, and 4 should be deleted.

Page 4-18, para. 5 should read:

The **TSCREEN PUFF computer** analysis has shown that for normal launches of a representative target missile, impacts on air quality would be expected to be not significant as long as **all non-mission-essential personnel are kept at least 1 km (0.6 mi) from the launch site.** Further, the analysis has shown that for an on-pad fire from a representative target missile, impacts on air quality would be expected to be not significant as long **as all members of the public are kept at least 8 km (5 mi) from the launch site. The analysis also indicates that for both normal launch and on-pad fires from a representative defensive missile, impacts on air quality would be expected to be not significant as long as all members of the public are kept at least 3,600 m (12,000 ft) from the launch site.** For these conditions, impacts on air quality are expected to be not significant, and no mitigation measures are required.

Page 4-19, para. 2 should read:

For all areas where the proposed action would result in members of the public being within 8 km (5 mi) of a target missile during the launch or within 3,600 m (12,000 ft) of a defensive missile during launch, modeling was performed with a refined air quality model, the Rocket Exhaust Effluent Diffusion Model (REEDM). Specific results are presented in the applicable sections. In all cases, the REEDM model indicates that, for both normal launch and on-pad failures, representative target missile or defensive missile impacts on air quality would be expected to be not significant as long as all members of the public are kept at least 1 km (0.6 mi) from the launch site. Since all LHAs associated with the proposed action would keep the public at least 1 km (0.6 mi) from the launch site, potential impacts are considered to be not significant. If missiles are used with emissions that are significantly greater than those analyzed here, then the potential for a significant impact on air quality could exist.

Other mitigations could include following some of several standard operating procedures commonly practiced in connection with missile launches and rocket motor test firings (U.S. Department of the Air Force, 1986b; National Aeronautics and Space Administration, 1989). These mitigations include no launch if wind speeds are less than 2.6 m/s (5 knots), no launch when there is an inversion or other low mixing height condition, and no launch if wind is blowing in an unfavorable direction (e.g., toward nearby residences).

Page 4-19, para. 3 should read:

As can be seen, these prohibitive conditions all relate to the real-time meteorological conditions. Several locations which regularly launch missiles (such as Vandenberg AFB, WSMR, and Cape Canaveral) have meteorological teams that compute the potential so-called toxic corridor for the emission products of major flights. Since the emissions of the TMD missiles, especially the defensive missiles, are of relatively small quantities when compared to those of the Space Shuttle or Titan missiles, such detailed real-time modeling is likely not necessary.

AIRSPACE – WSMR AND FORT BLISS MCGREGOR RANGE

Page 4-21, add after para. 2:

The potential for incremental, additive cumulative impacts on airspace use exists if the proposed TMD test flight launches occur during the same time period (10 days in May) as the annual Roving Sands military exercises conducted on both WSMR and McGregor Range. With an estimated 300 aircraft sorties per 24-hour period during the Roving Sands exercises, representing a six-fold increase in aircraft sorties over McGregor Range and a two-fold increase over WSMR (U.S. Army Corps of Engineers, 1994), the proposed TMD defensive missile launches, particularly from the Pershing site on McGregor Range, could have a cumulative, adverse impact on airspace use. However, the Albuquerque Air Route Traffic Control Center (ARTCC) would be responsible for coordinating participating military commanders' units prior to releasing exercise airspace to Airborne Warning and Control (AWAC) aircraft involved in the Roving Sands exercise. The Albuquerque ARTCC would also ensure separation of nonparticipating Instrument Flight Rules aircraft.

Page 4-21, para. 3 should read:

Avoiding TMD defensive missile launches for the 10-day period in May during the annual Roving Sands military exercises would be the most effective mitigation measure, obviating the possibility of cumulative impacts. In addition the required coordination procedures with the FAA and scheduling requirements of the test range minimize any potential impacts so that no additional mitigation measures have been identified as necessary for the proposed test flights.

BIOLOGICAL RESOURCES – WSMR AND FORT BLISS MCGREGOR RANGE

Page 4-22, para. 1 should read:

Although no construction within the ROI is expected at this time, individual programs may require minor improvements to access roads or launch pads. No construction would occur within those areas identified in figure **3.1-3** as sensitive habitat. As no known threatened or endangered species would be present**, no impact is expected. As** the vegetation to be removed would represent a small fraction of the total vegetation within the ROI, **a not significant impact is expected.**

Page 4-22, para. 2 should read:

Normal launch activities are expected to not significantly impact plant species. Launch activities would take place in previously disturbed areas. Proposed activities would not result in widely scattered debris striking WSMR. Early flight termination debris impact could result in disturbance of ground surface and the loss of some plants in the debris impact zone. Endangered or threatened species within the ROI tend to be widely scattered and occupy small surface areas. Because of this, the chance of individuals of endangered or threatened species being struck by falling debris is expected to be remote, and **no impacts are anticipated.**

Page 4-22, para. 5 should read:

HCl, which is emitted during missile launches, is known to cause leaf injury to plants as a result of launching very large flight vehicles such as the space shuttle. However, **the USASSDC conducted an environmental monitoring program for the first launch of the Strategic Target System booster in February 1993. The environmental monitoring program included vegetation sampling and marine surveys for pre-launch and post-launch conditions. Monitoring results indicated little effects from the launch and confirmed the conclusion that no significant impacts would result from the launch of the booster.** The amount of HCl produced by the Strategic Target System booster is similar to the **amount produced by the** largest TMD booster; therefore, the potential impact on vegetation from TMD launches is expected to be not significant. **(U.S. Army Space and Strategic Defense Command, 1993g)**

Page 4-23, new para. 1 should read:

No threatened or endangered plant species occur in the area surrounding the launch sites. Therefore, no impacts on state or Federally listed species are expected from fire, HCl, or triethyl phosphate.

Page 4-23, add after para. 1:

Debris from intercepts would impact on WSMR. Although specific debris impact areas are not known at this time, sensitive plant species tend to be widely scattered and occupy small surface areas; therefore, the probability of an individual plant being struck by falling debris is remote. Once debris impact areas have been identified, they will be compared to sensitive species locations. If there is a potential for adverse impact, then appropriate agencies will be contacted to determine if additional analysis or a revision to the flight scenario is required to avoid sensitive species.

Page 4-23, para. 6 should read:

There are no absolute standards of short-term noise impacts for potentially noise-sensitive wildlife species such as the bighorn sheep. A short-term maximum noise exposure of 92 dBA (detectable noise level at 1 m [3 ft] from an operating lawn mower) has been suggested as a significance cut-off for noise impacts on wildlife (U.S. Army Strategic Defense Command, 1990b). According to noise modeling predictions, the noise level would be 90 dBA at a distance of less than 8 km (5 mi) from the launch site. **The maximum sound level of the impact and explosion of intercepts is estimated to be approximately 95 dBC at a distance of 1.6 km (1 mi) from the impact. Since the expected altitude of intercepts is greater than 1.6 km (1 mi), no impacts on wildlife are expected. The launch sites are not within or adjacent to known bighorn sheep habitat or other sensitive habitat identified in figure 3.1-3. Therefore, no impact is expected to threatened or endangered species. A not significant impact on wildlife from noise at the launch site is anticipated.**

Page 4-23, para. 7 last sentence should read:

Radio transmitters allow location of bighorn sheep. Debris could be removed by personnel on foot, to minimize impacts on natural resources, and during times when the transmitters indicate sheep are not located in the vicinity of the debris.

Page 4-24, para. 7 should read:

The ROI lies within a fall migration corridor for ducks **and other migrating species such as other waterfowl, shorebirds, raptors, and songbirds. Playa lakes (see Section 4.1.1.12) are common within the Tularosa Basin and provide surface water habitat for numerous migratory species, including species protected by the Endangered Species Act, Migratory Bird Treaty Act, and the Bald and Golden Eagle Protection Act. Every effort should be made by the program to avoid impacts to these important habitats, particularly during those seasons that migratory birds are present; however, should avoidance of these areas not be possible, potential impacts and mitigations would be discussed during continued coordination with the USFWS and other applicable agencies. Inspections should be conducted prior to each launch to ascertain that no Federally listed species are present.** Due to the infrequency of planned launches, (a maximum of 4 launches per month) high altitude of the flights and intercepts, and short duration of the missile flights (less than 10 minutes), impacts are expected to be not significant.

Page 4-24, add after para. 7:

Debris from intercepts would impact on WSMR. Although specific debris impact areas are not known at this time, sensitive wildlife species tend to be widely scattered and occupy small surface areas; therefore, the probability of an individual animal being struck by falling debris is remote. Once debris impact areas have been identified, they will be compared to sensitive species locations. If there is a potential for adverse impact, then appropriate agencies will be contacted to determine if additional analysis or a revision to the flight scenario is required to avoid sensitive species.

Page 4-24, insert new paragraph before Cumulative Impacts:

The *Ground Based Radar (GBR) Family of Radars Environmental Assessment* (U.S. Army Program Executive Office Missile Defense, 1993) analyzed potential impacts on wildlife from EMR. The GBR EA determined that several factors significantly reduce the potential for EMR exposure to birds and other wildlife.

- **The radar main beam would normally be located at least 4 degrees above horizontal which limits the probability of energy absorption by ground-oriented wildlife.**
- **The radar beam would normally be in motion, making it extremely unlikely that a bird would remain within the most intense area of the beam for any considerable length of time.**
- **The size of the beam is relatively small which further reduces the probability of bird species remaining within this limited region of space, even if the beam were still.**
- **EMR power devices would not exceed 5mW/cm^2 (32.25 mW/in^2) on the ground anywhere within the safety zone.**

Any impacts on wildlife from EMR as a result of the proposed activities are expected to be not significant.

Page 4-25, para. 1 should read:

No construction activities would take place within sensitive habitats identified in figure 3.1-3. Debris impact zones for normal launch and intercept activities would be planned to avoid sensitive habitat **to the extent possible. Debris recovery would be conducted in accordance with the guidelines of the Booster Recovery Plan provided as**

Appendix D of the Supplement to the EIS, which would reduce potential impact of recovery activities on plant and wildlife populations. Should the potential for impact on threatened or endangered species occur, the USFWS would be contacted and Section 7 consultation initiated.

Page 4-25, insert new para. 2:

Should the TMD flights occur during the nesting and breeding period of the Aplomado falcon (mid-February through mid-August), surveys should be conducted prior to the flights to determine the presence of these falcons in the LHA and impact areas. If required, a presence/absence survey for falcons would be conducted within 2 weeks prior to each TMD launch for 3 days within a 40.2-kilometer (25-mile) radius of the launch site and impact areas. The surveys would follow standardized methodology of the New Mexico Ecological Services State Office and be approved by the WSMR Environmental Services Division. TMD program personnel would comply with WSMR-adopted operating procedures developed to protect nesting raptors and other species of concern.

Page 4-25, delete para. 5 and replace with the following:

Adverse effects on cultural resources located within the ROI, including the Trinity Site National Historic District and LC 33, could occur as a result of launch, flight termination, or intercept debris striking the ground where surface or subsurface archaeological deposits are located. Cultural resources could also be impacted by off-road vehicle activity during debris-recovery operations. Impacts are expected to be not significant with implementation of appropriate mitigation measures developed in consultation with the New Mexico SHPO.

Missile debris falling within the boundary of the Trinity Site National Historic Landmark could be considered a significant adverse impact which could be mitigated through avoidance or through measures developed in consultation with the New Mexico SHPO and the Advisory Council on Historic Preservation (e.g., data recovery or HABS/HAER documentation) as specified in the existing Memorandum of Understanding.

GEOLOGY AND SOILS – WSMR AND FORT BLISS MCGREGOR RANGE

Page 4-27, para. 2 should read:

An early flight termination could also result in burning solid propellant reaching the ground. The propellant would be cleaned up and disposed of in accordance with **the WSMR Installation Spill Contingency Plan (White Sands Missile Range, 1994);** therefore, impacts on the soils are considered to be not significant.

Page 4-27, para. 3, line 1 should read:

Studies for a simulated missile intercept at Holloman **AFB suggest** that about 80 percent of the triethyl phosphate in a target payload would be destroyed at intercept (U.S. Army Program Executive Office Missile Defense, 1993).

HEALTH AND SAFETY – WSMR AND FORT BLISS MCGREGOR RANGE

Page 4-40, para. 4, line 8 should read:

. . . specifically designated each time. **Under no circumstances would an impact zone determined for a test operation extend beyond property controlled by WSMR (to include in some cases extension areas).**

LAND USE – WSMR AND FORT BLISS MCGREGOR RANGE

Page 4-41, para. 4, line 1 should read:

Missile launches from the existing launch complexes on either . . .

Page 4-41, add after para. 4:

The proposed Pershing launch site in the far southwestern part of the McGregor Range and the IFC-25 candidate TMD-GBR site (see figure 2.2-8) do not lie within any state trust lands, livestock grazing area, wilderness study area, or oil and gas and geothermal leasing or mineral material sales areas on McGregor Range (U.S. Department of the Interior, 1990), all of which are concentrated in the northern part of the McGregor Range. Section 3 (b) of the Military Lands Withdrawal Act permits the closure to public use of any road, trail, or other portion of the lands withdrawn by the act for military operations, public safety, or national security reasons. Additionally, the Memorandum of Understanding between the Army and BLM required by Public Law 99-606 recognizes that the military has primary authority of the McGregor Range (U.S. Department of the Interior, 1990). Thus, use of a preexisting launch site, the Pershing site, and placement of the TMD-GBR at the nearby IFC-25 site would not have an impact on land use and would not conflict with any land use plans, policies, and controls for the area.

Page 4-41, add after para. 5:

The location of the TMD-GBR radar unit on WSMR or Fort Bliss McGregor Range has not been finalized. Electromagnetic radiation safety considerations would dictate its placement, and the size of the personnel safety zone would determine the potential for any land use impacts. TMD-GBR system design and operation would reduce any impact of the electromagnetic fields on fuel ignition hazards, prevent any inadvertent detonation of ordnance, and reduce interference with critical medical electronic devices such as cardiac pacemakers. A safety keep-out zone around the radar would be in effect and noted whenever a warning beacon located on top of the radar is illuminated. This would occur whenever the radar is in operation. The safety zone would extend out to a distance of 100 m (330 ft) in front of the antenna equipment unit. There would be no adverse effects to television and radio reception or other public communication systems because these systems operate in different frequencies and would be at sufficient distances from the radar location.

Page 4-42, para. 2 should be deleted.

Page 4-42, add after Cumulative Impacts:

The potential for incremental, additive cumulative impacts on land use exists if the proposed TMD test flight launches occur during the same time period (10 days in May) as the annual Roving Sands military exercises conducted on the McGregor Range. One of the 20 PATRIOT exercise sites used in the annual Roving Sands military exercise on the McGregor Range (U.S. Army Corps of Engineers, 1993) is also the proposed Pershing site for TMD defensive missile site. However, both the TMD Extended Test Range program and the Roving Sands exercise program involve launching missiles from an existing launch site (the Pershing site), and adverse, incremental cumulative land use impacts are avoided.

NOISE – WSMR AND FORT BLISS MCGREGOR RANGE

Page 4-43, add the following paragraph and tables after para. 5:

The relationship between the L_{max} during missile launch and CDNL is presented in table 4.1-8a, and the relationship between sonic boom overpressures and CDNL is presented in table 4.1-8b.

Page 4-44, figure 4.1-1: Figure has been revised as shown.

Page 4-46, para. 3 should read:

Again assuming 48 launches per year from one site and that all launches would occur in the daytime (7:00 a.m. to 10:00 p.m.), the relationship between CDNL and overpressure was estimated **(see table 4.1-8b)**. Areas exposed to overpressures of 8 psf or less would experience CDNL values of less than 62 dB. This corresponds to Land Use Category I presented in table 3.1-11 for which noise-sensitive land uses are compatible. Areas exposed to overpressures between 8 psf and 16 psf would experience CDNL values between 62 dB and 70 dB. This corresponds to Land Use Category II presented in table 3.1-11 for which noise-sensitive land uses are normally unacceptable. The target missile may result in overpressures between 8 and 16 psf; however, these will occur over WSMR. No noise-sensitive land uses are expected to be exposed to 8 psf or greater; therefore, impacts are expected to be not significant.

If 5 of the 48 launches are assumed to occur at night (10:00 p.m. to 7:00 a.m.), then areas exposed to overpressures of 6 psf or less would experience CDNL values of less than 62. Again no noise-sensitive land uses are expected to be exposed to 6 psf or greater; therefore, impacts are expected to be not significant.

INFRASTRUCTURE AND TRANSPORTATION – WSMR AND FORT BLISS MCGREGOR RANGE

Page 4-49, para. 5 should read:

Since existing facilities at WSMR would be utilized for the TMD Extended Test Range program, the presence of **70 transient program personnel for target missile launches and** 140 transient program personnel **for defensive missile launches** during the 2-week period straddling each test . . . With an average . . . , the **70 transient personnel associated with target missile launches and the** 140 transient personnel associated with each **defensive missile** test flight would represent **0.7 and** 1.4 percent**, respectively,** of the personnel

Table 4.1-8a: Relationship Between Missile Launch L_{max} and CDNL

	Target Missiles		Defensive Missiles	
Daytime Launches	48	43	48	43
Nighttime Launches	0	5	0	5
L_{max}	CDNL	CDNL	CDNL	CDNL
85	33	35	34	37
90	38	40	37	40
95	43	45	41	44
100	49	51	45	48
105	54	56	50	53
110	61	63	55	58
115	67	69	59	62
120	73	75	62	65

Table 4.1-8b: Relationship Between Sonic Boom Overpressure (psf) and CDNL (dB)

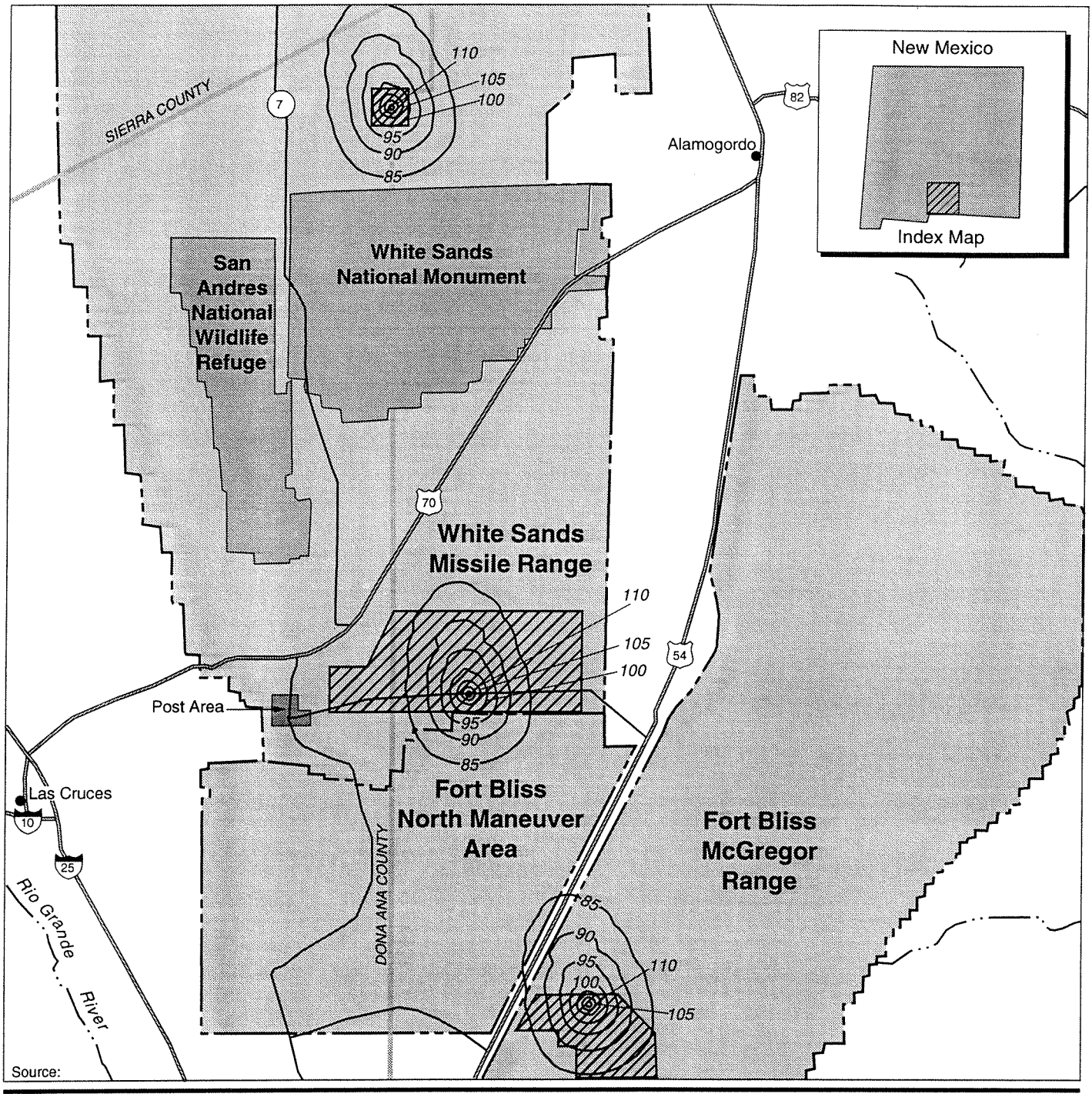
	Target and Defensive Missiles	
Daytime Launches	48	43
Nighttime Launches	0	5
Overpressure (psf)	CDNL (dB)	CDNL (dB)
2	49	52
3	52	55
4	55	58
6	59	62
8	62	65
10	64	67
12	65	68
14	67	70
18	69	72

typically working at WSMR.

Page 4-50, para. 2 should read:

Since **the transient** personnel . . . With an estimated population of . . . , **the transient** personnel would increase the local population by **0.2 and** 0.4 percent**, small** enough **increases** that the infrastructure impacts . . .

Page 4-50, para. 3 should read:



EXPLANATION

Potential Launch/Sensor Sites

*Lmax is presented in 5dB increments to illustrate the momentary noise levels during launches. The C-weighted annual average day night level (CDNL) was used to determine impacts.

C-Weighted Maximum Noise Levels (L_{max}) dB for Single Launches of Defensive Missiles*

White Sands Missile Range

Figure 4.1-1

0 10 20 Kilometers
0 5 10 Miles

A **maximum** 1.4-percent increase in population and, thus, nominal traffic **associated with defensive missile test flights** would be well within the transportation infrastructure capacity of WSMR itself. Similarly, a **maximum** 0.4-percent increase in the population of Las Cruces . . .

WATER RESOURCES – WSMR AND FORT BLISS MCGREGOR RANGE

Page 4-51, add to the end of the para. 1:

Compliance with the New Mexico Water Quality Act and the Clean Water Act will protect the quality of surface and ground water during proposed activities.

Page 4-51, para. 4 should read:

There will be no planned impacts into surface waters from the defensive missile flyout, the target missile flying in, or debris from intercept. An early flight termination would not likely result in solid-propellant deposition in surface waters because of their limited areal extent on WSMR and Fort Bliss McGregor Range. **An early flight termination will not intentionally impact surface water. Flight safety personnel will monitor the missile flight and the projected ground impact point throughout the flight.** If an early flight termination is required, the probability of debris impacting surface waters would be minimal. Should debris impacts occur, any propellant would be collected and disposed of according to standard operating procedures and would have no significant impact on the surface water.

Page 4-52, para. 2 should read:

Under nominal intercept scenarios, debris from intercept, the second stage of the target missile, and any defensive missile booster would impact on WSMR. In the case of a failed intercept, the reentry vehicle, **the second stage of the target missile,** debris from the terminated defensive missile, and any defensive missile booster would impact on **WSMR. Some** perennial surface waters that could be affected include Mound Springs, Lake Lucero, Malpais Springs, and Salt Creek. During the rainy season these areas are at their maximum areal extent and capability to transport material from testing activities. However, these areas **will be monitored by flight safety personnel**, and no impact on surface waters is expected. Missile debris recovery will be conducted in accordance with WSMR Regulation 70-8, ***Security, Recovery and Disposition of Classified and Unclassified Test Materials Impacting On Range and Off Range*** (U. S. Department of Army, 1981b).

Page 4-53, para. 2 should read:

Impacts on surface water or groundwater as a result of TMD Extended Test Range activities are expected to be not significant. **All activities will be carried out in accordance with appropriate regulations, and the quality of surface and groundwater will not be measurably changed. With no measurable change, there would not be any additive or cumulative impact on water resources.**

Page 4-53, para. 3 should read:

The maximum extent of perennial surface waters will be excluded from potential ground impact areas. The location of ground impact areas on WSMR is currently not known. If the WSMR alternative is selected in the Record of Decision, then ground impact areas will be

identified, and additional consultation will be carried out. If an early flight termination is required, the probability of debris impacting surface waters would be minimal. Should debris impacts occur, any propellant would be collected and disposed of according to standard operating procedures and would have no significant impact on the surface water.

IMPACTS OF THE NO-ACTION ALTERNATIVE – WSMR AND FORT BLISS MCGREGOR RANGE

Page 4-53, para. 4 should read:

In the no-action alternative, proposed TMD Extended Test Range flights would take place within WSMR **and existing extension areas** only, with some increased activity over the proposed action because the GRLC or FWDA launch options would not be implemented. The environmental impacts of all current ongoing and future programs at WSMR are being addressed in the WSMR EIS, in progress.

AIR QUALITY – GRLC

Page 4-54, add after para. 1:

Because the LHA, as presently proposed, for the GRLC has boundaries that are less than 8 km (5 mi) from the proposed target missile launch site, there is the potential for members of the public to be closer than 8 km (5 mi) to the defensive missile during launch. As discussed in Section 4.1.1.1, the results from the screening model indicate the potential for a significant impact on air quality during a target missile failure scenario if there are members of the public within 8 km (5 mi).

A similar situation exits at the FWDA candidate launch site (see Section 4.1.3.1), and modeling with the refined air quality model, the REEDM, was performed for a missile failure scenario at FWDA. This modeling predicted that for all locations at distances greater than or equal to 1.0 km (0.6 mi) from the launch site the concentration of HCl would be less than one-fifth of the 1.0 ppm SPEGL guidance concentration for HCl.

These results indicate that HCl concentrations at the GRLC would also be less than the SPEGL at distances greater than 1.0 km (0.6 mi) for a target missile failure scenario. This is because the upper air data used for the REEDM modeling at FWDA is also valid for the GRLC area and because the results of the modeling at FWDA predicted concentrations to be less than one-fifth of the SPEGL for all locations at distances greater than or equal to 1.0 km (0.6 mi) from the target missile launch site. Therefore, since the proposed LHAs would keep all members of the public at distances greater than 1.0 km (0.6 mi) from the GRLC launch site during launches, it is expected that the launch failure of a representative target missile at the GRLC would have a not significant impact on the air quality. If a target missile configuration with significantly greater amounts of emissions than the representative target missile is selected, then supplementary analysis would be required.

Page 4-54, para. 4 should read:

Since the planned LHA will keep the public farther than 1 km (0.6 mi) from the launch site, impacts on air quality are expected to be not significant, and no additional mitigation measures are required.

BIOLOGICAL RESOURCES – GRLC

Page 4-56, para. 4 should read:

HCl, which is emitted during missile launches, is known to cause leaf injury to plants as a result of launching very large flight vehicles such as the space shuttle. However, **the USASSDC conducted an environmental monitoring program for the first launch of the Strategic Target System booster in February 1993. The environmental monitoring program included vegetation sampling and marine surveys for prelaunch and postlaunch conditions. Monitoring results indicated little effect from the launch and confirmed the conclusion that no significant impacts would result from the launch of the booster.** The amount of HCl produced by the Strategic Target System booster is similar to the **amount produced by the** largest proposed TMD booster; therefore, the potential impact on vegetation from TMD launches is expected to be not significant. In addition, the dry conditions at the GRLC reduce the potential effects of HCl emission. **(U.S. Army Space and Strategic Defense Command, 1993g)**

Page 4-57, para. 4, the following should be added:

Helicopter flights for evacuation operations would not involve repeated passes over a single area and would generally be at altitudes (183 to 305 m [600 to 1,000 ft] above ground level) that would avoid nesting raptors. Booster recovery flights would also involve gradual descents to pick up the booster, followed by a flight to the recovery vehicle at an altitude that would avoid nesting raptors and cause minimal disturbance to big game species.

According to the State of Utah's Governor's Office of Planning and Budget (1994), the seasonal dates of most concern for sensitive species or habitat are antelope fawning from 15 May to 15 June; mule deer wintering from 1 December to 15 April; raptor nesting from 1 February to 31 August; desert bighorn sheep lambing from 1 April to 15 May; and desert bighorn rut from 1 November to 31 December.

Page 4-58, add before Cumulative Impacts:

Potential impacts on wildlife from EMR are discussed on page 4-24 in Section 4.1.1.3.

Page 4-58, para. 3, should read as follows:

Reseeding of native vegetation would occur, if required. Construction sites would be surveyed to determine the existence of sensitive, endangered, or threatened plant species. If these species could not be avoided, a transplant program could be undertaken to move the individuals to other suitable areas with approval from regulatory agencies such as the USFWS. **Avoiding important wildlife habitats during the seasonal dates of most concern listed previously would mitigate impacts which could occur during these critical periods.** A qualified biologist could monitor debris recovery activities to reduce the potential effects on plant and wildlife populations.

CULTURAL RESOURCES – GRLC

Page 4-59, add before Cumulative Impacts:

Potential noise effects on cultural resources are discussed in Section 4.1.1.4 of the Draft EIS.

Page 4-59, para. 4, line 5 should read:

Cultural resources discovered as a result of surveys **and Cold War-era facilities** will be investigated to determine potential eligibility for listing on the NRHP. **In areas wherein Cold War-era facilities or materials are determined to be present, special consideration will be given to any actions that might have the potential to alter or destroy such unique resources. Consultation with appropriate state and Federal agencies regarding renovation or other alteration of said resources will be undertaken to ensure requisite guidelines for recording sites and compiling supplementary documentation are followed.**

GEOLOGY AND SOILS – GRLC

Page 4-60, para. 4, line 14 should read:

. . . to buffer the HCl. **Buffering refers to the ability of a soil to maintain its pH by neutralizing added acidity. Clays, organic matter, oxides of aluminum and iron, and calcium and magnesium carbonates are the components responsible for buffering in soil. The degree of alkalinity in soil is a measure of its buffering capability. Soils in the GRLC LHA are relatively alkaline and therefore are able to neutralize the amount of acid that could potentially be added to them as a result of missile exhaust emissions. Because the acid is neutralized, the soil pH is not expected to change significantly.** Due to the much smaller emission quantities of Al_2O_3 and HCl from the proposed action and the buffering capability of the soils in the ROI, impacts from exhaust products are expected to be not significant.

Page 4-61, para. 1, line 3 should read:

. . . (U.S. Department of the Army, 1981b) **and the Booster Recovery Plan (Appendix D of the Supplement to the Draft EIS) and would not include any off-road travel. Based on the effects of similar missile impacts and the booster-recovery procedures, the amount of disturbance is expected to result in a not significant impact on the soils.**

Page 4-61, para. 2 should read:

Because the amount of exhaust products potentially deposited is small, **the soils are able to act as a buffer. The number and frequency of proposed missile launches will not result in an accumulation of exhaust product materials. In addition, no other programs have been identified at the GRLC that would impact soils and geology. Therefore, no cumulative impacts are expected as a result of TMD Extended Test Range activities.**

SOCIOECONOMICS – GRLC

Page 4-67, para. 1 should read:

. . . from **construction and** temporary launch personnel on the population level within the ROI over the launch period. **The demand for construction workers over the 6-month construction period for the target missile preparation activities at the GRLC would normally generate additional indirect and induced jobs in the local economy during the construction period (Robison, 1993). However, since the construction workers are expected to be filled from the ranks of the ROI construction work force, and not in-migrants, they would not generate any net, additional indirect and induced employment. Similarly, the estimated maximum of 70 transient contractor, military, and Government civilian personnel expected at the launch site for a period of up to 2 weeks for each launch is not expected to have any noticeable impact on local employment. The military sector employment multiplier of 1.12164 (Robison, 1993) is much smaller, and the intermittent, temporary, and short-lived presence of operations personnel is unlikely to generate any net, additional indirect and induced employment in the local economy.**

Page 4-67, para. 3 should read:

Launch personnel motel lodging and restaurant expenditures in the ROI would benefit the local economy. **While construction personnel are all expected to be recruited from the local construction workforce already living in the area and thus have essentially no impact on the local economy, launch personnel could have a net positive impact in terms of motel lodging and restaurant expenditures, to the extent that operations personnel fill up otherwise unoccupied motel rooms and restaurants rather than merely displacing other travelers and tourists. This would be especially important during the winter months when many of the area's motels close down either entirely or partially.** The combination of restaurant . . .

Page 4-67, add after para. 3:

TMD project-related operations personnel would also generate an estimated $11,462 in transient room taxes per year in Green River, split between Emery and Grand counties based on the location of motels chosen by the transient operations personnel, and an estimated $12,620 in transient room taxes per year in Moab, which would accrue to Grand County (Governor's Office of Planning and Budget, 1994). Again, this would only represent a net addition to transient room taxes (3 percent of motel revenues) collected by Emery and Grand counties to the extent that operations personnel fill up otherwise unoccupied motel rooms rather than merely displacing other travelers and tourists. Neither Emery or Grand County imposes the 1-percent tourism, recreation, cultural, and convention facilities tax on the sales of prepared foods and beverages sold by restaurants (Utah Tourism Research Group, 1992).

INFRASTRUCTURE AND TRANSPORTATION – GRLC

Page 4-68, para. 4, line 1 should read:

The presence of up to **40 construction personnel, all of whom are expected to be recruited from the local workforce, and up to** 70 transient **operations** personnel, unaccompanied . . .

Page 4-68, para. 4, line 8, should read:

. . . treatment plant. Moreover, Green River currently has **148** motel rooms and 3 private . . .

Page 4-69, para. 3 should read:

While the influx of 70 **transient** program personnel would not . . .

WATER RESOURCES – GRLC

Page 4-70, para. 1 add the following:

Compliance with the Utah Water Quality Act and the Clean Water Act will protect the quality of surface and ground water during proposed activities.

Page 4-71, para. 5 should read:

Impacts on surface water or groundwater as a result of TMD Extended Test Range activities are expected to be not significant. **All activities will be carried out in accordance with appropriate regulations, and the quality of surface and groundwater will not be measurably changed. Considering the number and frequency of proposed missile launches there would still be no measurable change to water quality; therefore, no cumulative impacts on water resources are expected.**

Page 4-71, para. 6 should read:

All activities will be carried out in accordance with appropriate regulations. If the WSMR alternative is selected in the Record of Decision, all appropriate water resource-related permits will be obtained. If an early flight termination is required, the probability of debris impacting surface waters would be minimal. Should debris impacts occur, any propellant would be collected and disposed of according to standard operating procedures and would have no significant impact on the surface water.

AIR QUALITY – FWDA

Page 4-72, para. 2 should read:

Because the LHA, as presently proposed, for FWDA has boundaries that are less than 8 km (5 mi) from the proposed target missile, launch site, there is the potential for members of the public to be closer than 8 km (5 mi) to the defensive missile during launch. The results of the screening modeling, as described in Section 4.1.1.1, indicate that for an on-pad fire of **a representative** target missile, the National Research Council's SPEGL for HCl (National Research Council, 1987) may be exceeded in this area. Because of these results from the screening model, which is designed to give conservative results, modeling with the refined air quality model, the REEDM, was also performed.

Page 4-72, para. 4 should read:

The REEDM calculations were made using topographic and meteorologic data specific to the FWDA area. Calculations were made for average conditions for **all 12 months of the year (see table 4.1-9)** (Meteorology Group Range Commanders Council, 1983). **Table 4.1-9 shows for each month the distance from the launch site at which the maximum concentration occurred and the concentration calculated to occur at the community of Fort Wingate. Concentrations for locations closer than 1 km (0.6 mi) to the launch site were not calculated.**

For all distances greater than **1.0 km (0.6 mi)** from the missile launch site, the 1-hour average concentration was less than the 1.00 ppm SPEGL for HCl. Therefore, **since the proposed LHAs would keep all members of the public at distances greater than 1.0 km (0.6 mi) from the launch site,** air quality impacts from launch or unplanned flight termination of a representative target missile at the FWDA launch site would be not significant. If a missile configuration with significantly greater amounts of emissions than the representative target missile is selected, then supplementary analysis would be required.

Page 4-72, para. 5 should read:

Impacts on the air quality of the Navajo Nation would be expected to be not significant. As shown in tables 4.1-5**, 4.1-6, and 4.1-7a**, no air quality standards for Carbon Monoxide or Aluminum Oxide are expected to be exceeded for distances outside a radius of **1 km (0.6 mi). For HCl guidelines, as shown in table 4.1-9, the modeling with the refined air quality model, REEDM, shows that for an on-pad fire of a representative target missile, the SPEGL for HCl would not be expected to be exceeded for all distances greater than or equal to 1.0 km (0.6 mi) from the launch site.**

Page 4-73, table 4.1-9 has been revised as shown.

BIOLOGICAL RESOURCES – FWDA

Page 4-75, para. 4 should read:

Zuni fleabane, a Federally **threatened** species, is known to occur east of FWDA at old Fort Wingate (U.S. Department of the Army, 1991a). Zuni milk vetch, a **Federal Candidate 3 species**, Arizona leather flower, a Federal Candidate 1 species, and Acoma fleabane, Grama grass cactus, Sivinski fleabane, and cinder cone phacelia, Federal Candidate 2 species, are also known to be in the FWDA area. If any of these species occur within the proposed construction areas, impacts on them could be potentially significant. However, with the implementation of appropriate mitigation measures, the potential impacts are expected to be not significant.

Page 4-76, para. 3 should read:

HCl, which is emitted during missile launches, is known to cause leaf injury to plants as a result of launching very large flight vehicles such as the space shuttle. However, **the USASSDC conducted an environmental monitoring program for the first launch of the Strategic Target System booster in February 1993. The environmental monitoring program included vegetation sampling and marine surveys for prelaunch and postlaunch conditions. Monitoring results indicated little effects from the launch and confirmed the conclusion that**

Table 4.1-9: Modeled 1-hour Average Concentrations for HCl from On-Pad Accident of Representative Defense Missile (as produced by the REEDM computer program)

Meteorological Conditions	Maximum Centerline Concentrations (ppm)	Distance From Launch Site at Which Maximum Occurred (km [mi])
January	0.010	8 (5.0)
February	0.007	4 (2.5)
March	0.007	5 (3.1)
April	0.009	5 (3.1)
May	0.014	6 (3.7)
June	0.024	3 (1.9)
July	0.020	3 (1.9)
August	0.026	3 (1.9)
September	0.021	3 (1.9)
October	0.029	5 (3.1)
November	0.011	5 (3.1)
December	0.010	4 (2.5)

SPEGL for HCl = 1 ppm (National Research Council, 1987)

Amount of HCl release = 154 kg (340 lb)

no significant impacts would result from the launch of the booster. The amount of HCl

produced by the Strategic Target System booster is similar to **that produced by** the largest proposed TMD booster; therefore, the potential impact on vegetation from TMD launches is expected to be not significant. **(U.S. Army Space and Strategic Defense Command, 1993g)**

Page 4-76, para. 5, should read:

The endangered bald eagle **is a transient** species and therefore would not be significantly impacted by construction activities. The northern goshawk, a Federal Candidate 2 species, may be present as a transitory species, but would also not be significantly impacted by construction activities. **Because the Mexican spotted owl has only recently been listed as threatened, the USFWS is unaware of the details of any individual owl territories located on FWDA. Coordination would continue with the USFWS and other applicable agencies to discuss potential impacts and possible mitigations should the WSMR alternative be selected.**

Page 4-77, add before Cumulative Impacts:

Because the Mexican spotted owl has only recently been listed as threatened, the USFWS is unaware of the details of any individual owl territories located on FWDA. Noise associated with launches and debris recovery operations, HCl and triethyl phosphate concentrations, and debris could cause potential impacts to this species. Coordination with the USFWS and other applicable agencies would continue should the WSMR alternative be selected.

Page 4-78, para. 1 should read:

. . . be advisable in order to limit or avoid impacts on any threatened or endangered plants which may be discovered. **Formal Section 7 consultation, as required by the Endangered Species Act, would be initiated if impacts on Federally listed plants or animals discovered in the project area could not be avoided. As a last resort plants could be transplanted** to

suitable environments to mitigate any effects. Reseeding of native vegetation will occur, if required. A qualified biologist could monitor debris recovery activities to reduce the potential effects on plant and animal populations.

CULTURAL RESOURCES – FWDA

Page 4-78, add before Cumulative Impacts:

Potential noise effects on cultural resources are discussed in Section 4.1.1.4 of the Draft EIS.

GEOLOGY AND SOILS – FWDA

Page 4-80, para. 2, line 2 should read:

. . . (U.S. Department of the Army, 1981b) **and the Booster Recovery Plan (Appendix D of the Supplement to the Draft EIS) and would not include any off-road travel. Based on the effects of similar missile impacts and the booster-recovery procedures, the amount of disturbance is expected to result in a not significant impact on the soils.**

INFRASTRUCTURE AND TRANSPORTATION – FWDA

Page 4-88, add at the beginning of para. 3:

The presence of up to **40 construction personnel, all of whom are expected to be recruited from the local construction workforce already living in the area, and up to** 140 transient personnel, unaccompanied by any dependents, during the 2-week launch periods **for the defensive missile** should not have any direct or indirect . . .

Page 4-88, add at the end of para. 3:

. . . income of local lodging providers. **For the same reasons, the up to 70 transient operations personnel associated with target missile launches would not have an adverse impact on the city's infrastructure components.** Consequently, no adverse impacts on the local community's infrastructure are anticipated **from either the target missile or defensive missile test flights.**

Page 4-88, para. 4 should read:

The influx of **either 70 or** 140 program personnel, representing **0.4- and** 0.8-percent temporary and short-lived increases**, respectively,** in the area's . . .

BIOLOGICAL RESOURCES – WSMR FLIGHT CORRIDOR

Page 4-94, add before para. 4:

Appendix I, Health and Safety, addresses the potential for debris impacts should an early flight termination occur within the flight corridor. An early termination would result in debris falling along the Debris Containment Corridors illustrated in figures I-1 and I-2. Computer modeling analysis of multiple termination scenarios indicates that the incidence of falling debris would be well below the off-range risk thresholds used by the WSMR Safety Office.

Page 4-94, para. 4, should read:

An early flight termination or mishap could result in disturbance of ground surface and the loss of some plants in the area of debris impact. Information on sensitive, threatened, or endangered species along the flight corridor is limited. However, these species tend to be widely scattered and occupy small surface areas. **No impact is expected to threatened or endangered species**. With implementation of appropriate mitigation measures, the use of off-road vehicles during debris recovery would **not impact** threatened or endangered species.

Page 4-94, para. 8 should read:

Normal launch activities are expected to not significantly impact biological resources. Proposed activities would not result in widely scattered debris. The booster drop impact could result in disturbance of ground surface and the loss of some plants. Sensitive, endangered, or threatened species in the region tend to be widely scattered and occupy small surface areas. Because of this, the chance of **individuals of threatened or endangered** species being struck by falling debris is remote, and **no** impacts are **expected**.

Page 4-95, paras. 3, 4, 5, 6, and 7 should read:

Sudden noises such as aircraft overflights, sonic booms, and rocket launches cause variable reactions in wildlife. These noises can startle species such as birds or cause little or no reaction. There are no absolute standards of short-term noise impacts for **potentially** noise-sensitive **wildlife** species. A 92 dBA (detectable noise level at 1 m [3 ft] from an operating lawn mower) short-term maximum noise exposure has been suggested as a significance cut-off for noise impacts (U.S. Army Strategic Defense Command, 1990b). According to noise modeling predictions, the noise level would be 90 dBA at a distance of less than 8 km (5 mi) from the launch site, which would result in not significant impacts on **wildlife** species.

Low-level helicopter flights are known to cause panicky reactions in various wildlife species. However, no debris impact is expected in areas where known sensitive species exist. **No** impacts on sensitive, threatened, or endangered species are anticipated due to low-level helicopter flights.

The areas that may be affected most by potentially elevated **noise** levels associated with the proposed project are the launch area and the LHA. Noise associated with the launch may impact wildlife in the area. However, the activity associated with the proposed project is expected to cause not significant impacts on wildlife because the actual duration and frequency of the effects are expected to be low.

Noise levels and sonic booms from the launches are expected to have **no impact** on endangered or threatened species such as the bald eagle, Mexican spotted owl, **southwestern willow flycatcher**, or northern goshawk since these species are transitory and are located outside the 90 dBA range.

An early flight termination or mishap could result in debris impact along the corridor. Sensitive species of wildlife, like plant species, are widely scattered, and the probability of debris striking an individual of a threatened or endangered species is remote. **No** impact on sensitive wildlife from an early flight termination is expected.

Page 4-96, para. 1 should read:

The ROI lies within a fall migration corridor for ducks **and other migrating species such as other waterfowl, shorebirds, raptors, and songbirds.** However, due to the infrequency of planned launches (a maximum of 4 launches per month), high altitude of the flights and intercepts, and short duration of the missile flights (less than 10 minutes), impacts are expected to be not significant.

Page 4-96, para. 4 should read:

Debris recovery would be conducted in accordance with the guidelines of the Booster Recovery Plan provided as Appendix D of the Supplement to the Draft EIS, which would reduce potential impact of recovery activities on plant and wildlife populations. Should the potential for impact on threatened or endangered species occur, the USFWS would be contacted and Section 7 consultation initiated.

CULTURAL RESOURCES – WSMR FLIGHT CORRIDOR

Page 4-99, para. 1, line 1 should read:

The mitigation measures for impacts expected from missile debris recovery operations will involve **minimizing vehicle travel off existing roads.**

Page 4-99, last sentence of para. 2 should read:

The WSMR Office of the Area Frequency Coordinator minimizes harmful interference; however, if for some reason interference is . . .

GEOLOGY AND SOILS – WSMR FLIGHT CORRIDOR

Page 4-99, para. 4, line 6 should read:

. . . result in a not significant impact to the soils. **Disturbance to cinder cones and shield volcano surfaces would be minimal due to the nature of the cinder material. In the unlikely event that a booster would land on a lava tube, any damage would be very localized.** Impact areas . . .

Page 4-100, para. 3, line 3 should read:

. . . (U.S. Department of the Army, 1981b) **and the Booster Recovery Plan (Appendix D of the Supplement to the Draft EIS) and would not include any off-road travel. Based on the effects of similar missile impacts and the booster-recovery procedures, the amount of disturbance is expected to result in a not significant impact on the soils.**

LAND USE – WSMR FLIGHT CORRIDOR

Page 4-108, para. 4, which begins "It is expected . . . ," should be deleted.

Page 4-108, add after para. 5:

Impacts on land use are related to recreation, conflicts with existing land use plans, and Federal agency use of public lands administered by the BLM. The use of BLM- administered land for missile testing is subject to the provisions of the Federal Land Policy and Management Act (FLPMA). Under the FLPMA, administrative mechanisms relevant to DOD use of BLM land include:

1. **Rights of way**

2. **Cooperative agreements (where the proposed use and development are similar or closely related to the programs of the Secretary of the Interior for the public lands involved)**

3. **Public land withdrawals**

The BLM, Utah State Office is of the view that U.S. Army use of public land for missile testing in Utah could not be effected through the mechanisms of a right of way or a cooperative agreement. Consequently, withdrawal may be the sole mechanism whereby the U.S. Army missile testing activities may occur on BLM lands within Utah under the GRLC to WSMR target launch option. Land withdrawal could result in a significant impact to the land use. However, the intent would be for affected lands to remain available for other multiple-use activities as established by land use planning. Planning could include amendments to existing BLM Resource Management Plans for the affected management area, which could require additional environmental review and public involvement.

Page 4-108, para. 7 should read:

The BLM Wilderness Study Areas in Canyon Rims . . . no longer than 70 minutes).

Page 4-112, para. 1, sentence beginning "Since use of the river is seasonal . . . " should read:

Since use of the river is seasonal, TMD Extended Test Range program launches **would have** no impact at all from January to March and very little impact in April and December and would affect less than 10 individuals in all other months other than July. Launches in July . . . ."

Page 4-113, para. 6 should read:

The potential for cumulative impacts on the recreational experience of hikers and others who value their wilderness solitude exists from the noise intrusion of helicopter overflights. In addition to the helicopter overflights required to verify that the booster drop areas are clear of individuals and the flights used to retrieve the booster and any associated debris, the general area experiences helicopter noise from other sources. These include: helicopter charters that ferry film crews an their equipment to remote movie locations in the ROI (once every 2 or 3 months); helicopters used in the seismographic work for oil and gas exploration companies; and the occasional helicopter evacuation of injured hikers or other recreationalists to the hospital in Moab (King, 1994). No local companies currently offer helicopter scenic flights over the Canyonlands area, although they have in the past (King, 1994).

Although it is acknowledged that the TMD Extended Test Range program would add to the number and frequency of helicopter overflights in the region as a whole, the specific areas affected are all well separated. Movie set locations tend to be in the more picturesque Canyonlands areas away from the booster drop areas; recent seismographic work has been concentrated in the Castle Valley area northeast of Moab and in the Buff and Blanding areas south of Moab; and helicopter evacuations of the injured are relatively infrequent (King, 1994). TMD Extended Test Range overflights would be confirmed to the booster drop areas themselves. Since helicopter noise does attenuate relatively quickly with distance, the numbers of recreationalists who are likely to have their wilderness solitude experience interrupted is probably small, and the cumulative impacts on recreational use of the area are considered not significant.

Page 4-114, para. 3, delete last two sentences starting "With one exception, . . . for the areas."

Page 4-115, delete para. 1, starting "The one exception is . . . ."

Page 4-115, para. 2, first sentence should read:

People living and working in the areas would have to be evacuated for . . .

Page 4-115, para. 3 should read:

The potential recreational impacts of the activation of the LHA and first-stage booster impact zone, requiring the prohibition of access and the evacuation of all individuals within each area before each flight test, are outlined **in the following sections. Potential conflicts with current BLM land management plans are also discussed.**

Page 4-115, para. 4 should read:

In terms of recreational use impacts, activation of this LHA just before and during each test flight, lasting less than 12 hours, would deny access to homeowners to their summer/weekend retreat homes in McGaffey for the duration of the road closure, typically up to 70 minutes, and prevent access to the McGaffey Lake day-use recreational area, the McGaffey Lookout, and McGaffey and **Quaking Aspen** campground in Cibola National Forest. As indicated previously, . . . closure well in advance.

Page 4-115, add after para. 5:

Land use agreements with the Cibola National Forest would be required for Forest Service lands within the LHA.

Page 4-116, para. 1 starting "available for motorized vehicle use . . . ", should read:

. . . available for motorized vehicle use on and off forest roads, with the exception of a small area around Rice Park Dam which is seasonally restricted between December 15 and March 31 (U.S. Forest Service, 1992). **Land use agreements with the Cibola National Forest would be required for Forest Service lands within Booster Drop Zone A.** While not particularly well recognized for its recreational opportunities, the Zuni Mountains . . . identified as follows.

Page 4-116, add after para. 2:

There are considerable areas of private land within the booster impact zone. Land use agreements would be required with each landowner prior to their land being considered for the proposed action.

Page 4-117, add after para. 2:

The use of El Malpais National Monument or the adjacent El Malpais National Conservation Area, which includes Wilderness Areas and Wilderness Study Areas, would be considered a significant impact on the land use. These lands have been set aside in order to protect the resources within the area. Using them as a booster drop zone conflicts with both the intent of the laws that established the areas as well as the El Malpais National Monument General Management Plan (U.S. Department of Interior, 1990.) and the El Malpais National Conservation Area General Management Plan (U.S. Department of Interior, 1991).

Page 4-117, delete para. 4, beginning "The probability . . . ."

Page 4-118, delete para. 1, beginning "The low potential for debris . . . ."

Page 4-118, add after para. 3:

There is currently no mitigation for the significant impact on the El Malpais National Monument and El Malpais National Conservation Area that occupy most of the Booster Drop Zone A.

NOISE – WSMR FLIGHT CORRIDOR

Page 4-119, paras. 1 and 2 should read:

Assuming for the purpose of analysis a maximum possible number of 48 launches per year from one site and that all launches would occur in the daytime (7:00 a.m. to 10:00 p.m.), the relationship between CDNL and overpressure was estimated **(see table 4.1-8b)**. Areas exposed to overpressures of 8 psf or less would experience CDNL values of less than 62 dB. This corresponds to Land Use Category I presented in table 3.1-11 for which noise-sensitive land uses are compatible. Areas exposed to overpressures between 8 psf and 16 psf would experience CDNL values between 62 dB and 70 dB. This corresponds to Land Use Category

II presented in table 3.1-11 for which noise-sensitive land uses are normally unacceptable. The target missile may result in overpressures between 8 and 16 psf; however, these will occur over WSMR. No noise-sensitive **areas** are expected to be exposed to 8 psf or greater; therefore, impacts are expected to be not significant.

If, for the purpose of analysis, 5 of the 48 launches are assumed to occur at night (10:00 p.m. to 7:00 a.m.), then areas exposed to overpressures of 6 psf or less would experience CDNL values of less than 62 dB. Again no noise-sensitive areas are expected to be exposed to 6 psf or greater; therefore, impacts are expected to be not significant.

AIR QUALITY – SANTA ROSA ISLAND

Page 4-122, para. 3 should read:

Because the LHA, as presently proposed, for San Rosa Island has boundaries that are less than 3,600 m (12,000 ft) from the proposed defensive missile launch site, there is the potential for members of the public to be closer than 3,600 m (12,000 ft) to the defensive missile during launch. As discussed in Section 4.1.1.1, the results from the screening model indicate the potential for a significant impact to air quality during a defensive missile failure scenario if there are members of the public within 3,600 m (12,000 ft) of the defensive missile launch site during the launch.

Because of these results from the screening model, which is designed to give conservative results (i.e., overestimates of the pollutant concentration), modeling with the refined air quality model, the REEDM, was also performed.

The REEDM calculations were made using topographic and meteorologic data specific to the Eglin AFB area. Calculations were made for average monthly conditions for all 12 months of the year (see table 4.1-7a) (Meteorology Group Range Commanders Council, 1983b). Table 4.1-7a shows for each month the distance from the launch site at which the maximum concentration occurred. Concentrations for locations closer than 1 km (0.6 mi) to the launch site were not calculated.

For all distances greater than 1.0 km (0.6 mi) from the defensive missile launch site, the 1-hour average concentration was less than three-hundredths of the 1.00 ppm SPEGL for HCl. Therefore, since the proposed LHAs would keep all members of the public greater than 1.0 km (0.6 mi) from the defensive missile launch site, air quality impacts from unplanned termination of a representative defensive missile at the Santa Rosa launch site would be not significant. If a missile configuration with significantly greater amounts of emissions than the representative defensive missile is selected, then supplementary analysis would be required.

BIOLOGICAL RESOURCE – SANTA ROSA ISLAND

Page 4-124, para. 1 should read:

Although no construction within the ROI is anticipated at this time, individual programs may require minor improvements to facilities or launch pads. No construction would occur within those areas identified in figure 3.2-3 as sensitive habitat. As no known threatened or endangered species, including sea oats, would be present at the construction sites and the

vegetation to be removed would represent a small fraction of the total vegetation within the ROI, **the proposed activities are not likely to have an adverse effect on vegetation. Therefore, the impact is considered not significant.**

Page 4-124, paras. 2, 3, and 4 should read:

Normal launch activities are not expected to significantly impact plant species. Launch activities would take place in previously disturbed areas on an existing concrete surface. Proposed activities would not result in widely scattered debris striking the ROI. Debris impact from a launch mishap could result in disturbance of ground surface and the loss of some plants in the debris impact areas. The likelihood of individuals of sensitive species being **adversely affected** by falling debris is expected to be remote, and impacts are expected to be not significant.

Fire from an early flight termination could impact any plant species that may be present near the launch site. The probability of an event occurring in proximity to an endangered or threatened plant species is low. **The proposed activities are not likely to adversely affect sensitive vegetation, and the potential impacts are considered not significant.**

HCl, which is emitted during missile launches, is known to cause leaf injury to plants as a result of launching very large flight vehicles such as the space shuttle. However, **the USASSDC conducted an environmental monitoring program for the first launch of the Strategic Target System booster in February 1993. The environmental monitoring program included vegetation sampling and marine surveys for prelaunch and postlaunch conditions. Monitoring results indicated little effects from the launch and confirmed the conclusion that no significant impacts would result from the launch of the booster.** The amount of HCl produced by the Strategic Target System booster is similar to the **amount produced by the** largest proposed TMD booster; therefore, the potential impact on vegetation from TMD launches is expected to be not significant. **(U.S. Army Space and Strategic Defense Command, 1993g)**

Page 4-124, para. 6 should read:

Although no construction within the ROI is anticipated at this time, individual programs may require minor improvements to facilities or launch pads. The removal of vegetation would not measurably reduce the overall food resource availability, as there is little or no vegetation cover on the existing concrete pad at A-15. The noise and human activity from construction could startle birds and other wildlife in the area, but impacts are **not expected to adversely affect wildlife** as any construction would be minimal and would occur on sites previously used for launch missions. **Therefore, the impact is considered not significant.**

Page 4-125, para. 1 should read:

Normal launch activities are not expected to significantly impact wildlife species. Launch activities would take place in previously disturbed areas **on an existing concrete surface. No adverse effects** are anticipated on threatened or endangered species occurring outside the fenced disturbed area of A-15, including nesting sea turtles and plovers and beach mice (Atencio, 1993).

Page 4-125, paras. 3, 4, 5, 6, and 7 should read:

There are no absolute standards of short-term noise impacts for potentially noise-sensitive wildlife species. A 92 dBA (detectable noise level at 1 m [3 ft] from an operating lawn mower) short-term maximum noise exposure has been suggested as a significance cut-off for noise impacts on wildlife (U.S. Army Strategic Defense Command, 1990b). Noise modeling indicates an estimated noise level of approximately 90 dBA at a distance of 8 km (5 mi) or less from the launch site, which would result in **no adverse effects** on wildlife expected in the major portion of the ROI from the launch of a TMD missile.

Fire from an early flight termination could impact any wildlife that may be present near the launch site. The probability of an event occurring in proximity to an endangered or threatened species of wildlife is low, as A-15 provides limited wildlife habitat. **The proposed activities are not likely to adversely affect sensitive wildlife, and the potential impacts are considered not significant.**

HCl which is emitted during missile launches, is known to have effects on wildlife. The ***Final Environmental Impact Statement for the Strategic Target System*** (U.S. Army Strategic Defense Command, 1992d) provides a discussion of some of the effects of hydrogen chloride on wildlife. Studies on representative birds and mammals indicate that low-level short-term exposure to hydrogen chloride would not **adversely affect** threatened or endangered species or other wildlife (U.S. Army Strategic Defense Command,1992d). **Therefore, impacts are expected to be not significant.**

The ROI lies within a fall bird migration corridor. However, because of the infrequency of planned launches (a maximum of four launches per month), high altitude of the flights and intercepts, and short duration of the missile flights (less than 10 minutes), **no adverse effects are expected. Therefore, impacts are expected to be not significant.**

Tidal marshes and **commercial** oyster **reefs** do not occur in the Santa Rosa Island ROI. Therefore, no **adverse effects** are anticipated.

Page 4-125, para. 9 should read:

Potential cumulative impacts have been addressed. No cumulative impacts are expected.

Page 4-126, para. 1 should read:

No construction activities would take place within sensitive habitats identified in figure 3.2-3. Debris impact areas for normal launch and intercept activities would be planned to avoid sensitive habitat. Eglin AFB personnel responsible for clearing the beach area of personnel before and during a launch **would** be notified of potential shorebird nesting sites so that ground traffic does not disturb these sites. Monitoring surveys of nesting and/or behavior of shorebirds, such as snowy plovers, **would** be conducted prior to **and during** launch activities **as determined necessary by the Eglin AFB Natural Resources Branch**. Launch and prelaunch activities conducted from dusk to dawn within the ROI would utilize shielded, low-pressure sodium lights in such a manner as to avoid potential disruption of sea turtle nesting and hatching activities. A qualified biologist, **as determined necessary by the Eglin AFB Natural Resources Branch, would** monitor early flight termination or launch failure debris recovery activities to reduce impacts on nesting shorebirds and rare plant populations. **Consultation with the U.S. Fish and Wildlife Service would take place before each individual flight test program begins testing activities.**

CULTURAL RESOURCES – SANTA ROSA ISLAND

Page 4-126, para. 2 should read:

There **is one cultural resource site recorded within the** ROI at Santa Rosa Island. **This site consists of a single historic artifact and is unlikely to be considered potentially eligible for listing on the NRHP.** Site A-15 was . . .

HAZARDOUS MATERIALS AND WASTE – SANTA ROSA ISLAND

Page 4-127, para. 4, line 4 should read:

No conditions **associated with defensive missile launches** at Eglin AFB Santa Rosa Island have been identified which would alter the intensity of any of these impacts.

Page 4-127, para. 6, line 1 should read:

Classes of hazardous materials proposed for use in TMD **defensive missile** prelaunch and launch operations are similar to hazardous materials already in use at Eglin AFB in current operations.

Page 4-128, para. 4, last sentence should read:

Since both asbestos and PCBs are routinely encountered during normal facility renovation activities, **they are already addressed by existing** hazardous waste management procedures **and are** considered to be not significant.

HEALTH AND SAFETY – SANTA ROSA ISLAND

Page 4-129, para. 3, line 4 should read:

No conditions **associated with defensive missile launches** at Eglin AFB Santa Rosa Island have been identified which would alter the intensity of any of these impacts.

Page 4-129, para. 4, line 1 should read:

At Eglin AFB, all TMD **defensive missile** operations involving explosives would require implementation of a written procedure which has been approved by the Eglin AFB Hazard Review Board, and must be conducted under the supervision of an approved ordnance officer using explosive-certified personnel.

Page 4-129, replace para. 6 with:

Defensive missile launch activities occurring at Eglin AFB will require the establishment of a LHA for each launch operation. The LHA provides a designated hazard area which is cleared of people based upon the potential to be affected by missile debris resulting from an unsuccessful launch. Figure 2.2-17 presents the size of the planning LHA, which has been determined based upon a composite of potential mission profiles and vehicle performance characteristics. However, for each mission a mission-specific LHA will be established based upon the actual mission flight profile and system performance.

At Eglin AFB, the size of the mission-specific LHA is approved by the Hazard Review Board based upon mission-specific parameters and the capabilities of the Eglin AFB range instrumentation. The size of a mission-specific LHA can be considerably smaller than the planning LHA and will in all cases be fully contained within the planning LHA. As discussed in Section 4.1.1.7, the LHA represents the area which bounds all potential debris impact points in the event of a launch pad or near-launch anomaly or termination. Normally a LHA will not intrude into populated areas. At Eglin AFB, the capability exists to control an area within a 1,829-meter (6,000-foot) radius around the launch site at Santa Rosa Island, including all water areas. Within this area the base has the capability to clear out all unauthorized personnel during test activities. The full extent of this area is being used in the planning for TMD defensive missile launch activities at Eglin AFB, which will encompass all possible mission-specific LHAs.

Normally, the base will provide notice to boaters of the activation of a mission-specific LHA by issuing a Notice to Mariners (NOTAM). Prior to launch activity, the LHA will be visually inspected using helicopter sweeps and radar checks. Unauthorized personnel will be advised to leave, and test operations will be postponed until the area is evacuated. Since implementation of LHA procedures allows management of the population which can be affected by a launch, hazards associated with unplanned flight termination are considered to be not significant.

LAND USE – SANTA ROSA ISLAND

Page 4-131, add after para. 2:

The location of the TMD-GBR radar unit on Santa Rosa Island has not been finalized. Electromagnetic radiation safety considerations would dictate its placement, and the size of the personnel safety zone would determine the potential for any land use impacts. TMD-GBR system design and operation would reduce any impact of the electromagnetic fields on fuel ignition hazards, prevent any inadvertent detonation of ordnance, and reduce interference with critical medical electronic devices such as cardiac pacemakers. A safety keep-out zone around the radar would be in effect and noted whenever a warning beacon located on top of the radar is illuminated. This would occur whenever the radar is in operation. The safety zone would extend out to a distance of 100 m (330 ft) in front of the antenna equipment unit. There would be no adverse effects to television and radio reception or other public communication systems because these systems operate in different frequencies and would be at sufficient distances from the radar location.

Page 4-132, para. 1, line 4, replace existing sentence that begins "It is anticipated . . . ," with:

The TMD Extended Test Range program has been found to be consistent with the goals and objectives of Florida's program (State of Florida Department of Community Affairs, 1994).

Page 4-132, add after para. 2:

Impacts on both sportfishing and commercial fishing in the deeper waters off Santa Rosa Island under the booster drop zones are considered not significant. Although fishing boats would be cleared from the offshore booster drop zones, the probability that significant numbers of boats would be in the zone is considered to be low, given that the distribution of fish changes and that the booster drop zone changes, depending on launch point, heading, and azimuth. Moreover, sufficient advance notice would be given of the launches that both

sportfishing and commercial boats would have time to schedule their trips and fishing areas.

Page 4-132, add to the end of the para. 3:

Sufficient warning signals clearly apparent to boaters and other individuals offshore in the waters of the Gulf of Mexico and Santa Rosa Sound would help mitigate the impacts on recreational and commercial users of these waters whenever the LHA is activated.

SOCIOECONOMICS – SANTA ROSA ISLAND

Page 4-135, add after para. 1:

Concerns have been raised concerning possible devaluation of property and erosion of the tax base in the area. However, property values around Vandenberg AFB, the site of U.S. Air Force missile testing and missile launches, have not been adversely affected by missile testing activities. Overall, it is believed that the TMD Extended Test Range program would have a not significant impact on Santa Rosa Sound property values and thus the tax base.

Concerns have been raised concerning the impact of missile testing activities on the increasingly important tourism-based economy of the Fort Walton Beach-Destin area. This impact would be difficult if not impossible to quantify. Most visitors will probably not realize that missile flight testing takes place at all. Some visitors, while cognizant of the launch site and test activity on Santa Rosa Island, will be undeterred: witness the popularity of Elephant Butte reservoir as a recreation area just to the west of WSMR and the popularity of county beaches in and adjacent to Vandenberg AFB. Other visitors may be concerned and may want to know when missile testing is being conducted so they can schedule their visits to avoid launch times. Only a very small number of visitors are expected to be dissuaded from coming at all. A small number of visitors could be attracted to the area just to watch the launches. Overall, the impact is considered to be not significant.

INFRASTRUCTURE AND TRANSPORTATION – SANTA ROSA ISLAND

Page 4-136, para. 2, line 11, add after the sentence that ends "activation (U.S. Army Topographic Command, 1964-67).":

Approximately 20 barges a day transit the intracoastal waterway between Panama City and Pensacola Bay. Assuming barge traffic is evenly spaced during the day, a typical launch period wait of 60 minutes would nominally affect less than 1 barge.

AIR QUALITY – CAPE SAN BLAS

Page 4-138, para. 3 should read:

Because the LHA, as presently proposed, for Cape San Blas has boundaries that are less than 3,600 m (12,000 ft) from the proposed defensive missile launch site, there is the potential for members of the public to be closer than 3,600 m (12,000 ft) to the defensive missile during launch. As discussed in Section 4.1.1.1, the results from the screening model

indicate the potential for a significant impact on air quality during a defensive missile failure scenario if there are members of the public within 3,600 m (12,000 ft) of the defensive missile launch site during the launch.

Because of these results from the screening model, which is designed to give conservative results (i.e., overestimates of the pollutant concentration), modeling with the refined air quality model, the REEDM, was also performed.

The REEDM calculations were made using topographic and meteorologic data specific to the Eglin AFB area. Calculations were made for average monthly conditions for all 12 months of the year (see table 4.17a) (Meteorology Group Range Commanders Council, 1983b). Table 4.1-7a shows for each month the distance from the launch site at which the maximum concentration occurred. Concentrations for locations closer than 1 km (0.6 mi) to the launch site were not calculated.

For all distances greater than 1.0 km (0.6 mi) from the defensive missile launch site, the 1-hour average concentration was less than three-hundredths of the 1.00 ppm SPEGL for HCl. Therefore, since the proposed LHAs would keep all members of the public greater than 1.0 km (0.6 mi) from the defensive missile launch site, air quality impacts from unplanned termination of a representative defensive missile at the Cape San Blas launch site would be not significant. If a missile configuration with significantly greater amounts of emissions than the representative defensive missile is selected, then supplementary analysis would be required.

BIOLOGICAL RESOURCES – CAPE SAN BLAS

Page 4-140, para. 4 should read:

Although no construction within the ROI is anticipated at this time, individual programs may require minor improvements to facilities or launch pads. No construction would occur within those areas identified in figure 3.2-4 as sensitive habitat. As no known threatened or endangered species, including sea oats, would be present at the construction sites and the vegetation to be removed would represent a small fraction of the total vegetation within the ROI, **the proposed activities are not likely to have an adverse effect on vegetation. Therefore, the impact is considered not significant.**

Page 4-140, paras. 5 and 6 should read:

Normal launch activities are not expected to significantly impact plant species. Launch activities would take place in previously disturbed areas on an existing concrete surface. Proposed activities would not result in widely scattered debris striking the ROI. Debris impact from a launch mishap could result in disturbance of ground surface and the loss of some plants in the debris impact areas. However, there is little or no vegetation at D-3A because of several existing concrete pads and a disturbed vehicular traffic area encompassing the pads. The **likelihood** of individuals of sensitive species being **adversely affected** by falling debris is expected to be remote, and impacts are expected to be not significant.

Fire from an early flight termination could impact any plant species that may be present near the launch site. The probability of an event occurring in proximity to an endangered or threatened plant species is low, as the launch site is located on a largely disturbed surface.

The proposed activities are not likely to adversely affect sensitive vegetation, and the potential impacts are considered not significant.

Page 4-141, paras. 2 and 3 should read:

HCl, which is emitted during missile launches, is known to cause leaf injury to plants as a result of launching very large flight vehicles such as the space shuttle. However, **the USASSDC conducted an environmental monitoring program for the first launch of the Strategic Target System booster in February 1993. The environmental monitoring program included vegetation sampling and marine surveys for prelaunch and postlaunch conditions. Monitoring results indicated little effects from the launch of the booster and confirmed the conclusion that no significant impacts would result from the launch of the booster.** The amount of HCl produced by the Strategic Target System booster is similar to the **amount produced by the** largest TMD booster; therefore, the potential impact on vegetation from TMD launches is expected to be not significant. **(U.S. Army Space and Strategic Defense Command, 1993g)**

The ROI would not include Saint Vincent National Wildlife Refuge. **No adverse effects on refuge vegetation is anticipated.**

Page 4-141, para. 5 should read:

Although no construction within the ROI is anticipated at this time, individual programs may require minor improvements to facilities or launch pads. The removal of vegetation would not measurably reduce the overall food resource availability, as there is little or no vegetation cover at the disturbed area at D-3A. The noise and human activity from construction could startle birds and other wildlife in the area, but impacts are **not expected to adversely affect wildlife** as any construction would be minimal and would occur on sites previously used for launch missions. **Therefore, the impact is considered not significant.**

Page 4-142, para. 1 should read:

There are no absolute standards for short-term noise impacts on potentially noise-sensitive wildlife species. A 92 dBA (detectable noise level at 1 m [3 ft] from an operating lawn mower) short-term maximum noise exposure has been suggested as a significance cut-off for noise impacts on wildlife (U.S. Army Strategic Defense Command, 1990b). According to noise modeling predictions, the noise level would be approximately 90 dBA at a distance of 8 km (5 mi) from the launch site, which would result in **no adverse effects** on wildlife in the major portion of the ROI from the launch of a TMD missile.

Page 4-142, paras. 3 and 4 should read:

HCl which is emitted during missile launches, is known to have effects on wildlife. The ***Final Environmental Impact Statement for the Strategic Target System*** (U.S. Army Strategic Defense Command, 1992d) provides a discussion of some of the effects of HCl on wildlife. Studies on representative birds and mammals indicate that low-level short-term exposure to HCl would not **adversely affect** threatened or endangered species or other wildlife (U.S. Army Strategic Defense Command,1992d). **Therefore, impacts are expected to be not significant.**

The ROI lies within a fall bird migration corridor. However, because of the infrequency of planned launches (a maximum of four launches per month), high altitude of the flights and

intercepts, and short duration of the missile flights (less than 10 minutes), **no adverse effects are expected. Therefore, impacts are expected to be not significant.**

Page 4-142, para. 6 should read:

Potential cumulative impacts have been addressed.

Page 4-142, para. 7 should read:

No construction activities would take place within sensitive habitats identified in figure 3.2-3. Debris impact areas for normal launch and intercept activities would be planned to avoid sensitive habitat. Eglin AFB personnel responsible for clearing the beach area of personnel before and during a launch **would** be notified of potential shorebird nesting sites so that ground traffic does not disturb these sites. Monitoring surveys of nesting and/or behavior of shorebirds, such as snowy plovers, **would** be conducted prior to **and during** launch activities **at the discretion of the Eglin AFB Natural Resources Branch**. Fire suppression equipment **would** be readily available near beach mouse and nesting snowy plover habitat. Launch and prelaunch activities conducted from dusk to dawn within the ROI would utilize shielded, low-pressure sodium lights in such a manner as to avoid potential disruption of sea turtle nesting and hatching activities. A qualified biologist, **at the discretion of the Eglin AFB Natural Resources Branch, would** monitor early flight termination or launch failure debris-recovery activities to reduce impacts on nesting shorebirds and rare plant populations. **Biological surveys and any necessary consultation with the USFWS would continue after the actual selection of preferred ranges and launch sites.**

CULTURAL RESOURCES – CAPE SAN BLAS

Page 4-143, add after para. 6, that ends " . . . on Cape San Blas.":

All areas affected by the ground impact of flight hardware as a result of a launch mishap will be cleared of all recoverable debris in accord with measures that mitigate adverse effects on cultural resources stipulated in the MOA to be developed by the Florida SHPO, Eglin AFB, and the ACHP.

HAZARDOUS MATERIALS AND WASTE – CAPE SAN BLAS

Page 4-145, para. 1, last sentence should read:

Thus the intensity of hazardous materials/waste impacts **associated with defensive missile launches** at Cape San Blas will be reduced **compared with that at sites where full prelaunch activities occur** and is considered to be not significant.

Page 4-145, para. 4 should read:

Along with minimal use of hazardous materials, quantities of hazardous waste generated at the site **will also be minimal**. Thus the impact of prelaunch activities on hazardous waste management will be not significant.

HEALTH AND SAFETY – CAPE SAN BLAS

Page 4-146, para. 2, last sentence should read:

No conditions **associated with defensive missile launches** at Cape San Blas have been identified which would alter the intensity of any of these impacts.

Page 4-146, para. 4 should be replaced by:

Defensive missile launch activities occurring at Cape San Blas will require the establishment of a LHA for each launch operation. The LHA provides a designated hazard area which is cleared of people based upon the area's potential to be affected by missile debris resulting from an unsuccessful launch. Figure 2.2-18 presents the size of the planning LHA, which has been determined based upon a composite of potential mission profiles and vehicle performance characteristics. However, for each mission a mission-specific LHA will be established based upon the actual mission flight profile and system performance.

As at Eglin AFB, the size of the mission-specific LHA at Cape San Blas is approved by the Hazard Review Board based upon mission-specific parameters and the capabilities of the on-site range instrumentation. The size of a mission-specific LHA can be considerably smaller than the planning LHA and will in all cases be fully contained within the planning LHA. As discussed in Section 4.1.1.7, the LHA represents the area which bounds all potential debris impact points in the event of a launch pad or near-launch anomaly or termination. Normally a LHA will not intrude into populated areas; however, at Cape San Blas an area within a 1,829-meter (6,000-foot) radius around the launch site has been identified as the required planning LHA. The extent of this area includes privately owned land not controlled by the Air Force and some water areas. Although there is no permanent population within this area, it will be necessary to develop a mechanism to ensure that all mission-specific LHAs are properly cleared of unauthorized personnel. This will include an agreement with property owners for temporary access restriction during some launch activities and implementation of boater clearance procedures similar to those in place at Santa Rosa Island (see Section 4.2.1.7). Since implementation of LHA procedures allows management of the population which can be affected by a launch, hazards associated with unplanned flight termination are considered to be not significant.

LAND USE – CAPE SAN BLAS

Page 4-147, add after para. 3:

The location of the TMD-GBR radar unit on Cape San Blas has not been finalized. Electromagnetic radiation safety considerations would dictate its placement, and the size of the personnel safety zone would determine the potential for any land use impacts. TMD-GBR system design and operation would reduce any impact of the electromagnetic fields on fuel ignition hazards, prevent any inadvertent detonation of ordnance, and reduce interference with critical medical electronic devices such as cardiac pacemakers. A safety keep-out zone around the radar would be in effect and noted whenever a warning beacon located on top of the radar is illuminated. This would occur whenever the radar is in operation. The safety zone would extend out to a distance of 100 m (330 ft) in front of the antenna equipment unit. There would be no adverse effects to television and radio reception or other public communication systems because these systems operate in different frequencies and would be at sufficient distances from the radar location.

Page 4-147, add at the end of para. 4:

Impacts on both sportfishing and commercial fishing in the deeper waters off Cape San Blas under the booster drop zones are considered not significant. Although fishing boats would be cleared from the offshore booster drop zones, the probability that significant numbers of boats would be in the zone is considered low, given that the distribution of fish changes and that the booster drop zone changes, depending on launch point, heading, and azimuth. Moreover, sufficient advance notice of the launches would be given that both sportfishing and commercial boats would have time to schedule their trips and fishing areas.

Page 4-149, para. 1, line 7, replace the sentence that begins "It is anticipated . . . " with:

The TMD Extended Test Range program has been found to be consistent with the goals and objectives of Florida's program (State of Florida, 1994).

SOCIOECONOMICS – CAPE SAN BLAS

Page 4-152, add after para. 5:

Concerns have been raised concerning possible disruptions to the perceived quality or way of life in the region. However, historically property values around Vandenberg AFB, the site of U.S. Air Force missile testing and missile launches, have not been adversely affected by missile testing activities. Overall, it is believed that the TMD Extended Test Range program would have a not significant impact on Cape San Blas or Saint Joseph Peninsula property values and thus the tax base.

Concerns have been raised concerning the impact of missile testing activities on the increasingly important tourism-based economy of Cape San Blas, Saint Joseph Peninsula, and the adjacent mainland area. This impact would be difficult if not impossible to quantify. Most visitors will probably not realize that missile flight testing takes place at all. Some visitors, while cognizant of the D-3A launch site and test activity on Cape San Blas, will be undeterred: witness the popularity of Elephant Butte reservoir as a recreation area just to the west of WSMR and the popularity of county beaches in and adjacent to Vandenberg AFB. Other visitors may be concerned and may want to know when missile testing is being conducted so they can schedule their visits to avoid launch times. Only a very small number of visitors are expected to be dissuaded from coming at all. A small number of visitors could be attracted to the area just to watch the launches. Overall, the impact is considered to be not significant.

BIOLOGICAL RESOURCES – EGLIN AFB SEA LAUNCH

Page 4-160, para. 2 should read:

Construction activities, should a fixed or floating sea platform be used, would consist of anchors or legs being fixed to the sea floor for stabilization. As the potentially displaced vegetation would represent a small portion of the vegetation within the ROI, **the proposed action is not expected to adversely affect marine vegetation. Therefore, the impacts are anticipated to be not significant.**

Page 4-160, para. 3 should read:

Triethyl phosphate would be contained in the payload of some target vehicles. A description of previous flight tests utilizing triethyl phosphate at WSMR is provided in the ***Extended Range Intercept Technology Environmental Assessment*** (U.S. Army Strategic Defense Command, 1991b) and the TMD Lethality EA (U.S. Army Space and Strategic Defense Command, 1993a). Studies conducted by the Tennessee Valley Authority have verified that no effect on plants would occur at concentrations of up to 400 mg/m^2 (U.S. Army Strategic Defense Command, 1991b). The concentration of triethyl phosphate anticipated to reach the surface of the water following TMD intercepts over the ROI is expected to be significantly less than 200 mg/m^2 (Johnson, 1993). **Therefore, no adverse effects on marine vegetation are expected, and the impacts are anticipated to be not significant.**

Page 4-160, paras. 5 and 6 should read:

Normal launch activities are **not** expected to **adversely affect** marine wildlife species. Launch activities would take place from a fixed or floating sea platform on the water's surface. The **likelihood** of individuals of sensitive species being **adversely affected** by falling debris from a launch termination is expected to be remote, and impacts are expected to be not significant.

HCl, which is emitted during missile launches, would be greatly diluted by the surrounding sea water. **No adverse effects are anticipated, and** no impacts from HCl are expected for a sea launch.

Page 4-161, paras. 1 and 2 should read:

Triethyl phosphate would be contained in the payload of some target vehicles. The concentration of triethyl phosphate anticipated to reach the surface of the water following TMD intercepts over the ROI is expected to be significantly less than 200 mg/m^2 (Johnson, 1993) and would immediately become more dispersed and diluted. **Therefore, no adverse effects on marine vegetation are expected, and the impacts are anticipated to be not significant.**

The ROI lies within a fall bird migration corridor. However, because of the infrequency of planned launches (a maximum of four launches per month), high altitude of the flights and intercepts, and short duration of the missile flights (less than 10 minutes), **no adverse effects are expected. Therefore, impacts are expected to be not significant.**

Page 4-161, para. 4 should read:

Potential cumulative impacts have been addressed. No cumulative impacts are expected.

BIOLOGICAL RESOURCES – EGLIN AFB FLIGHT CORRIDOR

Page 4-165, paras. 1, 2, and 3 should read:

Normal launch activities are **not** expected to **adversely affect** marine vegetation along the corridor due to the high altitudes of the missiles while in the corridor.

Intercept debris from normal launch operations is expected to land in the Gulf of Mexico south of the interceptor launch site in several hundred meters of water, and debris would not be recovered. The debris is not expected to contain hazardous materials. If hazardous materials were to leach out of the intercept debris, the great volume of water in the gulf would dilute the contaminant to acceptable levels. **More information on missile components and debris is provided in Section 4.2.4.6. No adverse effects on marine vegetation are anticipated.** Therefore, impacts are expected to be not significant.

HCl from missile emissions is known to cause injury to plants (U.S. Army Strategic Defense Command, 1992d). However, the missiles in the corridor would be operating at high altitudes, and any emissions reaching the ocean surface would be widely dispersed. **No adverse effects on marine vegetation from HCl emissions are anticipated.** Therefore, impacts are expected to be not significant.

Page 4-165, paras. 6, 7, 8, and 9 should read:

Normal launch activities are **not** expected to **adversely affect** marine wildlife species along the corridor due to the high altitudes of the missiles while in the corridor.

Intercept debris from normal launch operations is expected to land in the Gulf of Mexico south of the interceptor launch site in several hundred meters of water. If hazardous materials were to leach out of the intercept debris, the great volume of water in the gulf would dilute the contaminant to acceptable levels. More information on missile components and debris is provided in Section 4.2.4.6. **No adverse effects on marine wildlife are anticipated.** Therefore, impacts are expected to be not significant.

An early flight termination or mishap could result in debris impact along the corridor. Sensitive marine species are widely scattered, and the probability of debris striking an individual of a threatened or endangered species is remote. Debris impact from an early flight termination **is not anticipated to adversely affect** sensitive wildlife, **and impacts are** expected to be not significant.

HCl from missile emissions is known to have detrimental effects on wildlife (U.S. Army Strategic Defense Command, 1992d). However, the missiles in the corridor would be operating at high altitudes, and any emissions reaching the **ocean surface** would be widely dispersed. **No adverse effects on marine wildlife from HCl emissions are anticipated.** Therefore, impacts are expected to be not significant.

Page 4-166, para. 2 should read:

Potential cumulative impacts have been addressed. No cumulative impacts are expected.

HAZARDOUS MATERIALS AND WASTE – EGLIN AFB FLIGHT CORRIDOR

Page 4-166, para. 5, line 9, replace the two sentences that begin "There would be no harm . . . " with:

There would be no harm to marine life, to seafood, or to other uses of the marine environment (see Section 4.2.4.6 for additional information). It was concluded that the minimal quantities of hazardous materials falling into the sea water would become diluted by the sea water and would cease to be of any possible concern.

BIOLOGICAL RESOURCES – SAN NICOLAS ISLAND

Page 4-172, para. 7 should read:

Fire from an early flight termination could impact any plant species**, including the San Nicolas Island buckwheat or Trask's milk vetch,** that may be present near the launch site. **In order to minimize the chance for fire to destroy habitat on the island, TMD tests would require that sufficient fire suppression equipment (e.g., fire vehicles and aircraft) and personnel be available on San Nicolas Island to extinguish any resulting fires. Biological surveys and any necessary consultation with the USFWS would continue after the actual selection of preferred ranges and launch sites.**

Page 4-173, para. 2 should read:

HCl, which is emitted during missile launches, is known to cause leaf injury to plants as a result of launching very large flight vehicles such as the space shuttle. **However, the USASSDC conducted an environmental monitoring program for the first launch of the Strategic Target System booster in February 1993. The environmental monitoring program included vegetation sampling and marine surveys for prelaunch and postlaunch conditions. Monitoring results indicated little effects from the launch and confirmed the conclusion that no significant impacts would result from the launch of the booster.** The amount of HCl produced by the Strategic Target Systems booster is similar to the **amount produced by the** largest proposed TMD booster; therefore, the potential impact on vegetation from TMD launches is expected to be not significant. **(U.S. Army Space and Strategic Defense Command, 1993g)**

Page 4-173, para. 5 should read:

The two areas that may be affected most by potentially elevated sound levels associated with the proposed project are the launch area and the debris impact areas. Noise associated with the launch may impact wildlife in the area. Noise modeling was based on the most conservative scenario. California sea lions have a strong fear of humans and will stampede into the water when disturbed. Continuous disturbance will cause abandonment of the rookery. Northern elephant seals show an unusual indifference to humans, but persistent human disturbance will cause them to abandon beaches. Launching from 807 Launch Complex could significantly impact species such as the Federally threatened sea otter and protected northern elephant seal and California sea lion **during breeding or pupping seasons. However, the use of mobile launchers could reduce the likelihood of significant impacts through avoidance of species during breeding and pupping seasons.** The intermittent launches associated with the proposed project are **also** expected to cause not significant impacts on wildlife because the actual duration and frequency of the effects are expected to be low. The National Marine Fisheries Service should be consulted regarding potential impacts on pinnipeds and the possible need for mitigation monitoring.

Page 4-173, para. 6, should read:

Sudden noises such as aircraft overflights, sonic booms, and rocket launches cause variable reactions in wildlife. These noises can startle species such as shore birds and pinnipeds or cause little or no reaction. Harbor seals on southern Vandenberg AFB temporarily abandoned pups as they fled into the water during a Titan IV launch; although no mortality was observed, harassment may be regarded as an impact requiring some form of mitigation (Vandenberg Air Force Base, 1993b). Research, however, has also indicated that there are

approximately 100 **annual** noise events (e.g., aircraft, wave noise, thunder) on the Channel Islands. An estimated 50 percent of these events result in sound levels reaching . . .

Page 4-174, para. 6 should read:

Fire from an early flight termination could impact wildlife that may be near the launch site. **In order to minimize the chance for fire to destroy habitat on the island, TMD tests would require that sufficient fire suppression equipment (e.g., fire vehicles and aircraft) and personnel be available on San Nicolas Island to extinguish any resulting fire. Biological surveys and any necessary consultation with the USFWS would continue after the actual selection of preferred ranges and launch sites.**

Page 4-174, add before Cumulative Impacts:

Potential impacts on wildlife from EMR are discussed on page 4-24 in Section 4.1.1.3.

CULTURAL RESOURCES – SAN NICOLAS ISLAND

Page 4-175, add at the end of para. 6 that ends " . . . on San Nicolas Island.":

All areas affected by the ground impact of flight hardware as a result of a launch mishap will be cleared of all recoverable debris in accord with measures that mitigate adverse effects on cultural resources stipulated in the MOA to be developed by the California SHPO, the ACHP, and the Army.

HAZARDOUS MATERIALS AND WASTE – SAN NICOLAS ISLAND

Page 4-177, para. 2, last sentence should read:

No conditions **associated with defensive missile launches** at San Nicholas Island have been identified which would alter the intensity of any of these impacts.

Page 4-177, para. 4, first sentence should read:

Many of the classes of hazardous materials proposed for use in TMD **defensive missile** prelaunch and launch operations are similar to hazardous materials already in use at San Nicholas Island.

Page 4-178, para. 2, first sentence should read:

Limited quantities of hazardous wastes may be generated by proposed TMD **defensive missile** prelaunch operations at San Nicholas Island.

Page 4-178, para. 2, last sentence should read:

Proposed TMD **defensive missile** prelaunch and launch activities are considered to be a not significant impact on hazardous waste management activities at San Nicholas Island.

HEALTH AND SAFETY – SAN NICOLAS ISLAND

Page 4-179, para. 1, last sentence should read:

No conditions **associated with defensive missile launches** at San Nicholas Island have been identified which would alter the intensity of any of these impacts.

Page 4-179, para. 2, first sentence should read:

At San Nicholas Island, all TMD **defensive missile** operations involving explosives would require implementation of a written procedure which has been approved by the NAWC-WPNS Safety Office and must be conducted under the supervision of an approved ordnance officer using explosive-certified personnel.

Page 4-179, para. 4, should be replaced by:

Defensive missile launch activities occurring at San Nicholas Island will require the establishment of a LHA for each launch operation. The LHA provides a designated hazard area which is cleared of people based upon the potential to be affected by missile debris resulting from an unsuccessful launch. Figure 2.2-22 presents the size of the planning LHA for possible launch sites, which have been determined based upon a composite of potential mission profiles and vehicle performance characteristics. However, for each mission a mission-specific LHA will be established based upon the actual mission flight profile and system performance.

At San Nicholas Island, the size of the mission-specific LHA is approved by the NAWCS-WPNS Safety Office based upon mission-specific parameters and the capabilities of the San Nicholas Island and Test Range instrumentation. The size of a mission-specific LHA can be considerably smaller than the planning LHA and will in all cases be fully contained within the planning LHA. As discussed in Section 4.1.1.7, the LHA represents the area which bounds all potential debris impact points in the event of a launch pad or near-launch anomaly or termination. For purposes of planning for TMD defensive missile activities at San Nicholas Island a preliminary LHA radius of 3,658 m (12,000 ft) has been assumed, which would encompass all possible mission-specific LHAs. Since implementation of LHA procedures allows management of the population which can be affected by a launch, hazards associated with unplanned flight termination are considered to be not significant.

LAND USE – SAN NICOLAS ISLAND

Page 4-180, add after para. 6:

The location of the TMD-GBR radar unit on San Nicolas Island has not been finalized. Electromagnetic radiation safety considerations would dictate its placement, and the size of the personnel safety zone would determine the potential for any land use impacts. TMD-GBR system design and operation would reduce any impact of the electromagnetic fields on fuel ignition hazards, prevent any inadvertent detonation of ordnance, and reduce interference with critical medical electronic devices such as cardiac pacemakers. A safety keep-out zone around the radar would be in effect and noted whenever a warning beacon located on top of the radar is illuminated. This would occur whenever the radar is in operation. The safety zone would extend out to a distance of 100 m (330 ft) in front of the antenna equipment unit. There would be no adverse effects to television and radio reception

or other public communication systems because these systems operate in different frequencies and would be at sufficient distances from the radar location.

Page 4-181, para. 1 should read:

The establishment and activation of a LHA for both the Alpha Launch Complex sites and the 807 Launch Complex sites **would** require the temporary clearance of the adjoining Pacific Ocean **surrounding the western end of San Nicolas Island, extending some distance offshore (see figure 2.2-22)**. Temporary clearance of this LHA **up to four times per month over the life of the program** would have an **adverse** impact on recreational and commercial use of these waters, particularly on the commercial and sportfishing industry. However, since the LHA would be activated **for less than 60 minutes and with implementation of the mitigation measures identified as follows, particularly adequate prior notice to the sportfishing and commercial fishing industry**, the impacts on water (land) use are considered not significant.

Page 4-181, add after para. 1:

Impacts on both sportfishing and commercial fishing in the deeper waters off San Nicolas Island under the booster drop zones are considered not significant. Although fishing boats would be cleared from the offshore booster drop zones, the probability that significant numbers of boats would be in the zone is considered low (given that the distribution of fish changes and the booster drop zone changes) depending on launch point, heading, and azimuth. Moreover, sufficient advance notice would be given of the launches that both sportfishing and commercial boats would have time to schedule their trips and fishing areas.

Page 4-181, para. 2, line 20 that begins "Planning and Management . . . " should be changed to read:

Planning and Management Policies as amended, the State Agency is the **State Coastal Commission**. It is anticipated . . .

Page 4-181, para. 3 should read:

Since the TMD Extended Test Range program would use existing facilities and all missile flight tests must be scheduled and approved by the NAWC-WPNS Safety Office, the possibility of significant adverse, incremental cumulative land use impacts **on San Nicolas Island is avoided**.

Page 4-181, add after para. 3:

However, the potential does exist for cumulative, incremental impacts on offshore water (land) uses, particularly commercial fishing, depending on which launch site is eventually chosen for the program.

With current, ongoing offshore closures due to existing U.S. Navy programs, the cumulative effect of the TMD Extended Test Range program's potential of 100 test flights between 1996 and 2000, for an average of just under 17 per year, has the potential to significantly increase the number of offshore water area closures and evacuations off the western end of San Nicolas Island. Without implementation of the mitigation measures outlined as follows, further restrictions could be considered significant in a cumulative context.

Proposed U.S. Navy ship shock tests, in which ordnance is exploded underwater to test hull strength, would be conducted in different areas off the southern California coast. The likelihood that the TMD Extended Test Range booster drop areas would be over the same stretches of open water and affect the same aquatic life is very remote. Similarly, the economic effects on the area's fishing industry are believed to be not significant, assuming implementation of the mitigation measures outlined as follows.

Page 4-181, replace para. 4 with:

No adverse land use impacts are anticipated on San Nicolas Island itself. However, advance notices of activation of the LHA, particularly to the commercial and sportfishing industries, would help mitigate the adverse impacts on users of the waters around San Nicolas Island, especially the potential for significant cumulative impacts. In particular, ensuring that sufficient advance notice is given to the California Sports Fishing Association and the various commercial fishing organizations and associations is very important. With sufficient advance notice of activation of the offshore LHAs, fishing boats can schedule their trips to avoid the LHA. Efficient and timely coordination between the TMD Extended Test Range program, the U.S. Navy, and personnel on the patrol boats and helicopters who actually clear the offshore LHAs is also critical.

Minimizing launches during the prime commercial fishing season, from October through January, and avoiding launches on the weekends during the summer months for the sportfishing industry would also mitigate impacts.

AIR QUALITY – VANDENBERG AFB

Page 4-191, para. 5 should read:

Specific to Vandenberg AFB, if total construction emissions at Vandenberg AFB exceed 25 tpy, then a permit would be required. While the details of project area requirements and the construction mobilization schedule have not yet been defined, it is clear that the minor amounts of construction that may be required for TMD activities at Vandenberg AFB would not generate 25 tpy of construction emissions. As discussed in Section 4.1.1.1, both fugitive dust and combustion emissions would be generated during construction activities. Combustion emissions would be generated by the internal combustion engines of construction vehicles and equipment. The main emissions from construction equipment are carbon monoxide, hydrocarbons, nitrogen oxides, aldehydes, sulfur oxides, and particulate matter (U.S. Environmental Protection Agency, 1985b).

As part of an ongoing Vandenberg AFB-related project, major construction is already planned to begin at SLC-3 in early 1994 and to continue for approximately 2 years. Emissions for this project have been estimated not to exceed 19 tpy, thus using up a sizable portion of the 25 tpy total. Because this project is below the 25 tpy limit no permit has been required; however, the SBCAPCD is requiring monitoring to ensure that the 25 tpy limit is not exceeded. Therefore, it is likely that monitoring would be required for any construction that is necessary for TMD activities. Furthermore, for these same reasons, it would be important to rigorously apply mitigation measures for such construction.

BIOLOGICAL RESOURCES – VANDENBERG AFB

Page 4-194, para. 4 should read:

Minor construction activities are expected to take place on Vandenberg AFB for the TMD program. Any construction requirements will be addressed in program- and site-specific environmental documentation.

Page 4-195, first full para. should read:

Minor construction activities are expected to occur on Vandenberg AFB **for the TMD program. Any construction requirements will be addressed in program- and site-specific environmental documentation.**

Page 4-195, third full para. should read:

The two areas that may be affected most by potentially elevated sound levels associated with the proposed project are the launch areas and the debris areas. Noise associated with the launch may impact wildlife in the area. Noise modeling was based on the most conservative scenario. California sea lions have a strong fear of humans and **will** stampede into the water when disturbed. Continuous disturbance will cause abandonment of the rookery. Harbor seals show an unusual indifference to humans, but persistent human disturbance will cause them to abandon beaches. Launching from sites near Purisima Point could potentially significantly impact species such as the Federally threatened sea otters but would not likely affect the protected harbor seal and California sea lion.

Other species which could be potentially impacted by launches from north Vandenberg AFB include nesting western snowy plovers and California least terns, roosting brown pelicans, and year-round resident candidate songbirds.

Species which could be potentially impacted by launches from southern Vandenberg AFB include harbor seals, nesting seabirds, brown pelicans, peregrine falcons, and candidate bird species. **Several** indirect impacts could potentially occur at launch sites which are in close proximity to breeding areas of listed species. Predation or exposure during the absence of adult birds could result in mortality to eggs or young of candidate and listed bird species. Predation while pups are temporarily abandoned or trampling during disturbance could result **in mortality** to pinniped pups. **However, the use of mobile launchers could reduce the likelihood of significant impacts through avoidance of species during breeding and pupping seasons.** The intermittent launches associated with the proposed project are **also** expected to cause not significant impacts on wildlife because the actual duration and frequency of the effects are expected to be low. **The National Marine Fisheries Service should be consulted regarding potential impacts on pinnipeds and the possible need for mitigation monitoring.**

Page 4-196, para. 5 should read:

HCl, which is emitted during missile launches, is known to cause leaf injury to plants as a result of launching very large flight vehicles such as the space shuttle. However, the USASSDC conducted an environmental monitoring program for the first launch of the Strategic Target System booster in February 1993. The environmental monitoring program included vegetation sampling and marine surveys for prelaunch and postlaunch conditions. Monitoring results indicated little effects from the launch and confirmed the conclusion that

no significant impacts would result from the launch of the booster. The amount of HCl produced by the Strategic Target Systems booster is similar to the **amount produced by the** largest proposed TMD booster; therefore, the potential impact on vegetation from TMD launches is expected to be not significant. **(U.S. Army Space and Strategic Defense Command, 1993g)**

Page 4-196, add before Cumulative Impacts:

Potential impacts on wildlife from EMR are discussed on page 4-24 in Section 4.1.1.3.

Page 4-196, para. 8 should read:

The National Marine Fisheries Service should be consulted regarding potential impacts on pinnipeds and the possible need for mitigation monitoring (Vandenberg Air Force Base, 1993b). **All reasonable efforts will be made to schedule tests to avoid the pupping season of pinnipeds, the nesting seasons of the least tern and snowy plover, and the migration period of the California grey whale. This type of mitigation is standard procedure for other types of offshore uses such as oil and gas exploration (County of Santa Barbara, Planning and Development, 1994).** A launch site with the least probability of impacting sensitive species on the base should be selected for TMD launches.

Page 4-197, para. 2 should read:

The USFWS and National Marine Fisheries Service will be consulted regarding their concerns and possible mitigation and/or monitoring of impacts **on** listed, proposed, and candidate species. Formal consultation under Section 7 of the Endangered Species Act with the USFWS may need to be re-initiated if launches from 576-E and SLC-2W are increased to more than four during the nesting season. **Currently SLC-2W is not a TMD launch site at Vandenberg AFB.**

CULTURAL RESOURCES – VANDENBERG AFB

Page 4-198, add at the end of para. 1 that ends " . . . on Vandenberg AFB.":

All areas affected by the ground impact of flight hardware as a result of a launch mishap will be cleared of all recoverable debris in accord with measures that mitigate adverse effects on cultural resources stipulated in the MOA to be developed by the California SHPO, the ACHP, Vandenberg AFB, and the Army.

HAZARDOUS MATERIALS AND WASTE – VANDENBERG AFB

Page 4-199, last sentence of para. 5 should read:

No conditions **associated with defensive missile launches** at Vandenberg AFB have been identified which would alter the intensity of any of these impacts.

Page 4-199, first sentence of para. 7 should read:

Classes of hazardous materials proposed for use in TMD **defensive missile** prelaunch and launch operations are similar to hazardous materials already in use in current operations at Vandenberg AFB.

Page 4-200, add at the end of para. 1:

Proposed TMD defensive missile systems may include small quantities of hypergolic propellants. As discussed in Section 4.1.1.6, these propellants would be loaded onto the missile systems at the manufacturing location and then transported to the launch facility. No handling of hypergolic materials would occur at the launch site as a result of proposed TMD activities. The quantities of hypergolic materials would be insignificant as compared to those routinely transported to Vandenberg AFB using dedicated tanker-truck shipments. No unusual transportation or handling requirements would be associated with the proposed use of on-board hypergolic propellants.

HEALTH AND SAFETY – VANDENBERG AFB

Page 4-201, last sentence of para. 3 should read:

No conditions **associated with defensive missile launches** at Vandenberg AFB have been identified which would alter the intensity of any of these impacts.

Page 4-201, first sentence of para. 4 should read:

At Vandenberg AFB, all TMD **defensive missile** operations involving explosives would require implementation of a written procedure which has been approved by the 30th Space Wing Safety Office and must be conducted under the supervision of an approved ordnance officer using explosive-certified personnel.

Page 4-201, para. 6 should be replaced with:

Defensive missile launch activities occurring at Vandenberg AFB will require the establishment of a LHA for each launch operation. The LHA provides a designated hazard area which is cleared of people based upon the potential to be affected by missile debris resulting from an unsuccessful launch. Figures 2.2-25 and 2.2-26 present the size of the planning LHAs for potential launch sites, which have been determined based upon a composite of potential mission profiles and vehicle performance characteristics. However, for each mission a mission-specific LHA will be established based upon the actual mission flight profile, launch site, and system performance.

At Vandenberg AFB, the required LHAs are established in Western Range Regulation 127-1, Range Safety Requirements (U.S. Department of the Air Force, 1993a), and each proposed mission-specific LHA is approved by the 30th Space Wing Safety Office based upon mission-specific parameters and the capabilities of the Vandenberg AFB range instrumentation. The size of a mission-specific LHA can be considerably smaller than the planning LHA and will in all cases be fully contained within the planning LHA. As discussed in Section 4.1.1.7, the LHA represents the area which bounds all potential debris impact points in the event of a launch pad or near-launch anomaly or termination. At Vandenberg AFB, the LHA would also encompass any areas where fire may result during launch (although this is considered to be a

remote probability event since defensive missiles are small and will be launched from existing launch sites where vegetation and other flammables have been removed). For purposes of planning for TMD defensive missile activities at Vandenberg AFB, a preliminary LHA radius of 3,658 m (12,000 ft) has been assumed, which would encompass all possible mission-specific LHAs. The LHAs for some proposed launch sites may extend beyond the Vandenberg AFB boundaries; however, current and past landowner agreements exist which permit control of these areas during launch activities. Since implementation of LHA procedures allows management of the population which can be affected by a launch, hazards associated with unplanned flight termination are considered to be not significant.

LAND USE – VANDENBERG AFB

Page 4-203, para. 5 should be replaced with:

The use of the existing facilities at Vandenberg AFB to launch defensive missiles would not change the overall land use and management of the base. **Similarly, since the TMD Extended Test Range program would only be using existing or modified facilities on an existing military installation already used for launching missiles, no adverse direct or indirect visual impacts would occur.** The SLC 6 . . .

Page 4-203, add after para. 6:

The location of the TMD-GBR radar unit on Vandenberg AFB has not been finalized. Electromagnetic radiation safety considerations would dictate its placement, and the size of the personnel safety zone would determine the potential for any land use impacts. TMD-GBR system design and operation would reduce any impact of the electromagnetic fields on fuel ignition hazards, prevent any inadvertent detonation of ordnance, and reduce interference with critical medical electronic devices such as cardiac pacemakers. A safety keep-out zone around the radar would be in effect and noted whenever a warning beacon located on top of the radar is illuminated. This would occur whenever the radar is in operation. The safety zone would extend out to a distance of 100 m (330 ft) in front of the antenna equipment unit. There would be no adverse effects to television and radio reception or other public communication systems because these systems operate in different frequencies and would be at sufficient distances from the radar location.

Page 4-204, para. 1 should read:

. . . have an **adverse** impact on recreational and commercial use of these waters, **particularly to the sea urchin and abalone divers and lobster and crab trappers that operate in the shallower waters close to the shore of Vandenberg AFB**. Temporary clearance of this LHA **up to four times per month over the 6-year life of the program** would have an **adverse** impact on recreational and commercial use of these waters, **particularly to the commercial and sportfishing industry**. However, since the LHA would be activated **for less than 60 minutes and with implementation of the mitigation measures identified as follows, particularly adequate prior notice to the sport and commercial fishing industry**, the impacts on water (land) use are considered not significant.

Page 4-204, add after para. 3:

Moreover, the traffic data for Ocean Beach County Park (Pennington, 1994b) shows that during the peak season (June, July, and August), 47 percent of the visitors come on the weekend, and 74 percent come on the weekend during the off-season. Virtually all of the TMD launches would be during the week, avoiding the weekends. If the same visitation pattern is true for Point Sal State Beach and Jalama Beach County Park, the number of visitors that would actually be affected is likely to be even less than the numbers cited previously. It is also important to note that only one of the three beaches would be affected, depending on which launch site on Vandenberg AFB was chosen for the TMD Extended Test Range program.

Page 4-204, para. 6, change the last line to read as follows:

. . . Planning and Management Policies as amended, the State Agency is the **State Coastal Commission**.

Page 4-205, para. 2 should read:

Since the TMD Extended Test Range program would be using existing facilities and all missile flight tests must be scheduled and approved by the NAWC-WPNS Safety Office, the possibility of significant adverse, incremental cumulative land use impacts **on Vandenberg AFB** is avoided.

Page 4-205, add after para. 2:

However, the potential does exist for cumulative, incremental impacts on (1) coastal access and recreational use of one of the two county parks or Point Sal State Beach and/or the additional public access beaches and coastline on Vandenberg AFB and (2) to offshore water (land) uses, particularly commercial fishing, depending on which launch site is eventually chosen for the program. With an annual average of 15 existing missile launches for various other programs, the cumulative effect of the TMD Extended Test Range program's potential of 100 test flights between 1995 and 2000, for an average of just under 17 per year, has the potential to double the number of road closures and beach evacuations as well as offshore LHA water area closures and evacuations at Vandenberg AFB. In addition to the ongoing and proposed missile program activities at Vandenberg AFB, other species and habitat protection programs such as the proposed seasonal beach access restrictions to protect the western snowy plover have the potential to result in significant cumulative impacts on coastal access and recreation.

Given the already restricted access to the coast in northern Santa Barbara County by virtue of its geography and property ownership patterns, further restrictions could be considered significant in a cumulative context without implementation of the mitigation measures outlined as follows.

Proposed U.S. Navy ship shock tests, in which ordnance is exploded underwater to test hull strength, would be conducted in different areas off the southern California coast. The likelihood that the TMD Extended Test Range booster drop areas would be over the same stretches of open water and affect the same aquatic life is very remote. Similarly, the economic effects on the area's fishing industry are believed to be not significant, assuming implementation of the mitigation measures outlined as follows.

Page 4-205, para. 3, to be replaced with:

Although no adverse impacts on land use itself are anticipated on Vandenberg AFB and no mitigation measures are required for the base, there is the potential for significant cumulative impacts on coastal access and recreation and on the commercial and sportfishing industries. These potentially significant cumulative impacts on coastal access and recreation can be mitigated considerably by restricting launches to weekdays only. Similarly, potential adverse impacts on offshore commercial and sports fishing can be mitigated by ensuring that the same advance notice that would be given to private land owners and affected Government agencies in the on-land LHAs (outlined in Section 2.2.1.2, p. 2-52 of the Draft EIS) will be given to offshore users, particularly the California Sports Fishing Association and the various commercial fishing organizations and associations. With sufficient advance notice of activation of the offshore LHAs, fishing boats can schedule their trips to avoid the LHA. Efficient and timely coordination between the TMD Extended Test Range program, the U.S. Air Force, and personnel on the patrol boats and helicopters who actually clear the offshore LHAs is critical.

Minimizing launches during the prime commercial fishing season, from October through January, and avoiding launches on the weekends during the summer months for the sportfishing industry would also mitigate impacts.

SOCIOECONOMICS – VANDENBERG AFB

Page 4-207, para. 8, change the first sentence to read:

A total of **683** rooms is available . . .

BIOLOGICAL RESOURCES – SAN CLEMENTE ISLAND

Page 4-213, para. 7 should read:

Proposed construction activities on San Clemente Island would involve the upgrade of existing dirt roads and would result in the removal of vegetation. However, the impact on flora is expected to be not significant since existing road beds are disturbed habitat and the total amount of vegetation removed would be a small fraction of the total vegetation on San Clemente Island. (U.S. Department of the Navy, 1990b)

Page 4-214, para. 4 should read:

HCl, which is emitted during missile launches, is known to cause leaf injury to plants as a result of launching very large flight vehicles such as the space shuttle. **However, the USASSDC conducted an environmental monitoring program for the first launch of the Strategic Target System booster in February 1993. The environmental monitoring program included vegetation sampling and marine surveys for prelaunch and postlaunch conditions. Monitoring results indicated little effects from the launch and confirmed the conclusion that no significant impacts would result from the launch of the booster.** The amount of HCl produced by the Strategic Target Systems booster is similar to the **amount produced by the** largest proposed TMD booster; therefore, the potential impact on vegetation from TMD launches is expected to be not significant. **(U.S. Army Space and Strategic Defense Command, 1993g)**

Page 4-214, para. 5 should read:

The removal of vegetation for the modification of existing roads could reduce the amount of foraging habitat at San Clemente Island but would not measurably reduce the overall food source availability. The noise and increased human activity from construction could startle birds and other wildlife in the area, but impacts are expected to be not significant as the construction would be minimal and would **occur** at sites regularly disturbed by transportation. (Naval Air Station, North Island, 1993b)

Page 4-215, para. 1 should read:

. . . therefore provides little forage resource and no nesting habitat. Impacts on the San Clemente sage sparrow and island night lizard found on the Harding launch site are expected to be not significant after mitigation. The probability of debris striking an endangered species is remote. Impacts due to normal launch activities are anticipated to be not significant. (Naval Air Station North Island, 1993b)

Page 4-215, add before Cumulative Impacts:

Potential impacts on wildlife from EMR are discussed on page 4-24 in Section 4.1.1.3.

Page 4-215, para. 6 should read:

Support of the existing captive breeding program for the San Clemente Island loggerhead shrike would help to mitigate any inadvertent disturbance of sensitive shrike habitat. The loggerhead shrike would be less impacted if testing did not occur during March through May, the shrike nesting season. Prelaunch surveys of the Harding site to determine the presence of night island lizards and San Clemente Island sage sparrows would reduce the potential for impacts on these species. In addition, support of the planned propagation program for threatened and endangered vegetation and native species would be instrumental in reseeding any areas damaged by TMD activities. Low-pressure sodium lights should be used during nighttime activities to minimize disruption of breeding or nesting wildlife. (Naval Air Station North Island, 1993b)

CULTURAL RESOURCES – SAN CLEMENTE ISLAND

Page 4-216, add at the end of para. 2:

All areas affected by the ground impact of flight hardware as a result of a launch mishap will be cleared of all recoverable debris in accord with measures that mitigate adverse effects on cultural resources stipulated in the MOA to be developed by the California SHPO, the ACHP, concerned American Indian groups, and Naval Air Station North Island.

Page 4-216, para. 3 should be replaced with:

Potential effects on cultural resources located within the ROI could occur as a result of debris from launch or flight termination striking the ground where archaeological sites are present, disturbance during debris-recovery operations, and unauthorized collection of artifacts by an increased number of construction and launch activity personnel.

Page 4-216, delete paras. 4 and 5.

Page 4-216, para. 7, line 3, add the following:

. . . the California SHPO**, NAS North Island, concerned American Indian groups,** and the ACHP . . .

HEALTH AND SAFETY – SAN CLEMENTE ISLAND

Page 4-221, para. 2 should be replaced with:

Defensive missile launch activities occurring at San Clemente Island will require the establishment of a LHA for each launch operation. The LHA provides a designated hazard area which is cleared of people based upon the potential to be affected by missile debris resulting from an unsuccessful launch. Figure 2.2-27 presents the size of the planning LHA for potential launch sites, which have been determined based upon a composite of potential mission profiles and vehicle performance characteristics. However, for each mission a mission-specific LHA will be established based upon the actual mission flight profile and system performance.

At San Clemente Island, the size of the mission-specific LHA is approved by the San Clemente Island Safety Office based upon mission-specific parameters and the capabilities of the San Clemente Island and Test Range instrumentation. The size of a mission-specific LHA can be considerably smaller than the planning LHA and will in all cases be fully contained within the planning LHA. As discussed in Section 4.1.1.7, the LHA represents the area which bounds all potential debris impact points in the event of a launch pad or near-launch anomaly or termination. For purposes of planning for TMD defensive missile activities at San Clemente Island a preliminary LHA radius of 3,658 m (12,000 ft) has been assumed, which would encompass all possible mission-specific LHAs. Since implementation of LHA procedures allows management of the population which can be affected by a launch, hazards associated with unplanned flight termination are considered to be not significant.

LAND USE – SAN CLEMENTE ISLAND

Page 4-222, add after para. 6:

The location of the TMD-GBR radar unit on San Clemente Island has not been finalized. Electromagnetic radiation safety considerations would dictate its placement, and the size of the personnel safety zone would determine the potential for any land use impacts. TMD-GBR system design and operation would reduce any impact of the electromagnetic fields on fuel ignition hazards, prevent any inadvertent detonation of ordnance, and reduce interference with critical medical electronic devices such as cardiac pacemakers. A safety keep-out zone around the radar would be in effect and noted whenever a warning beacon located on top of the radar is illuminated. This would occur whenever the radar is in operation. The safety zone would extend out to a distance of 100 m (330 ft) in front of the antenna equipment unit. There would be no adverse effects to television and radio reception or other public communication systems because these systems operate in different frequencies and would be at sufficient distances from the radar location.

Page 4-223, para. 1 should read:

The establishment and activation of a LHA **for the GAR, Harding, or the abandoned airfield launch site** would require the temporary clearance of the adjoining Pacific Ocean **on either side of San Clemente Island (see figure 2.2-27)**. Although evacuations have taken place in the past during missile testing (Naval Air Station North Island, 1993b)**, t**emporary clearance of this LHA **up to four times per month over the life of the program** would have an **adverse** impact on recreational and commercial use of these waters, **particularly to** the commercial and sportfishing industry. **Since the LHA straddles the entire center portion of the island, temporary clearance of the LHA would also have an impact on the operational use of the island that would be problematic.** However, since the LHA would be activated **for less than 60 minutes and with implementation of the mitigation measures identified as follows, particularly adequate prior notice to the sportfishing and commercial fishing industry**, the impacts on water (land) use are considered not significant.

Page 4-223, add after para. 4:

Impacts on both sportfishing and commercial fishing in the deeper waters off San Clemente Island under the booster drop zones are considered not significant. Although fishing boats would be cleared from the offshore booster drop zones, the probability that significant numbers of boats would be in the zone is considered low, given that the distribution of fish changes and that the booster drop zone changes, depending on launch point, heading, and azimuth. Moreover, sufficient advance notice would be given of the launches that both sportfishing and commercial boats would have time to schedule their trips and fishing areas.

Page 4-223, para. 5, line 11, replace " . . . agency is the . . . ," with:

. . . agency is the **State Coastal Commission**. It is anticipated . . .

Page 4-223, para. 6 should read:

Since the TMD Extended Test Range program, including the Army TACMS program, would use existing facilities and both programs' testing schedules must be approved by the Naval Air Station, North Island Safety Office, the possibility of significant adverse, incremental cumulative land use impacts **on San Clemente Island** is avoided.

Page 4-223, add after para. 6:

However, the potential does exist for cumulative, incremental impacts on offshore water (land) uses, particularly commercial fishing, depending on which launch site is eventually chosen for the program.

With current, ongoing offshore closures due to existing U.S. Navy programs, the cumulative effect of the TMD Extended Test Range program's potential of 100 test flights between 1996 and 2000, for an average of just under 17 per year, has the potential to significantly increase the number of offshore water area closures and evacuations off the northern end of San Clemente Island. Without implementation of the mitigation measures outlined as follows, further restrictions could be considered significant in a cumulative context.

Proposed U.S. Navy ship shock tests, in which ordnance is exploded underwater to test hull strength, would be conducted in different areas off the southern California coast. The likelihood that the TMD Extended Test Range booster drop areas would be over the same

stretches of open water and affect the same aquatic life is very remote. Similarly, the economic effects on the area's fishing industry are believed to be not significant.

Page 4-224, replace para. 1 with:

No adverse land use impacts are anticipated on San Clemente Island itself. However, advance notices of activation of the LHA, particularly to the commercial and sportfishing industries, would help mitigate the adverse impacts on users of the waters around San Clemente Island, especially the potential for significant cumulative impacts. In particular, ensuring that sufficient advance notice is given to the California Sports Fishing Association and the various commercial fishing organizations and associations is very important. With sufficient advance notice of activation of the offshore LHAs, fishing boats can schedule their trips to avoid the LHA. Efficient and timely coordination between the TMD Extended Test Range program, the U.S. Navy, and personnel on the patrol boats and helicopters who actually clear the offshore LHAs is also critical.

Minimizing launches during the prime commercial fishing season, from October through January, and avoiding launches on the weekends during the summer months for the sportfishing industry would also mitigate impacts.

HEALTH AND SAFETY – WESTERN RANGE CANDIDATE TEST AREA FLIGHT CORRIDOR

Page 4-239, replace para. 3 with:

There is the potential for a fire to be started due to impact of debris onto remote areas of the Channel Islands and other off-shore island locations. As part of TMD safety efforts, an emergency response plan will be developed to address response to an island impact; however, due to the small land area represented by islands within the overall water range, the potential for such an impact is considered remote and a not significant hazard.

Additionally, there are numerous offshore platforms along the California coast, particularly near Vandenberg AFB. Vandenberg AFB has negotiated an agreement with platform operators to provide warning of proposed launch operations; however, evacuation is at the discretion of the operator. In the event of an impact, each platform has developed emergency response procedures to respond to damaged equipment, crude oil spills, and other damage effects. As is the case for impacts onto islands, the potential for a debris impact onto a platform is considered to be remote and a not significant hazard.

AIR QUALITY – USAKA

Page 4-241, para. 6 should read:

As described in Section 3.4.1.1, air quality at the USAKA is considered good. Thus, it is expected that background levels will not add significantly to the ambient air concentrations calculated (tables 4.1-7**, 4.1-7a, and 4.1-8)**. Consequently, no significant impacts would be expected from either a normal launch or an unplanned flight termination **of either a representative target missile or a representative defensive missile**, assuming typical missile launch mitigation measures are followed.

Page 4-241, para. 7 should read:

The Final Supplemental EIS for Proposed Actions at the USAKA (U.S. Army Space and Strategic Defense Command, 1993b) provides further assurance of the conclusion of no significant impact. In this document several potential levels of activities are analyzed. In this analysis, the emissions for a typical launch (i.e., one strategic launch vehicle [SLV]) are assumed to be 7,145 kg (15,752 lb) of CO, 5,178 kg (11,416 lb) of HCl, and 9,273 kg (20,444 lb) of Al_2O_3. These values are **2.8, 2.6, and 3.8** times the amounts of the same pollutants that are emitted by the **Castor IV, which is a large representative rocket motor for TMD target missiles** (table 4.1-4). In the USAKA Supplemental EIS (U.S. Army Space and Strategic Defense Command, 1993b) the refined air quality computer model REEDM, which is specifically designed for rocket launches, was used to predict the maximum short-term concentrations of these pollutants. For the High Level of Activity scenario the simultaneous launch of six SLVs was assumed. This corresponds to a release of roughly **17** times the CO, **15** times the HCl, and **23** times the Al_2O_3 emitted from **a Castor IV** rocket motor. Even with such large amounts of pollutant being emitted, the results from the REEDM computer model predicted that no NAAQS or guidance levels would be exceeded (U.S. Army Space and Strategic Defense Command, 1993b, for details). Clearly, the much smaller emissions from a TMD target or defensive missile would be expected to cause a not significant impact. (U.S. Army Space and Strategic Defense Command, 1993b)

Page 4-242, para. 3 should read:

Using the smallest ratio (i.e., that of HCl emissions) for comparison, the emissions from the launches of 28 SLVs per year is equivalent to the emissions from **more than 72 Castor IV** rocket motors or more than **1.5** times the total emission from 48 **Castor IV** motors. Therefore, cumulative impacts would be expected to be not significant from the launching of 48 TMD missiles per year.

BIOLOGICAL RESOURCES – USAKA

Page 4-244, para. 2, line 4, should read:

. . . be not **significant even under** the intermediate level of activity alternative.

CULTURAL RESOURCES – USAKA

Page 4-245, para. 2, line 4, should read:

. . . cultural **resources even under** the intermediate level of activity alternative. The potential for significant . . .

Page 4-245, before para. 3, insert:

If possible, in all cases where facilities and resources conflicts occur, site avoidance by redesigning the location of the facility or activity is desirable. However, if avoidance is infeasible, mitigation measures would be warranted.

Vandalism of sites resulting from increased visitors and residents on the various islands should be mitigated through fencing or data recovery (i.e., site excavation, analysis, and

documentation) if fencing proves ineffective (U.S. Army Space and Strategic Defense Command, 1993b).

With the commitment to perform these mitigation measures, all impacts on cultural resources at the USAKA can be reduced to not significant impacts.

GEOLOGY AND SOILS – USAKA

Page 4-246, para. 3, line 4, should read:

. . . and reefs) would be not **significant even under** the intermediate level of activity alternative.

HAZARDOUS MATERIALS AND WASTE – USAKA

Page 4-248, para. 1, line 4, should read:

. . . for hazardous materials/waste **under the intermediate level of activity alternative.**

Page 4-249, para. 4, line 4 should read:

. . . not significant **under the intermediate level of activity alternative.**

LAND USE – USAKA

Page 4-250, add after para. 3:

The location of the TMD-GBR radar unit on USAKA has not been finalized. Electromagnetic radiation safety considerations would dictate its placement, and the size of the personnel safety zone would determine the potential for any land use impacts. TMD-GBR system design and operation would reduce any impact of the electromagnetic fields on fuel ignition hazards, prevent any inadvertent detonation of ordnance, and reduce interference with critical medical electronic devices such as cardiac pacemakers. A safety keep-out zone around the radar would be in effect and noted whenever a warning beacon located on top of the radar is illuminated. This would occur whenever the radar is in operation. The safety zone would extend out to a distance of 100 m (330 ft) in front of the antenna equipment unit. There would be no adverse effects to television and radio reception or other public communication systems because these systems operate in different frequencies and would be at sufficient distances from the radar location.

Page 4-250, para. 4, line 3, should read:

. . . concluded that impacts to land use would be significant **under the intermediate level of activity alternative.** This significant impact . . .

NOISE – USAKA

Page 4-253, para. 1, line 1, should read:

. . . concluded that impacts to noise would be not **significant even under** the intermediate level of activity alternative.

SOCIOECONOMICS – USAKA

Page 4-254, para. 6, should read:

Under the no-action and low-level alternatives, there could be a shortage of Unaccompanied Personnel Housing (UPH) units meeting U.S. Army standards. However, TMD would house more personnel in UPH than the preferred one-person-per-unit standard, as currently occurs during peak periods. Also, construction of a net increase of 264 UPH units on Kwajalein is proposed subject to Congressional funding (U.S. Army Space and Strategic Defense Command, 1993b). This new construction will result in not significant impacts in UPH units at the USAKA. The deficit of family housing at the USAKA will not affect TMD activities because mission and support personnel would be unaccompanied and would require less space than employees with family members. Because of this, TMD activities would result in not significant impacts.

INFRASTRUCTURE AND TRANSPORTATION – USAKA

Page 4-255, replace paras. 3 and 4 with the following:

Cumulative Impacts

The primary impact on the wastewater system results from increased loading generated by the additional population projected to use the facilities. The additional population using the wastewater system under the low level of activity would generate an additional 295,260 Lpd (78,000 gpd) of flow (based on the observed 560 Lpcd [148 gpcd] of waste contribution at the treatment plant) over that for the no-action alternative. Total sewage flow would reach 1,949,481 Lpd (515,000 gpd), well below the plant's peak capacity of 2,271,198 Lpd (600,000 gpd). The organic capacity of the wastewater treatment plant would continue to be adequate, assuming sewage strength similar to that recorded during the past year, resulting in a not significant impact (U.S. Army Space and Strategic Defense Command, 1993b).

Mitigation Measures

Since all impacts have been identified as not significant, no mitigation measures are necessary.

WATER RESOURCES – USAKA

Page 4-256, para. 1, line 2, should read:

. . . not **significant even under** the intermediate level of activity.

AIR QUALITY – WAKE ISLAND

Page 4-257, para. 2 should read:

As described in Section 3.4.2.1, air quality at Wake Island is considered good, although ambient air quality data are not available. Thus, it is expected that background levels will not add significantly to the ambient air concentrations calculated (tables 4.1-7**, 4.1-7a, and 4.1-8)**. Consequently, impacts would be expected to be not significant from either a normal launch or an unplanned flight termination **of either a representative target missile or a representative defensive missile.**

LAND USE – WAKE ISLAND

Page 4-264, add after para. 2:

The location of the TMD-GBR radar unit on Wake Island has not been finalized. Electromagnetic radiation safety considerations would dictate its placement, and the size of the personnel safety zone would determine the potential for any land use impacts. TMD-GBR system design and operation would reduce any impact of the electromagnetic fields on fuel ignition hazards, prevent any inadvertent detonation of ordnance, and reduce interference with critical medical electronic devices such as cardiac pacemakers. A safety keep-out zone around the radar would be in effect and noted whenever a warning beacon located on top of the radar is illuminated. This would occur whenever the radar is in operation. The safety zone would extend out to a distance of 100 m (330 ft) in front of the antenna equipment unit. There would be no adverse effects to television and radio reception or other public communication systems because these systems operate in different frequencies and would be at sufficient distances from the radar location.

ADVERSE ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED

Page 4-279, para. 3, line 5 should read:

Also at the USAKA **and Utah sites**, the destruction and renovation of Cold War-era facilities would be considered a significant impact.

Page 5-5, add:

County of Santa Barbara, Planning and Development, 1994. Comments received regarding the *Draft Theater Missile Defense Extended Test Range Environmental Impact Statement,* 21 March.

Page 5-9, add:

Governor's Office of Planning and Budget, 1994. 1994 Economic Report to the Governor, Salt Lake City, Utah, 6 January.

Page 5-15, add:

Naval Air Station North Island, 1994. Comments received regarding the *Draft Theater Missile Defense Extended Test Range Environmental Impact Statement,* 4 April.

Page 5-18, add:

Pascale, Charles A., 1974. Water Resources of Walton County, Florida, U.S. Geological Survey Report of Investigations No. 76.

Page 5-19, add:

Robison, M.H., 1993. ***The Utah Multiregional Input-Output (UMRIO) Modeling Project: Technical Documentation***, March.

Page 5-23, add:

U.S. Army Space and Strategic Defense Command, 1993g. Environmental Monitoring Program for the 26 February 1993 Launch of the Strategic Target System, Pacific Missile Range Facility, Kauai, Hawaii, 2 July.

Page 5-25, add:

U.S. Department of Agriculture, 1994. Comments received from the Forest Service regarding the ***Draft Theater Missile Defense Extended Test Range Environmental Impact Statement***, 22 March.

Page 5-33, add:

U.S. Department of the Interior, 1989. ***Proposed Resource Management Plan Amendment/Final Environmental Impact Statement for McGregor Range***, Bureau of Land Management, Las Cruces District, May.

Page 5-33, add:

U.S. Department of the Interior, 1994a. Comments received from the U.S. Fish and Wildlife Service, Albuquerque, New Mexico, regarding the ***Draft Theater Missile Defense Extended Test Range Environmental Impact Statement***, 14 March.

U.S. Department of the Interior, 1994b. Comments received from the U.S. Fish and Wildlife Service, Region 1, Portland, Oregon, regarding the ***Draft Theater Missile Defense Extended Test Range Environmental Impact Statement***, 7 April.

U.S. Department of the Interior, 1994c. Comments received from the U.S. Department of the Interior, Office of the Secretary, Washington, DC, regarding the ***Draft Theater Missile Defense Extended Test Range Environmental Impact Statement***, 10 June.

Page 5-35, delete:

U.S. Geological Survey, 1977. Water Resources of Okaloosa County and Adjacent Areas, Florida Surface Resources Investigations.

Page 5-35, add:

Utah Tourism Research Group, 1992. ***Rural Utah Tourism: Issues, Trends, Financing, Infrastructure, Recommendations for the Future***, April.

Section 6.0, replace with:

A

agriculture
3-62, 3-77, 3-97, 3-138, 3-170, 3-179, 3-196, 3-216
Air Force Regulation (AFR)
2-58, 2-74, 2-86, 3-269, 3-268, 4-129, 4-146, 4-201, 4-263
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2-69, 4-184
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3-6, 3-7, 4-18, 4-191, 4-217
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3-2, 3-3, 3-10, 3-69, 3-71, 3-111, 3-112, 3-114, 3-133, 3-134, 3-157, 3-158, 3-161, 3-178, 3-181, 3-208, 4-4, 4-9
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3-53, 3-83, 3-84, 3-132, 3-139, 3-145, 3-204, 3-258, 4-137, 4-156

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3-117, 3-123, 3-126, 3-136, 4-131, 4-147
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2-52, 3-56, 3-96, 3-97, 3-109, 3-110, 4-92, 4-107, 4-108
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3-6, 3-7, 3-157, 3-177, 3-178, 3-208, 4-6, 4-18, 4-125, 4-142, 4-165, 4-168, 4-189, 4-213, 4-215, 4-236, 4-237
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3-32, 3-34
Council on Environmental Quality (CEQ)
S-1, 1-1, 1-3, 1-4, 1-5, 4-1

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3-18, 3-19, 3-22, 3-31, 3-58, 3-73, 3-74, 3-92, 3-93, 3-117, 3-118, 3-120, 3-123, 3-135, 3-136, 3-164, 3-165, 3-167, 3-187, 3-188, 3-189, 3-190, 3-195, 3-211, 3-212, 3-214, 3-216, 3-233, 3-238, 3-239, 3-240, 3-262, 3-263, 4-5, 4-21, 4-22, 4-23, 4-55, 4-56, 4-58, 4-75, 4-76, 4-78, 4-94, 4-123, 4-124, 4-137, 4-140, 4-141, 4-142, 4-155, 4-160, 4-164, 4-165, 4-172, 4-173, 4-194, 4-195, 4-202, 4-213, 4-214, 4-215, 4-218, 4-236, 4-243, 4-244, 4-258, 4-259, 4-279

W

wastewater
S-5, 2-98, 3-21, 3-49, 3-51, 3-66, 3-82, 3-131, 3-144, 3-175, 3-204, 3-222, 3-255, 3-259, 3-274, 4-50, 4-68, 4-88, 4-135, 4-153, 4-185, 4-208, 4-227, 4-255, 4-268, 4-281
water supply
3-51, 3-53, 3-109, 3-110, 3-131, 3-177, 3-206, 3-223, 3-258, 4-52, 4-71, 4-90, 4-187, 4-210, 4-229
Wilkes
3-261, 3-263, 3-270, 3-271, 3-272, 3-275, 4-258

Page C-9, add after para. 10:

The Marine Protection, Research, and Sanctuaries Act of 1972 (33 USC 1401 et seq.) establishes Congressional policy to regulate the dumping of all types of materials into ocean waters and to prevent or strictly limit the dumping into ocean waters of any material which would adversely affect human health, welfare, or amenities or the marine environment, ecological systems, or economic potentialities. The purpose of the act is to regulate the transportation of material from inside or outside the United States for the purpose of dumping the material in the territorial sea or the contiguous zone of the United States.

Page E-42, para. 4 should read:

This reference atmosphere is a statistical model of the earth's atmosphere derived from upper air measurements over WSMR. Generally, range reference atmospheres contain tabulations for monthly and annual means, standard deviations, and skewness coefficients for windspeed, pressure, temperature, density, water vapor pressure, virtual temperature, and dewpoint temperature; the means and standard deviations for the zonal and meridional wind components; and the linear correlation coefficient between the wind components (Meteorology Group Range Commanders Council, 1983). As no relative humidity data are contained in the range reference atmosphere, they were derived from tables that relate relative humidity to air and dewpoint temperature (Chemical Rubber Company, Inc., 1991). For purposes of the analysis, the monthly averages for **each of the 12 months of the year** were used as input to the REEDM computer program.

Page E-42, para. 5 should read:

To model a launch failure scenario in which the missile burns on the pad, the REEDM computer model requires as input the total mass of rocket propellant; the burn rate of the propellant; the heat content of the propellant; the mass fractions of HCl, CO_2, CO, and Al_2O_3 in the combustion gasses; and the initial radius of the ground cloud. For the purposes of analysis the following values were used:

total mass	**10,909 kilograms (kg) (24,050 pounds [lb])**
burn rate	117 kg per second (258 lb per second)
heat content	1,000 calories per gram **(1,800 BTU per lb)**
mass fraction of HCl	**0.2143**
mass fraction of CO_2	**0.0392**
mass fraction of CO	**0.2766**
mass fraction of Al_2O_3	**0.2732**
initial radius of ground cloud	**14 meters (46 feet)**

Page E-43, add after para. 2:

For the Eglin AFB-area REEDM calculations, due to the flatness of the local terrain, a flat topography was used to approximate the local topography for both Santa Rosa Island and Cape San Blas.

The requisite meteorological inputs for the REEDM computer program were obtained from the Reference Range Atmosphere for Eglin AFB (Meteorology Group Range Commanders Council, 1985b).

To model a representative defensive missile, for purposes of analysis the following values were used:

total mass of propellant	**728 kg (1605 lb)**
burn rate	**27.6 kg per second (60.8 lb per second)**
heat content	**441.4 calories per gram**
mass fraction of HCl	**0.2115**
mass fraction of CO_2	**0.0001**
mass fraction of CO	**0.2078**
mass fraction of Al_2O_3	**0.3589**
initial radius of ground cloud	**1 meter (3.3 feet)**

The values for the total mass and mass fractions were derived from the "A" representative defensive missile configuration for which the TSCREEN PUFF modeling was conducted (see table 4.1-7a). The other values were obtained from Nelson (1994) and Stutzman (1994) and derived from the database information contained within REEDM for a Minuteman II missile (U.S. Department of the Air Force, 1990).

Results from the computations are given in Section 4.2.1.1.

Page G-5, table G-2: Table has been revised as shown.

Page G-7, table G-4: Table has been revised as shown.

Page G-27, add table G-10a.

Page G-28, table G-11: Table has been revised as shown.

Page G-29, table G-12: Table has been revised as shown.

Page G-30, table G-13: Table has been revised as shown.

Page G-46, add:

Naval Air Warfare Center, Weapons Division, 1994. Comments received from Naval Air Warfare Center,
Weapons Division, regarding the *Draft Theater Missile Defense Extended Test Range Environmental Impact Statement,* 14 April

U.S. Department of Agriculture, 1994. Comments received from the U.S. Forest Service regarding the
***Draft Theater Missile Defense Extended Test Range Environmental Impact Statement,* 22 March.**

Page L-1, add under Federal Agencies, U.S. Air Force, Eglin Air Force Base:

Debby Atencio, Natural Resources Branch

Table G-2: Sensitive Wildlife Known or Expected to Occur on White Sands Missile Range and Fort Bliss McGregor Range (Page 1 of 2)

Scientific Name	Common Name	State Status	Federal Status
Mammals			
Canis lupus baileyi	Mexican gray wolf	E	E
Cynomys ludivicianus arizonensis	Arizona black-tailed prarie dog	S	C
Euderma maculatum	Spotted bat	E	C
Eumops perotis californicus	Greater western mastiff bat	S	C
Eutamias quadrivittatus australis	Organ Mountain Colorado chipmunk	S	C
Myotis lucifugus occultus	Occult little brown bat	S	C
Myotis velifer brevis	Southwestern cave bat	–	C
Neotoma micropus leucophaeus	White Sands woodrat	S	C
Ovis canadensis mexicana	Desert bighorn sheep	E	–
Sigmodon fulviventer goldmani	Hot Springs cotton rat	S	C
Vulpes velox	Swift fox	–	C
Zapus hudsonius luteus	New Mexico meadow jumping mouse	E	C
Birds			
Accipiter gentilis	Northern goshawk	S	C
Ammodramus bairdii	Baird's sparrow	E	C
Ammodramus savannarum annolagus	Arizona grasshopper sparrow	E	–
Buteo regalis	Ferruginous hawk	S	C
Buteogallus anthracinus	Common black hawk	E	–
Charadrius alexandrinus nivosus	Western snowy plover	S	C
Charadrius montanus	Mountain plover	S	C
Charadrius melodus circumcinctus	Piping plover	E	T
Empidonax traillii extimus	Southwestern willow flycatcher	E	PE
Falco femoralis septentrionalis	Northern aplomado falcon	E	E
Falco peregrinus anatum	American peregrine falcon	E	E
Falco peregrinus tundrius	Arctic peregrine falcon	E	T
Grus americana	Whooping crane	E	E
Haliaeetus leucocephalus	Bald eagle	C	E
Lanius ludovicianus migrans	Migrant loggerhead shrike	S	C
Numenius americanus	Long-billed curlew	S	C
Passerina versicolor	Varied bunting	E	–
Phalacrocorax olivaceus	Olivaceous cormorant	E	–
Plegadis chihi	White-faced ibis	S	C
Sterna antillarum athalassos	Interior least tern	E	E
Strix occidentalis lucida	Mexican spotted owl	S	T
Vireo bellii var. *pusillus*	Least Bell's vireo	E	–
Vireo vicinior	Gray vireo	E	–
Reptiles			
Phrynosoma cornutum	Texas horned lizard	S	C
Fish			
Cyprinodon tularosa	White Sands pupfish	E	C

Table G-2: Sensitive Wildlife Known or Expected to Occur on White Sands Missile Range and Fort Bliss McGregor Range (Page 1 of 2)

Scientific Name	Common Name	State Status	Federal Status
Invertebrates			
Ashmunella harrisi	Land snail	S	–
Ashmunella kochi caballoensis	Land snail	S	–
Ashmunella kochi kochi	Land snail	S	–
Ashmunella kochi sanandresensis	Land snail	S	–
Ashmunella salinasensis	Land snail	S	–
Orehelix socorroensis	Oscuro Mountain land snail	S	–

– – Not listed

C – Candidate

T – Threatened

E – Endangered

S – Sensitive (state candidate)

PE – Proposed Endangered (Federal)

Source: New Mexico Department of Natural Resources, 1985; New Mexico Department of Game and Fish, 1990; U.S. Fish and Wildlife Service, 1989a;b; 1990.

Table G-4: Sensitive Species Known or Expected to Occur at Fort Wingate Depot Activity and in Booster Impact Zones

		State Status	Federal Status
Wildlife			
Accipiter gentilis apache	Northern goshawk	S	C2
Empidonax trailii extimus	Southwestern willow flycatcher	E	PE
Haliaeetus leucocephalus	Bald eagle	C	E
Mustela nigripes	Black-footed ferret	E	E
Strix occidentalis lucida	Mexican spotted owl	S	T
Vireo vicinior	Gray vireo	E	–
Plants			
Aletes sessiliflorus	Sessile-flowered false carrot	Priority 1	
Allium gooddingii	Goodding's onion	–	C1
Astragalus accumbens	Zuni milk vetch	–	C3
Astragalus kentrophyta neomexicanus	Milk vetch	Priority 1	
Astragalus micromerius	Chaco milk vetch	Priority 1	
Astragalus mollissimus mathewsii	Milk-vetch	Priority 1	
Buteo regalis	Ferruginous hawk	S	C2
Charadrius montanus	Mountain plover	S	C2
Clematis hirsutissima var. arizonica	Arizona leather flower	–	C1
Erigeron acomais	Acoma fleabane	–	C2
Erigeron rhizomatus	Zuni fleabane	–	T
Erigeron sivinskii	Sivinski fleabane	–	C2
Euderma maculata	Spotted bat	E	C2
Falco peregrinus	Peregrine falcon	E	E
Mammillaria wrightii wrightii	Wright's pincushion cactus	E	–
Myotis lucifugus occultus	Occult little brown bat	S	C2
Pantosteus discobolus yarrowi	Zuni bluehead sucker	–	C2
Pediocactus papyracanthus	Grama grass cactus	SP	C2
Phacelia serrata	Cinder cone phacelia	–	C2
Phrynosoma cornutum	Texas horned lizard	S	C2
Piperia unalescenis	Orchid	PSE	–
Sclerocactus mesae-verdae	Mesa Verde cactus	–	T

– – Not Listed
E – Endangered
C – Candidate
C1 – Substantial information on file on biological vulnerability and threat indicates that proposing to list these species as endangered or threatened is appropriate.
C2 – Information indicates that proposing to list these species is possibly appropriate, though more data on vulnerability and threat is necessary.
C3 – Candidate species is not subject to identifiable threat; further research or change in land use may cause reevaluation for possible inclusion in catergory 1 or 2.
T – Threatened
SP – State protected
PE – Proposed endangered (Federal)
PSE – Proposed state endangered
S – Sensitive

Source: New Mexico Department of Game and Fish, 1985; New Mexico Native Plants Advisory Committee, 1984; U.S. Department of the Interior, 1993b; U.S. Department of Agriculture, 1994.
Note: There might be potential black-footed ferret habitat on FWDA which may be historic range; however, no black-footed ferret have been recorded in recent history.

Table G-10a: Marine Mammals Known to Occur in the Gulf of Mexico

Balaena glacialis	**Right whale**
Balaenoptera acutorostrata	**Minke whale**
Balaenoptera borealis	**Sei whale**
Balaenoptera edeni	**Bryde's whale**
Balaenoptera musculus	**Blue whale**
Balaenoptera physalus	**Finback whale**
Delphinus delphis	**Common dolphin**
Eubalaena glacialis	**Northern right whale**
Feresa attenuata	**Pygmy killer whale**
Globicephala macrorhyncus	**Short-finned pilot whale**
Grampus griseus	**Grampus (Risso's dolphin)**
Kogia breviceps	**Pygmy sperm whale**
Kogia simus	**Dwarf sperm whale**
Lagenodelphis hosei	**Fraser's dolphin**
Megaptera novaeangliae	**Humpback whale**
Mesoplodon bidens	**Sowerby's beaked whale**
Mesoplodon densirostris	**Blainville's beaked whale**
Mesoplodon europaeus	**Gervais' beaked whale**
Orcinus orca	**Killer whale**
Peponocephala electra	**Melon-headed whale**
Physeter macrocephalus	**Great sperm whale**
Pseudorca crassidens	**False killer whale**
Stenella attenuata	**Pantropical spotted dolphin**
Stenella coeruleoalba	**Striped dolphin**
Stenella clymene	**Short-snouted spinner**
Stenella frontalis	**Atlantic Spotted dolphin**
Stenella longirostris	**Long-snouted spinner dolphin**
Steno bredanensis	**Rough toothed dolphin**
Trichechus manatus	**West Indian manatee**
Tursiops truncatus	**Atlantic bottlenose dolphin**
Zalophus californianus	**California sea lion**
Ziphius cavirostris	**Cuviers' beaked whale**

2.2 ADDITIONS AND REVISIONS TO THE SUPPLEMENT TO THE DRAFT EIS

The following section contains additions and revisions to the Supplement to the Draft EIS. Modifications provide new information, clarify the analysis, or correct errors. Modifications appear in bold typeface.

Page 2-1, para. 1, line 1, should read:

TMD **system tests** include target . . .

Page 2-1, add to the end of para. 4:

Preliminary flights will be made on WSMR to establish system reliability before any off-range launches occur. The Army will perform comprehensive planning and studies prior to launch to ensure that the launch vehicle can be reliably and safely launched.

Page 2-4, para. 3, line 3, should read:

. . . such as notional flight path, **predicted** day-of-test winds, and . . .

Table G-11: Sensitive Species Known to Occur in Western Offshore Waters (Page 1 of 2)	
Scientific Name	Common Name
Arctocephalus townsendi	Guadalupe fur seal
Balaena glacialis	Black right whale
Balaenoptera acutorostrata	Minke whale
Balaenoptera borealis	Sei whale
Balaenoptera edeni	Bryde's whale
Balaenoptera musculus	Blue whale
Balaenoptera physalus	Fin whale
Berardius bairdii	North Pacific bottle-nosed whale
Callorhinus ursinus	Northern fur seal
Caretta caretta gigas	Loggerhead sea turtle
Chelonia mydas aggassizi	Green sea turtle
Delphinus delphis	Pacific common dolphin
Dermochelys coriacea schlegelii	Leatherback sea turtle
Endomychura hypoleuca	Xantus' murrelet
Enhydra lutris nereis	Southern sea otter
Eretmochelys imbricata bissa	Pacific hawksbill
Eschrichtius robustus	Gray whale
Eumetopias jubatus	Steller sea lion
Feresa attenuata	Pygmy killer whale
Globicephala macrorhynchus	Short-finned pilot whale
Grampus griseus	Risso's dolphin
Kogia breviceps	Pygmy sperm whale
Kogia simus	Dwarf sperm whale
Lagenorhynchus obliquidens	Pacific white-sided dolphin
Larus occidentalis	Western gull
Lepidochelys olivacea	Olive Ridley sea turtle
Lissodelphis borealis	Northern right-whale dolphin
Megaptera novaeangliae	Humpback whale
Mesoplodon carlhubbsi	Arch-beaked whale
Mesoplodon ginkgodens	Ginko-toothed whale
Mesoplodon hectori	Hector's beaked whale
Mesoplodon stejnegeri	Stejneger's beaked whale
Mirounga angustirostris	Northern elephant seal
Oceanodroma melanis	Black storm petrel
Orcinus orca	Killer whale
Phalacrocorax auritus	Double-crested cormorant
Phalacrocorax penicillatus	Brandt's cormorant
Phoca vitulina richardsi	Pacific harbor seal
Phocoena phocoena	Harbor porpoise
Phocoenoides dalli	Dall's porpoise
Physeter catodon	Sperm whale
Pseudorca crassidens	False killer whale
Stenella attenuata	Pantropical spotted dolphin
Stenella coeruleoalba	Striped dolphin

Table G-11: Sensitive Species Known to Occur in Western Offshore Waters (Page 1 of 2)	
Scientific Name	Common Name
Stenella longirostris	Long-snouted spinner dolphin
Steno bredanensis	Rough-toothed dolphin
Tursiops truncatus	Bottle-nosed dolphin
Zalophus californianus	California sea lion
Ziphius cavirostris	Goose-beaked whale

Table G-12: Sensitive Species Known to Occur on San Nicolas Island

Scientific Name	Common Name	Status	
		State	Federal
Plants			
Aphanisma blitoides	Channel Island aphanisma	–	C2
Astralagus traskiae	Trask's milk vetch	R	C2
Calystegia macrostegia amplissima	Southern island morning glory	–	C2
Cryptantha traskiae	Trask's cryptantha	–	C2
Dithyrea maritima	Beach spectacle pod	T	C1
Dudleya virens	Bright green dudleya	T	C2
Eriogonum grande var. *timorum*	San Nicolas Island buckwheat	E	C2
Orobanche parishii brachyloba	Short-lobed broomrape	–	C2
Birds			
Charadrius alexandrinus nivosus	Western snowy plover	SSC	T
Falco peregrinus anatum	American peregrine falcon	E	E
Larus occidentalis	Western gull	*	*
Pelecanus occidentalis californicus	Brown pelican	E	E
Phalacrocorax penicillatus	Brandt's cormorant	*	*
Marine Reptiles and Mammals			
Coelus globosus	Globose dune beetle	–	C2
Coelus pacificus	Channel Island dune beetle	–	C2
Enhydra lutris nereis	Southern sea otter	–	T
Micrarionta feralis	San Nicolas Island sea snail	–	C2
Micrarionta opuntia	Pricklypear island snail	–	C2
Mirounga angustirosis	Northern elephant seal	–	P
Phoca vitulina	Harbor seal	–	P
Storkia clementina	San Clemente Island blunt-top snail	–	C2
Urocyon littoralis dickeyi	Island fox	T	C2
Xantusia riversiana	Island night lizard	SSC	T
Zalophus californianus	California sea lion	–	P

– Not listed
T – Threatened
C1 – Candidate species with sufficient information to support listing as threatened or endangered
C2 – Information indicates that proposing to list these species is possibly appropriate, though more data on vulnerability and threat is necessary.
SSC – Species of special concern
E – Endangered
P – Protected by state or Federal law(s)
R – Rare
*Protected under the Migratory Bird Treaty Act, major rookeries on the island
Source: U.S. Department of the Air Force, 1991a; Naval Air Warfare Center, Weapons Division, 1994.

Table G-13: Sensitive Species Known to Occur at Vandenberg Air Force Base

Scientific Name	Common Name	Status	
		State	Federal
Wildlife			
Accipiter cooperi	Cooper's hawk	SSC	–
Aimophila ruficeps canescens	California rufous-crowned sparrow	–	C2
Ambystoma californiense	California tiger salamander	–	C2
Amphispiza belli belli	Bell's sage sparrow	–	C2
Athene cunicularia	Burrowing owl	SSC	–
Brachyramphus marmoratus	Marbled murrelet	–	T
Charadrius alexandrinus nivosus	Western snowy plover	SSC	T
Clemmys marmorata pallida	Southwestern pond turtle	–	C2
Dendroica petechia	Yellow warbler	SSC	–
Enhydra lutris nereis	Southern sea otter	–	T
Eremophila alpestris actia	California horned lark	–	C2
Eucyclogobius newberryi	Tidewater goby	SSC	E
Falco peregrinus	Peregrine falcon	E	E
Gasterosteus aculeatus williamsoni	Unarmored three-spine stickleback	E	E
Haliaeetus leucocephalus	Bald eagle	E	E
Icteria virens	Yellow-breasted chat	SSC	–
Lanius ludovicianus	Loggerhead shrike	–	C2
Pelecanus occidentalis californicus	Brown pelican	E	E
Rana aurora	California red-legged frog	–	PE
Sterna antillarum browni	Least tern	E	E
Taxidea taxus	American badger	SSC	–
Thamnophis hammondii	Two-striped garter snake	–	C2
Vireo bellii pusillus	Bell's vireo	E	E
Plants			
Aphanisma blitoides	Aphanisma	–	C2
Arctostaphylos rudis	Shagbark manzanita	–	C1
Cirsium rhothophilum	Surf thistle	–	C1
Cordylanthus rigidus ssp. *littoralis*	Seaside bird's beak	–	C1
Dithyrea maritima	Beach spectacle pod	–	C2
Eriodictyon capitatum	Lompoc yerba santa	R	C1
Layia carnosa	Beach layia	–	E
Monardella undulata fructescens	Curly-leaf monardella	–	C2
Rorippa gambelli	Gambel's watercress	–	E
Scrophularia atrata	Black-flowered figwort	–	C2

– Not listed
SSC – Species of special concern
E – Endangered
T – Threatened
R – Rare
C1 – Substantial on file information on biological vulnerability and threat indicates that proposing to list these species as endangered or threatened is appropriate
C2 – Information indicates that proposing to list these species is possibly appropriate, though more data on vulnerability and threat is necessary
PE – Proposed endangered
Source: U.S. Department of the Air Force, 1989a; 1991a;b; Vandenberg AFB, 1993b.

Page 2-6, after para. 3, add the following new paragraph:

Analysis has been conducted to determine the inherent guidance errors associated with the first-stage flight. The length of the booster impact area was determined from that analysis. Errors would likely be reduced after actual tests are performed from the on-WSMR HERA flight program. The width of the booster impact area is determined almost entirely by wind.

Page 2-6, add to the end of para. 1:

Army TMD testing will not require the installation of any artificial light source in the booster drop zones. Booster and debris recovery will occur during daylight hours.

Page 2-6, para. 3, line 6 should read:

. . . would be approximately **13 kilometers (km) (8.1 miles [mi]) wide and 16.1 km (10 mi) long** (Henderson, 1994). For FWDA . . . would be approximately **6 km (3.7 mi) wide and 16 km (9.9 mi) long**.

Page 2-8, para. 2, line 6 should read:

. . . to the vehicle parked on the road. **The helicopter would be on the ground at the edge of the booster impact area. Wheeled vehicles will not be used for booster recovery off of improved roadways.** The impact area . . .

Page 2-8, para. 2, line 9 should read:

. . . normally would be accomplished with hand tools. **All Army personnel, both military and civilian, would be briefed on cultural resources protection laws and regulations prior to booster recovery operations.** Additional detail . . .

Page 2-9, para. 1, line 5 should read:

. . . the ground. **Control systems would remain pressurized and the destruct ordnance would remain intact.** Weights of . . .

Page 2-11, add to the end of para. 1:

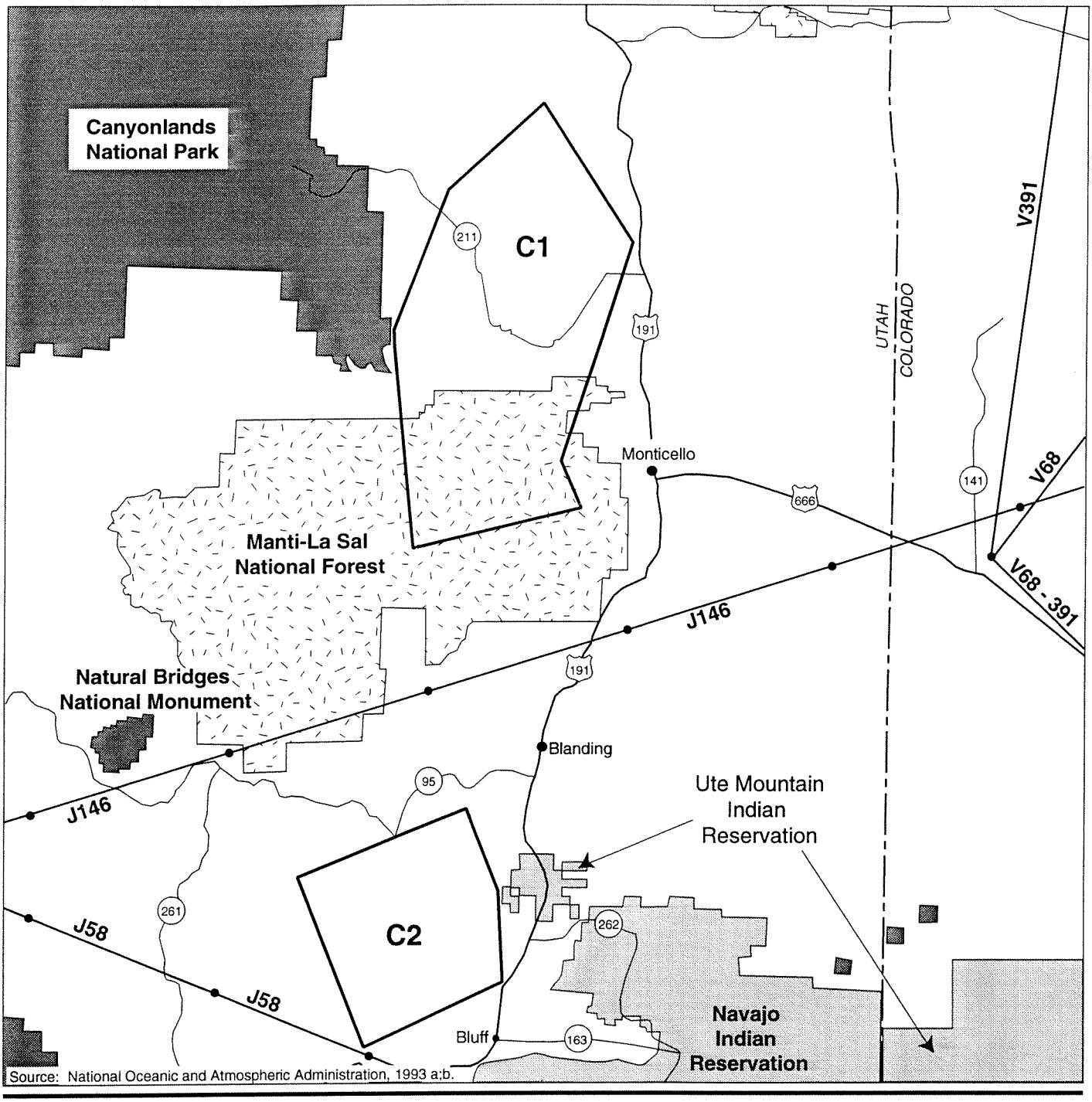
No more than an average of 6 to 10 launches per year within the WSMR Candidate Test Area from either the GRLC or FWDA are anticipated.

AIRSPACE – GRLC

Page 3-2, para. 6 should read:

Figure 3-1 portrays the low-altitude Victor (V) airways and jet routes (J) in the vicinity of the new booster drop zones C1 and C2. The closest routes are J58 and J128 located to the south of the proposed drop zone. No public or private airports are located within the booster drop zones.

Page 3-3, figure 3-1 has been revised as shown.



EXPLANATION

- Interstate
- Other Roads
- State Line
- Booster Drop Zones
- National Park/Monument
- Indian Reservation Lands
- National Forest
- High-altitude Jet Route

0 8 16 Kilometers
0 5 10 Miles

High-Altitude Jet Routes and Low-Altitude Airways

Green River Launch Complex
Booster Drop Zones C1 and C2

Figure 3-1

CULTURAL RESOURCES – GRLC

Page 3-11, para. 2, replace with:

Although none of the identified sites within booster drop zones C1 and C2 are currently listed in or eligible for listing in the National Register of Historic Places (National Register), additional research could determine that some are eligible.

Page 3-11, para. 3, replace with:

Record searches, including a review of National Register-listed properties within the state of Utah, indicate that there are no historic buildings or structures within the ROI.

LAND USE – GRLC

Page 3-17, Figure 3-7, source should read as follows:

U.S. **Department** of the Interior, 1982 a;b.

AIRSPACE – FWDA

Page 3-28, para. 1 should read:

Figure 3-11 portrays the low-altitude airways and jet routes in the vicinity of the new Booster Drop Zone C. These are **J74, V234, and V264**. No public or private airports . . .

BIOLOGICAL RESOURCES – FWDA

Page 3-28, para. 5, line 4, should read:

. . . the allotment, approximately 41,279 **hectares (ha) (102,000 acres [ac])**, supported about . . .

Page 3-29, figure 3-11 has been revised as shown.

Page 3-30, para. 4, line 2, should read:

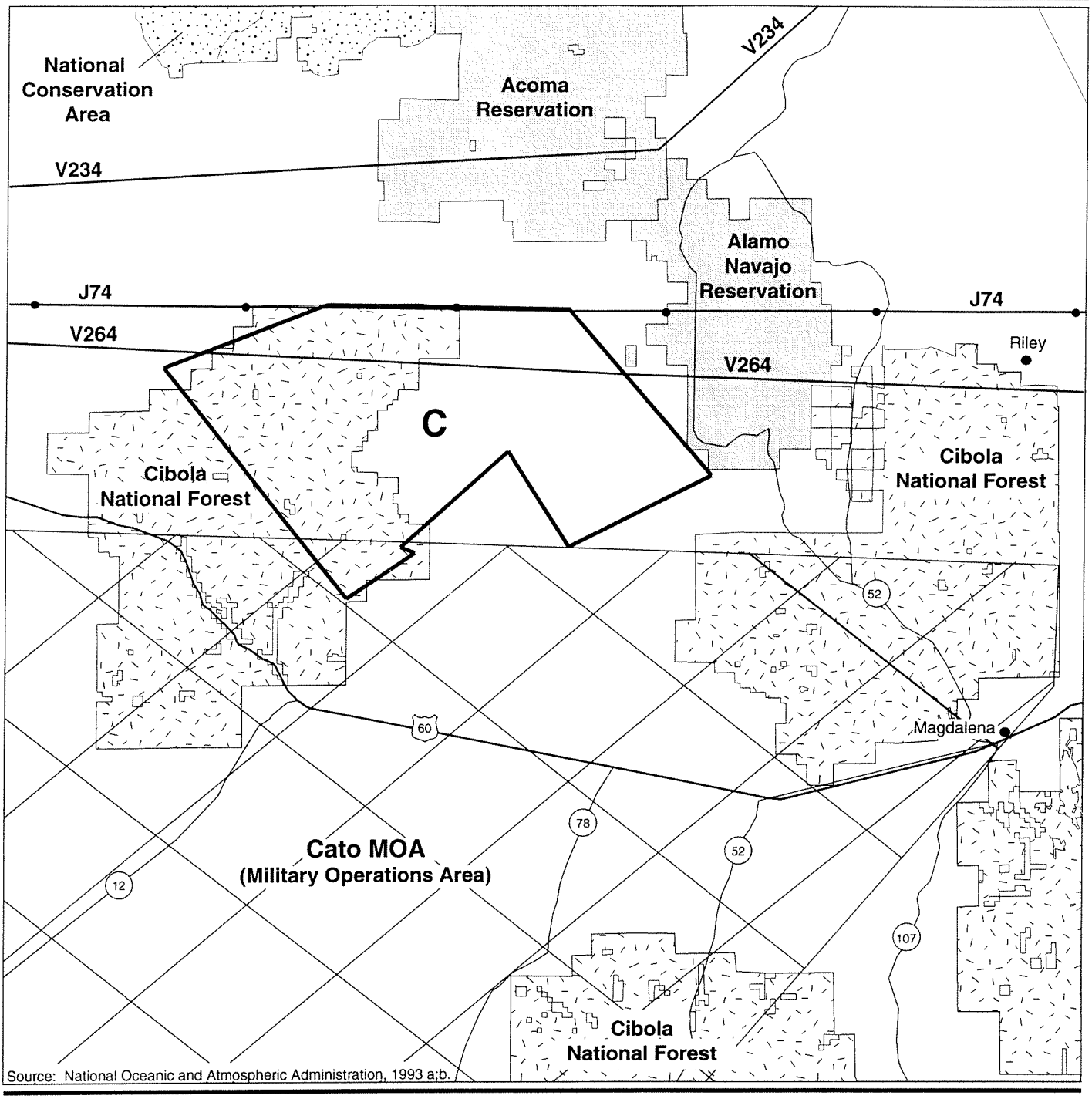
. . . permit only. The woodcutting season is from **May 1 through December 15**.

Page 3-30, para. 5, line 3, should read:

. . . affected area which may support Zuni (rhizome) fleabane (*Erigeron rhizomatus*) (**listed as threatened by the U.S. Fish and Wildlife Service**).

Page 3-30, para. 9, line 3, should read:

. . . Mexican spotted owl (*Strix occidentals lucida*) (**listed as threatened by the U.S. Fish and Wildlife Service**).



EXPLANATION

- Interstate
- Other Roads
- Booster Drop Zone
- National Forest
- Indian Reservation Lands
- National Conservation Area
- Military Operations Area
- High-Altitude Jet Route (J)
- Low-Altitude Airways (V)
- Low-Altitude Airways (V)

0 5.5 11 Kilometers
0 3.5 7 Miles

High-Altitude Jet Routes and Low-Altitude Airways

Fort Wingate Depot Activity
Booster Drop Zone C

Figure 3-11

Page 3-33, para. 3, line 8, should read:

. . . *californicus*), the **Apache** northern goshawk ...

CULTURAL RESOURCES – FWDA

Page 3-35, para. 6, replace with:

Record searches, including a review of National Register-listed properties within the state of New Mexico, indicate that there are no historic buildings or structures within the ROI.

AIR QUALITY – GRLC

Page 4-2, para. 3, line 2, should read:

. . . sparse population and no known consequential anthropogenic **(influenced by human beings)** sources of . . .

AIRSPACE – GRLC

Page 4-3, para. 1, line 3, should read:

. . . albeit short-lived and temporary. **The expected time limit for each test activity is expected to be approximately 2 to 4 hours per event.** However, with the . . .

BIOLOGICAL RESOURCES – GRLC

Page 4-5, para. 1, should read as follows:

There are no absolute standards of short-term noise impacts for potentially noise-sensitive wildlife species. A short-term maximum noise exposure of 92 dBA (detectable noise level of 1 m [3 ft] from an operating lawnmower) has been suggested as a significance cut-off for noise impacts on wildlife (U.S. Army Strategic Defense Command, 1990). Booster and debris recovery would involve the use of a light-lift utility helicopter which produces a continuous noise of 73 to 86 dBA at 150 m (500 ft) (**Canter**, 1977) and would cause startled reactions in some wildlife species. **Helicopter flights for evacuation operations would not involve repeated passes over a single area and would generally be at altitudes (183 to 305 m [600 to 1,000 ft] above ground level) that would avoid nesting raptors. Booster recovery flights would also involve gradual descents to pick up the booster, followed by a flight to the recovery vehicle at an altitude that would avoid nesting raptors and cause minimal disturbance to big game species.** The debris-recovery activities are expected to be completed **within several hours.**

According to the State of Utah's Governor's Office of Planning and Budget (1994), the seasonal dates of most concern are antelope fawning from 15 May to 15 June, mule deer wintering from 1 December to 15 April, and raptor nesting from 1 February to 31 August.

Page 4-5, para. 5, should read:

General biological information regarding threatened and endangered species and sensitive habitat has been collected for booster drop zones C1 and C2. Once the booster impact areas are identified and if additional biological analysis is required, coordination with appropriate agencies will be undertaken. A USFWS permit may be required for any proposed survey work conducted in coordination with the USFWS, the USFS, and any applicable state regulatory agencies. Representatives from these agencies would be included in the debris-recovery team, if requested. **Avoiding important deer and antelope wintering areas and nesting raptors during the dates of seasonal concern listed previously would mitigate impacts which could occur during these critical periods.** Following the guidelines presented in the Booster Recovery Plan (Appendix D) would also serve to mitigate potential impacts to wildlife.

CULTURAL RESOURCES – GRLC

Page 4-5, para. 6, line 2, should read:

. . . procedures in booster drop zones C1 and C2 include booster debris **striking prehistoric**, historic, . . .

Page 4-7, para. 1, add the following to the end of the paragraph:

SHPO consultation is in progress. Once the specific locations for TMD activities have been finalized, mitigation measures will be developed in consultation with the appropriate Federal, state, and local agencies and organizations to ensure the protection of any potentially affected resources. Launch dates and times would be coordinated with all affected agencies.

HEALTH AND SAFETY – GRLC

Page 4-10, para. 4, add the following to the end of the paragraph:

Once the specific locations for TMD activities have been finalized, mitigation measures will be developed in consultation with the appropriate Federal, state, and local agencies and organizations to ensure the protection of any potentially affected resources. Launch dates and times would be coordinated with all affected agencies.

LAND USE – GRLC

Page 4-10, add after "4.1.8 LAND USE":

Impacts on land use are related to recreation, conflicts with existing land use plans, and Federal agency use of public lands administered by the BLM. The use of BLM- administered land for missile testing is subject to the provisions of the Federal Land Policy and Management Act (FLPMA). Under the FLPMA, administrative mechanisms relevant to DOD use of BLM land include:

1. Rights of way

2. Cooperative agreements (where the proposed use and development are similar or closely related to the programs of the Secretary of the Interior for the public lands involved)

3. Public land withdrawals

The BLM, Utah State Office is of the view that U.S. Army use of public land for missile testing in Utah could not be effected through the mechanisms of a right of way or a cooperative agreement. Consequently, withdrawal may be the sole mechanism whereby the U.S. Army missile testing activities may occur on BLM lands within Utah under the GRLC to WSMR target launch option. Land withdrawal could result in a significant impact to the land use. However, the intent would be for affected lands to remain available for other multiple-use activities as established by land use planning. Planning could include amendments to existing BLM Resource Management Plans for the affected management area, which could require additional environmental review and public involvement.

Page 4-10, para. 5 should be deleted.

Page 4-11, para. 1 should read:

A booster impact area can be located in the southern portion of the booster drop zone, outside the Bridger Jack Mesa Wilderness Study Area. If any portion of the Bridger Jack Mesa Wilderness Study Area were located within a booster impact area, a **significant impact would exist.** Use of a wilderness study area . . . (U.S. Department of Interior, 1987).

Page 4-12, after para. 4, add the following new paragraph:

No heavy equipment would be used to evacuate the booster drop zones. Any vehicle used during debris recovery or evacuation would be restricted to existing roads. These roads would be those that are normally used for vehicular traffic. Once the specific locations for TMD activities have been finalized, mitigation measures will be developed in consultation with the appropriate Federal, state, and local agencies and organizations to ensure the protection of any potentially affected resources. Launch dates and times would be coordinated with all affected agencies.

Page 4-12, para. 5 should be deleted.

Page 4-12, para. 8 should read:

If any portion of the Fish Creek Canyon Wilderness Study Area were located with a booster impact area, a **significant impact would exist.** Use of wilderness study area . . . (U.S. Department of the Interior, 1987).

Page 4-13, after para. 4, add the following new paragraph:

No heavy equipment would be used to evacuate the booster drop zones. Any vehicle used during debris recovery or evacuation would be restricted to existing roads. These roads would be those that are normally used for vehicular traffic. Once the specific locations for TMD activities have been finalized, mitigation measures will be developed in consultation

with the appropriate Federal, state, and local agencies and organizations to ensure the protection of any potentially affected resources. Launch dates and times would be coordinated with all affected agencies.

SOCIOECONOMICS – GRLC

Page 4-15, para. 6, line 2 should read:

. . . are anticipated. **However, hotels/motels, trades, and services dependent on tourism could be adversely affected if the demand from launch personnel resulted in 100-percent occupancy, limiting the availability of facilities for tourists.** No other past . . .

Page 4-15, add to the end of para. 7:

The Army would make every attempt to avoid conducting test activities during the hunting days that attract the tourist base.

AIR QUALITY – FWDA

Page 4-19, para. 1, line 3 should read:

. . . liquids. Thus **there is a remote chance of fire** caused by the booster drop. The . . .

Page 4-19, para. 1, line 7, should read:

. . . estimated to be 1.2 tons per acre per **month (U.S.** Environmental . . .

AIRSPACE – FWDA

Page 4-20, para. 1, line 4 should read:

. . . albeit short-lived and temporary. **The expected time limit for each test activity is expected to be approximately 2 to 4 hours per event.** However, with the . . .

BIOLOGICAL RESOURCES – FWDA

Page 4-22, para. 5, add the following to the end of the paragraph:

Once the specific locations for TMD activities have been finalized, mitigation measures will be developed in consultation with the appropriate Federal, state, and local agencies and organizations to ensure the protection of any potentially affected resources. Launch dates and times would be coordinated with all affected agencies.

CULTURAL RESOURCES – FWDA

Page 4-23, para. 7, add the following to the end of the paragraph:

SHPO consultation is in progress. Once the specific locations for TMD activities have been finalized, mitigation measures will be developed in consultation with the appropriate Federal, state, and local agencies and organizations to ensure the protection of any potentially affected resources. Launch dates and times would be coordinated with all affected agencies.

HEALTH AND SAFETY – FWDA

Page 4-27, para. 2, add the following to the end of the paragraph:

Once the specific locations for TMD activities have been finalized, mitigation measures will be developed in consultation with the appropriate Federal, state, and local agencies and organizations to ensure the protection of any potentially affected resources. Launch dates and times would be coordinated with all affected agencies.

LAND USE – FWDA

Page 4-27, para. 6, line 3 should read:

. . . duration of the test flights. Specific public access forest routes **within the Datil Mountains area** that would be closed include: 14 and 14A at the end of Main Canyon, 100D from Main Canyon to Blue Canyon, 6 through Ox Spring Canyon, and 6B to the lower White Deer Canyon **as identified on the Magdalena Ranger District Map**.

Page 4-27, para. 6, line 9 should read:

. . . east of USFS land. There are no known year-round residential dwelling units in the booster drop zone, and only **a few** seasonal ranch house**s, including** the Webster Cabin which is only occupied during cattle round-ups, typically during the fall (Stephenson, 1994).

Page 4-27, para. 7, line 2, should read:

. . . zone are open to firewood cutting from 1 May through 15 December (**Salas**, 1994b).

Page 4-28, para. 1, line 3, should read:

. . . holders getting their firewood from the Sawtooth Mountains (**Salas**, 1994b) which . . .

Page 4-28, para. 3 should read:

Deer hunting in November**, archery elk hunting in September, muzzle loading elk hunting in October, and turkey hunting in April and May** would be affected, with hunters either denied access or evacuated from the area for the duration of the test flights. Since **an average of only six to eight hunters per day** hunt in the Datil Mountains (Stephenson, 1994), only part of which are covered by the booster drop zone, impacts are considered to be not significant.

Page 4-28, after para. 5, add the following new paragraph:

No heavy equipment would be used to evacuate the booster drop zones. Any vehicle used during debris recovery or evacuation would be restricted to existing roads. These roads would be those that are normally used for vehicular traffic. Once the specific locations for TMD activities have been finalized, mitigation measures will be developed in consultation with the appropriate Federal, state, and local agencies and organizations to ensure the protection of any potentially affected resources. Launch dates and times would be coordinated with all affected agencies.

SOCIOECONOMICS – FWDA

Page 4-30, para. 1, line 1, should read:

No **significant socioeconomic** impacts . . .

Page 4-30, para. 2, line 1, should read:

Any potential **for significant** socioeconomic impacts . . .

Page 4-30, add to the end of para. 2:

The Army would make every attempt to avoid conducting test activities during the hunting days that attract the tourist base.

ADVERSE ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED

Page 4-34, para. 3, line 3, should read:

. . . one low-altitude Victor airway **(V264)** and one high-altitude jet route **(J74)** and the temporary . . .

IRREVERSIBLE OR IRRETRIEVABLE COMMITMENT OF RESOURCES

Page 4-35, para. 4, line 1, should read:

The proposed action would result in no **planned** loss of habitat . . .

Page 5-3, change:

Sales, D., 1994a, to **Salas**, D., 1994a
Sales, D., 1994b, to **Salas**, D., 1994b

Page 7-1, Under Bureau of Land Management, Moab District, should read:

Daryl Trotter, Assistant District **Manager**, Planning

Page 8-2, under Controlled Airspace, line 2, should read:

. . . and to Visual **Flight** Rules flights . . .

Page D-3, Section 3, add to the list of personnel:

- **Qualified Archaeologist**

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3.0 RESPONSES TO COMMENTS

This section provides responses to comments received during the public comment period. The coding system used to identify corresponding comments and responses is described below.

Comments (oral testimony, exhibits, and letters) on the Draft EIS and the Supplement to the Draft EIS were received during the respective public response periods. Those comments that required a response have been coded by source and subject. The codes are used to track comments and responses by giving commenters and comments their own numbers. The code consists of three information fields as shown in the example below.

TUQ-0015-2

The first field consists of a two- or three-letter code designating the source of the comment (e.g., TU or TUQ). The three letter code is only used for those comments listed in the transcripts within the "Questions of Clarification" period held before each public hearing. The second field consists of a commenter number. The third field indicates the sequential number of the comment by individual commenter (i.e., second comment by TUQ-0015).

Responses to comments are in sections 3.1, 3.2, 3.3, and 3.4. Section 3.1 contains responses to comments on the Draft EIS related to the WSMR Candidate Test Area, and Section 3.2 contains responses to comments on the Draft EIS related to the Eglin AFB Candidate Test Area. Section 3.3 contains responses to comments on the Draft EIS related to the Western Range Candidate Test Area, and Section 3.4 contains responses to comments on the Supplement to the Draft EIS related to the WSMR Candidate Test Area. Comments pertaining to the Draft EIS (sections 3.1, 3.2, and 3.3) have been summarized within each resource area, and a response supplied immediately following the summarized comment. Comments pertaining to the Supplement to the Draft EIS were taken verbatim as individual comments and were not summarized. A response to each comment is listed immediately following the comment, and in some cases the response refers back to a previous response that has the same or similar answer.

The transcripts from the public hearings appear in sections 9.0 (Draft EIS – Western Range Candidate Test Area) and 10.0 (Draft EIS – Eglin AFB Candidate Test Area) of Volume I and in sections 2.0 (Draft EIS – WSMR Candidate Test Area) and 3.0 (Supplement to the Draft EIS – WSMR Candidate Test Area) of Volume II. Codes in the left margin indicate the start of a new speaker. Codes in the right margin identify separate comments. Comments for exhibits and letters (also in sections 9.0 [Draft EIS – Western Range Candidate Test Area] and 10.0 [Draft EIS – Eglin AFB Candidate Test Area] of Volume I and in sections 2.0 [Draft EIS – WSMR Candidate Test Area] and 3.0 [Supplement to the Draft EIS – WSMR Candidate Test Area] of Volume II) are coded the same way.

The abbreviation list for locations where public hearings were held is as follows.

California
- L – Lompoc (Draft EIS)
- O – Oxnard (Draft EIS)

Florida
- W – Fort Walton Beach (Draft EIS)
- J – Port St. Joe (Draft EIS)

New Mexico
- C – Crownpoint (Draft EIS)
- G – Gallup (Draft EIS)
- A – Grants (Supplement to the Draft EIS)
- D – Magdalena (Supplement to the Draft EIS)
- R – Ramah (Draft EIS)
- S – Shiprock (Draft EIS)

Utah
- M – Moab (Draft EIS)
- T – Monticello (Supplement to the Draft EIS)
- K – Salt Lake City (Supplement to the Draft EIS)
- U – Salt Lake City (Draft EIS)

3.1 WSMR CANDIDATE TEST AREA (DRAFT EIS)

3.1.1 POLICY

Comment: The Army should prepare an adequate environmental document for the TMD activities, but this appears to be highly unlikely given the past record of the agency as well as the bias of the preparers of the document. The project was never proposed by the American people nor deemed necessary to our nation's best interest. The American people no longer support such wasteful and destructive military projects such as the one being proposed. This project fails to comply with the wishes of the American people and shows the Army's disregard for the political reality of the world situation. The Army should redirect its efforts to the immediate and necessary cleanup of contaminated military installations throughout the world. (MW-0001-19; MW-0001-20; MW-0001-21; MW-0103-18; MW-0111-2; MW-0220-1)

Response: As stated on p. 1-1 of the Draft EIS, Congress directed, through the Missile Defense Acts of 1991 and 1993, the establishment of the Theater Missile Defense Initiative as a program to defend forward deployed and expeditionary elements of the armed forces of the United States and U.S. friends and allies.

Comment: The issue of national security was a much different matter in previous years than it is now. The type of testing exemplified by the TMD program that was done in the past was done under much different circumstances. Is there a need for this type of testing now? The need for the TMD test activities has not been proven in the Draft EIS. Under what criteria did the Army decide on additional missile launches if the United States is the only threat to the world? Who are we going to protect ourselves from after these tests are completed? (EG-0006-7; ER-0018-2; ES-0001-2; MW-0022-2; MW-0038-6; MW-0050-2; MW-0067-1; MW-0220-4; MW-0219-6; MW-0219-8; TG-0015-10; TR-0022-5; TS-0002-2; TS-0008-1; TS-0008-4)

Response: The need for this type of testing has been mandated by Congress through the Missile Defense Acts of 1991 and 1993, as stated on p. 1-1 of the Draft EIS.

Comment: Who has the final say on this project outside of the President? (EU-0014-5)

Response: The final decision maker for the actions described in the EIS is the Ballistic Missile Defense Organization.

Comment: The Government should halt all missile testing regardless of location and look for more productive ways to spend the tax dollars of the American people. (EG-0002-1; EG-0009-10; EM-0007-3; EM-0010-1; EM-0010-6; EM-0012-6; EU-0004-2; MW-0052-10; MW-0068-5; MW-0074-8; TC-0001-4; TG-0010-8; TS-0001-1; TS-0005-2; TS-0006-4; TS-0013-5)

Response: This is a matter of national policy and is therefore beyond the scope of this document.

Comment: The environmental concerns of the TMD test program pale when it is taken in to account that these test activities are in violation of the 1972 Antiballistic Missile Treaty signed with Russia. Are we developing these new war toys so that we can sell them to third world countries only to start a "police action" against them 10 years later? (EG-0010-9; EG-0010-10; MW-0220-8; TG-0015-9)

Response: The proposed TMD tests would not violate the 1972 Antiballistic Missile Treaty and would also be in compliance with the Intermediate-range Nuclear Force Treaty, as described on p. 2-10 of the Draft EIS.

Comment: The Gallup Independent quoted Brig. Gen. Richard Wharton as saying that all boosters would land in an area south of New Mexico State Highway 117. (MW-0215-1)

Response: The Draft EIS and the Supplement to the Draft EIS depict all booster drop zones that are being proposed for the TMD Extended Test Range program.

Comment: As demonstrated by a recent accident involving an Air Force bomb in Box Elder County, military testing programs for even the most precise weapons and smart bombs are not always precise or smart. (TU-0001-9)

Response: The potential for test mishaps for target and defensive missiles is described in the Draft EIS in Section 2.1.1.3 on pp. 2-15 through 2-17.

Comment: The 1991 Missile Defense Act which gave birth to the TMD program was engineered by the Senate Armed Forces Committee. (ER-0014-2; TR-0011-2)

Response: Thank you for your comment.

Comment: Defense contractors have made contributions to senators and representatives from the state of New Mexico and influenced the site selection for the TMD program. The only need is a financial one where there is a financial gain for the weapons dealers, makers, developers, the military-industrial complex, and a few Congressmen. (ER-0014-3; TR-0011-3; TR-0011-6)

Response: As described in Section 2.5 of the Draft EIS on pp. 2-95 and 2-96, there were initially 11 candidate test range areas considered. Using the criteria listed on p. 2-95, the list of possibilities was reduced to the four alternatives analyzed in the Draft EIS.

Comment: The United States is the leading weapons dealer in the world. The entire TMD and Global Protection Against Limited Strikes programs will cost $1 trillion dollars. For that amount of money, the United States could buy friends and not arm tomorrow's enemy. It seems to be a waste of taxpayer's money. (MW-0188-4; ER-0014-4; ER-0014-5; ER-0014-6; TM-0020-1; TR-0011-4; TR-0011-5)

Response: This is a matter of national policy and is therefore beyond the scope of this document.

Comment: When the GRLC was active previously, there was a good working relationship between all entities involved, providing the best means possible for all involved to be safe and successful. It certainly would not be detrimental for southeastern Utah to be an affirmative participant regarding the defense of our country. (TU-0003-2; TU-0003-4)

Response: Thank you for your comment.

Comment: Money spent on missile tests can be redirected to assist with the poor funding that the Indian community receives; it is offensive that the budget for the Indian needs is always chopped and the budget for the Department of Defense is not affected as much. (TS-0008-2)

Response: This is a matter of national policy and is therefore beyond the scope of this document.

Comment: The defense industry suffers in times of peace because armaments are not being consumed; the United States can only sell so much to our friends and enemies, so the various branches of the military conceive plans to use up the surplus with tests. (MW-0061-5)

Response: Thank you for your comment.

Comment: Why does New Mexico have to be "dumped on" all of the time; in the past there were other instances where tests were done and the population was not properly informed. (MW-0074-1; TGQ-0005)

Response: As described in Section 2.5 of the Draft EIS on pp. 2-95 and 2-96, there were initially 11 candidate test range areas considered. Using the criteria listed on p. 2-95, the list of possibilities was reduced to the four alternatives analyzed in the Draft EIS. The results of previous programs is beyond the scope of this document. As part of the NEPA process, the Army has held scoping meetings to present the proposed actions and public hearings to obtain comments on the document and will answer all comments in this Final EIS.

Comment: The money being spent on missile test programs should be spent on veterans and especially homeless veterans. (TC-0003-5)

Response: Thank you for your comment.

Comment: The military stated that they would not test in unfavorable weather conditions in the Marshall Islands 40 years ago, and they tested anyway. (MW-0220-49)

Response: This matter is beyond the scope of this document.

Comment: Why even test missiles with such a reduced military threat from abroad? (TMQ-0003)

Response: This is a matter of national policy and is therefore beyond the scope of this document.

Comment: "White Sands Missile Range policy dictates that with the exception of any LHAs and predetermined first-stage booster drop zones, areas beneath flight corridors are not evacuated." My health and safety is determined by U.S. law and not by military policy. (MW-0056-30)

Response: The health and safety of the American public is of paramount importance to the Army. Proposed TMD test activities are planned in conjunction with all applicable U.S. laws and regulations.

Comment: The most important function of the Federal government is to provide for the national defense. The United States must have a defensive weapon that will intercept and destroy an incoming missile at higher altitudes and much greater range than was possible with the PATRIOT anti-aircraft system because when the next Gulf-type conflict occurs it is expected that the enemy will not be limited to such an unsophisticated missile as the Scud proved to be. Let's keep the military strong. I see the need for the missile tests in planning of the defense of the country. (EU-0001-7; MW-0072-1; MW-0072-2; MW-0150-1; MW-0190-2; MW-0200-1; TM-0001-3; TM-0001-4; TM-0011-2; TU-0004-7; TU-0011-4; TU-0015-1; TU-0019-5)

Response: Thank you for your comment.

Comment: Why is the missile going to be tested now when it can be tested during a war; there will not be a war because the United States is the best peacemaker. War is not a big factor anymore. (MW-0129-1; MW-0172-5)

Response: The need for this type of testing has been mandated by Congress through the Missile Defense Acts of 1991 and 1993, as stated on p. 1-1 of the Draft EIS.

Comment: There is a bill before Congress now to not allow any more missile testing where debris will fall outside of existing missile ranges. (TG-0017-2)

Response: If such a bill becomes law, the Army will comply with it.

Comment: The Army should use their own land to test missiles and not the public's land. (TR-0029-1)

Response: As stated in Section 1.3 on p. 1-3 of the Draft EIS, there are currently no operational overland ranges and few over-water ranges operated by the Unites States that provide realistic distances for ground-based defense testing within such a simulated theater of operations.

Comment: When will the Army begin to honor the treaty of 1868? Why hasn't the military returned the land they took from the Navajo people over the years? (TGQ-0026; TGQ-0027)

Response: This is a matter of national policy and is therefore beyond the scope of this document.

Comment: I cannot conceive of any information that can be obtained from picking up booster debris that outweighs intruding on private land. (TG-0017-5)

Response: As discussed in Section 2.2, p. 32, of the Draft EIS, "To validate the effectiveness of interceptors and surface-to-surface missile systems, it is desirable to use overland test ranges for some, but not all, tests to allow for the recovery and analysis of missile debris following an actual intercept or ground target impact." In addition, the Draft EIS also points out that "the Army would enter into agreements with private landowners and affected Government agencies within both the LHAs and the booster drop areas" (p. 2-52, paragraph 1, line 7) before the program would be implemented and evacuation areas would be activated. Thus, no involuntary intrusion on private land would occur.

Comment: The WSMR Installation Comprehensive EIS, the TMD HERA Target Systems EA, the Theater High Altitude Area Defense EA, and other relevant environmental documentation should be completed before the TMD Extended Test Range EIS. (MW-0220-29; MW-0220-30)

Response: The Findings of No Significant Impact were signed for the HERA Target Systems EA and the Theater High Altitude Area Defense EA on February 17 and April 14, 1994, respectively. The WSMR Installation Comprehensive EIS is scheduled for completion late in 1994 and may not be completed prior to this EIS; however, both EISs have separate utility and their schedules are appropriate.

Comment: Please send the Zuni Mountain Coalition a copy of the TMD Lethality Program Environmental Assessment. (MW-0220-14)

Response: A copy has been mailed.

Comment: The purpose of conducting TMD extended-range tests is no longer necessary since the Gulf War because the weaponry that is the subject of this test was used in that theater of operations successfully; therefore, no such tests are necessary at this time and in this country. (MW-0206-1)

Response: As stated in the Draft EIS in Section 2.1 on p. 2-1, the purpose of the TMD testing is to test new and evolving TMD defensive missile and sensor systems.

Comment: The concerns over test activities in the Four Corners region are shared even by those who believe that there can be a legitimate use for the technology that the testing is designed to develop. (MW-0203-5)

Response: Thank you for your comment.

Comment: An executive order was recently signed by the President that ensures environmental justice and also addresses the problem of environmental inequity and discrimination. The order is supposed to increase public participation in the environmental decision making process, and I hope that the public meeting held in Gallup is a part of the process. (TG-0004-7)

Response: As stated at each one of the public hearings held in California, Florida, New Mexico and Utah, all comments will be answered and will be considered by the decision maker in making his decision.

Comment: How was the PATRIOT missile tested before Desert Storm? Why not test them there again? What was the accuracy of the PATRIOT missiles? Reports from Congressional hearings on the effectiveness of the PATRIOT missiles make it difficult to believe the EIS promises that the Army can safely detonate a missile that is off course. (MW-0220-55; TC-0008-5; TR-0006-2)

Response: The PATRIOT missile was tested at WSMR, New Mexico; however, WSMR is not large enough to conduct the ground-based TMD missile system tests and target flights over the medium-range distances which are necessary to provide realistic test situations for the new generation of defensive missiles. The accuracy of the PATRIOT missiles used during the Gulf War has been the subject of some disagreement, but the accuracy and safety of a missile under wartime conditions is very different from the accuracy and safety considerations built into the controlled test flights proposed for the TMD Extended Test Range program. Flight termination procedures and target missile test mishaps are outlined in Section 2.1.1.3 of the Draft EIS on pp. 2-15 to 2-17.

Comment: The Army's predictions and its actions, in any course of action, almost never bear any resemblance to one another; therefore, there can be no credence given for the plans for the TMD proposal. (MW-0191-6)

Response: Thank you for your comment.

Comment: During the Gulf war with Iraq, how many Scud missiles did stray from their targets? How many innocent casualties? Why did these missiles stray from their targets? (TS-0002-3; ES-0001-3; ER-0018-3; TR-0022-6)

Response: This is a matter beyond the scope of this document.

Comment: Who is going to protect the American public from the Army during these activities? (TR-0008-4)

Response: There is no reason to "protect" the public from the Army during these test activities. The health and safety of the public is of paramount importance to the Army.

Comment: I am appalled that people cannot give up a few hours or a few days to build a defense that is needed by the country. We need these missiles that are proposed for testing to protect us from the sleeping dragon; it is more than a question of being uncomfortable or inconvenienced. (MW-0225-1; TU-0013-1; TU-0013-2; TM-0011-3)

Response: Thank you for your comment.

Comment: People in the area have their own lives to live and do not need that Army to tell them what to do and tell them to leave every time a missile is launched. (MW-0093-4)

Response: People are evacuated for their own protection. In addition, the Draft EIS also points out that "the Army would enter into agreements with private landowners and affected Government agencies within both the LHAs and the booster drop areas" (p. 2-52, paragraph 1, line 7) before the program would be implemented and evacuation areas would be activated. Thus, no intrusion on private land would occur.

Comment: The U.S. government should take care of its own people instead of sending money and missiles to other countries. (TR-0006-10)

Response: This is a matter of national policy and is therefore beyond the scope of this document.

Comment: The Federal government has already given the military plenty of space in the western United States where test activities can take place. (TM-0022-1)

Response: As stated in Section 1.3 on p. 1-3 of the Draft EIS, there are currently no operational overland ranges and few over-water ranges operated by the United States that provide realistic distances for ground-based theater missile defense testing.

Comment: This is not the first missile launch and it is probably not going to be the last test of a missile in this area or somewhere else on the planet. It is a positive point to see a discussion occurring regarding this effort. (TM-0021-1)

Response: Thank you for your comment.

Comment: Although the Army states that it will compensate people for any property damage that occurs during test activities, it is really the American taxpayer who ends up paying including those people in the public hearing. The Army is spending their money on something the public does not want. (TG-0014-3)

Response: The need for this type of testing has been mandated by Congress through the Missile Defense Acts of 1991 and 1993, as stated on p. 1-1 of the Draft EIS.

Comment: Under a Congressional mandate to close U.S. Army depots such as Fort Wingate, the proposed plan to use the site for TMD test activities is a violation of that mandate; the land should be returned to the Navajo. (ES-0001-4; ER-0013-1; ER-0018-4; TR-0022-7; TS-0002-4)

Response: FWDA was closed as part of the Base Realignment and Closure process. As part of the closure process under Federal law, agencies within the Department of Defense as well as other departments of the Federal government could identify a use for FWDA. The Ballistic Missile Defense Organization has identified a potential use for a portion of FWDA for use in target launches for TMD development and testing. No decisions have been made relative to this proposal.

Comment: I am concerned about previous test activities that have taken place in the area being compounded by the proposed TMD test activities; this is a cruel joke. There is a resentment that the military has continued to treat that area of the country as a convenient dumping ground for unpopular and dangerous defense industry testing. (EM-0005-2; EM-0005-9)

Response: As described in Section 2.5 of the Draft EIS on pp. 2-95 and 2-96, there were initially 11 candidate test range areas considered. Using the criteria listed on p. 2-95, the list of possibilities was reduced to the four alternatives analyzed in the Draft EIS.

Comment: The Federal government must understand that Utah is not a dumping ground for missiles, bombs, atomic waste, chemical weapons, or anything else. The Department of Defense does not need to launch missiles over Utah to develop a defense against ballistic missiles. (MW-0207-7; TU-0001-12; TM-0009-1)

Response: Because no decision has yet been made on which alternative or combination of alternatives would be used, the decision maker will consider this information in making his decision.

Comment: There is no need for us to be the policemen of the world, and there is no need to test missile intercepts over our own borders and over our own civilian populations. (TM-0009-4; TM-0012-3; TM-0017-2)

Response: This is a matter of national policy and is therefore beyond the scope of this document.

Comment: There is a civil liberties question at issue pertaining to the forced evacuation of people from their own land or from public land. It's not much of an exaggeration to say that the land use and transportation impact implies a declaration of martial law over 15,000 square miles. There is a question of jurisdiction between civilian agencies and the Army. Would the Army needs take precedence and would the Government take over the area without any civilian input? What if people do not want to be evacuated or if they refuse to be evacuated? Will they be taken to jail? Would the government invoke the right of eminent domain? Will hospitals and schools under the flight path be evacuated? What security will be provided for households and businesses during an evacuation? How long will the evacuation last? (MW-0067-3; MW-0087-5; MW-0101-5; MW-0103-21; MW-0103-22; MW-0103-26; MW-0122-2; MW-0207-6; MW-0217-14; TGQ-0035; TGQ-0036;

TR-0006-5; TR-0017-2; TR-0021-1; TRQ-0009; TS-0005-3; TS-0005-4; TS-0005-6; TU-0009-6; TU-0009-12)

Response: The TMD Extended Test Range proposal recognizes the need to evacuate certain areas involved in launch of the target vehicle including launch hazard areas and booster drop zones associated with dropping of the first-stage booster motor. The Draft EIS depicted the areas initially identified for evacuation as well as identifying measures which would be necessary to ensure evacuation. The potential impacts were then evaluated by an interdisciplinary team and presented in Section 4.0 of the Draft EIS and Supplement to the Draft EIS. All of the analysis assumes responsible agencies would be consulted and agreements negotiated to allow missions to be conducted safely. These consultations/negotiations have been initiated and would be completed prior to any flight activities being conducted. The Record of Decision will consider the status of such agreements as well as other relevant environmental and policy considerations in arriving at a final decision on the use of any of the ranges under consideration. The overall analysis process will consider the results of the consultation/negotiation process in determining exactly where these booster drop zones could be located to minimize potential impacts. The result will be that potential launch scenarios or booster drops that pose an unacceptable risk to human health or safety or that violate any applicable law will not be conducted.

Comment: The use of Federal funds for the TMD test program is a waste of money when the funds could be redirected to such efforts as staffing the new hospital in Shiprock that is incompletely staffed due to funding problems. (TS-0007-2; TS-0007-3; TS-0010-2;)

Response: This is a matter of Congressional discretion and is therefore beyond the scope of this document.

Comment: If the United States can take the information obtained from TMD test activities and save lives, that is what is necessary. The Army needs the opportunity to conduct these tests. (MW-0078-1; TM-0007-1; TU-0002-4; TU-0019-2)

Response: Thank you for your comment.

Comment: I will pursue a permanent extension of the moratorium on missile launches from Green River that was passed last year in Congress. If this occurs, then it seems most likely that all target launches for WSMR ground-based testing will originate at Fort Wingate Depot Activity. The TMD EIS fails to disclose this fact in describing the preferred alternative. (MW-0219-16; TU-0001-11; MW-0219-17; MW-0235-21)

Response: The information on the moratorium on missile launches from Green River was in the Draft EIS on p. 2-33. Because no decision has yet been made on which alternative or combination of alternatives would be used, the decision maker will consider this information in making his decision.

Comment: We do not accept the basic premise that the TMD test activities need to be done; it is a perfect example of misplaced priorities and pork-barrel politics. (MW-0097-1; EM-0006-2; EM-0009-2)

Response: This is a matter of national policy and is therefore beyond the scope of this document. A discussion of alternative sites and criteria used to evaluate sites is in Section 2.5 of the Draft EIS.

Comment: To whom would the United States sell these systems in the future? The systems would be going overseas for the defense of other countries. Why aren't these missiles being tested in countries overseas? (TR-0016-4; MW-0204-5)

Response: This is a matter of national policy and is therefore beyond the scope of this document.

Comment: Even though the Cold War is over, the military seems to need more money each year, and new weapons systems are being designed and built each day. While understanding the need for maintaining a defensive capability, the risks that the TMD Extended Test Range program pose cannot be excused. (MW-0191-2; MW-0233-1; EU-0010-1; TU-0012-1)

Response: Risks have been thoroughly evaluated, and safety will remain the foremost concern in planning and conducting extended-range testing.

Comment: We as a nation do not have to perform these types of tests over populated areas. Use areas over water since the Navy and the Air Force have been very successful in launching over water. It would be possible to put beepers on the missile debris so that the debris could be recovered. (MW-0076-7; MW-0101-2; MW-0103-1; MW-0213-5; MW-0233-2; ER-0005-1; TU-0008-6; TU-0011-7; TC-0001-3; TC-0003-3; TC-0004-1; TC-0004-3; TC-0007-1; TC-0007-4; TC-0002-11; TM-0016-3; TR-0005-5; TR-0005-6; TR-0006-7; TR-0014-5; TR-0015-1)

Response: As discussed in Section 2.2, p. 2-32, of the Draft EIS, "To validate the effectiveness of interceptors and surface-to-surface missile systems, it is desirable to use overland test ranges for some, but not all, tests to allow for the recovery and analysis of missile debris following an actual intercept or ground target impact." In addition, the Draft EIS also points out that "the Army would enter into agreements with private landowners and affected Government agencies within both the LHAs and the booster drop areas" (p. 2-52, paragraph 1, line 7) before the program would be implemented and evacuation areas would be activated. Thus, no unwanted intrusion on private land would occur.

Comment: The military cannot be permitted to destroy the tranquility, the socioeconomics, and the ecosystem. No longer can the military be permitted carte-blanche acceptance for any experiments. No longer can the military be held unaccountable for its actions and be permitted to hide behind the phrase "national security." (ER-0019-20)

Response: Through the NEPA process the Army is held accountable to the public for the actions evaluated in this EIS and committed to in the Record of Decision.

Comment: All of those people that want to live in a peaceful manner do not want to create arms and create weapons and war tools. I would like Federal backing in that way in an effort to create an industry that promotes life and promotes harmony and promotes growth. Repeated reliance on war-making and on the development of weapons of war, in the face of their failure to bring peace, is insanity. It is hard to have peace when you are preparing for war all of the time. (MW-0112-2; MW-0127-1; TG-0006-1; TG-0008-2; TM-0010-1; TM-0017-1; TM-0019-1; TM-0023-1)

Response: This is a matter of national policy and is therefore beyond the scope of this document.

3.1.2 PROGRAM

Comment: We do not agree with the proposed test activities and suggest that the best alternative to choose is the no-action alternative. (EG-0002-2; EG-0007-14; EM-0009-1; ER-0002-5;

ER-0017-1; EU-0009-1; EU-0012-1; MW-0002-1; MW-0007-1; MW-0027-3; MW-0050-3; MW-0061-1; MW-0065-1; MW-0077-1; MW-0079-2; MW-0086-1; MW-0087-1; MW-0101-1; MW-0111-6; MW-0112-1; MW-0121-1; MW-0125-1; MW-0132-1; MW-0135-3; MW-0137-1; MW-0152-1; MW-0158-1; MW-0172-2; MW-0176-1; MW-0206-2; MW-0222-1; TS-0014-1; TC-0001-1; TC-0002-1; TG-0002-14; TG-0014-2; TG-0014-5; TG-0015-11; TR-0007-3)

Response: Thank you for your comment.

Comment: I am opposed to the proposed missile firings between WSMR and Idaho. (MW-0059-1)

Response: Missile firings between WSMR and Idaho are not part of the proposed action.

Comment: How would the no-action alternative affect national security? (EU-0014-13)

Response: As explained in Section 2.4 of the Draft EIS, it would not be possible to fully validate system design and operational effectiveness of the TMD system under the no-action alternative.

Comment: TMD missile tests would not cause any damage to the land in western New Mexico. (MW-0005-1)

Response: This is consistent with results of analyses conducted to date.

Comment: More details should be provided on the surface-to-surface tests that are planned. (EM-0001-1)

Response: The only surface-to-surface missile currently identified for extended-range testing is the Army TACMS missile, although other systems may be used. Two alternative ranges are currently under consideration for Army TACMS flight testing: WSMR and the Western Range. Army TACMS flight tests at WSMR would be launched from FWDA with impacts on WSMR sites ABC or 649. Army TACMS flight tests at the Western Range would be launched from Vandenberg AFB with impacts on FSA-2 at San Clemente Island or open ocean areas. Army TACMS tests at WSMR would dispense several hundred inert submunitions. Army TACMS tests at the Western Range would dispense several hundred high-explosive submunitions. Up to ten Army TACMS flights are currently planned at both the Western Range and at WSMR. All hardware impacts will be confined to open sea areas or existing range areas. The Army TACMS is illustrated in figure 2.1-9 of the Draft EIS.

Comment: The proposed TMD test program is morally corrupt. (ER-0010-1; TR-0004-1)

Response: Thank you for your comment.

Comment: The TMD program represents a serious threat to the environment of the entire area affected by the test activities. (MW-0043-1; TR-0025-1)

Response: The purpose of the EIS is to evaluate and document foreseeable environmental impacts so that they can be considered in the final decision and to inform the public. All potential environmental impacts will be considered in the Record of Decision that documents whether or not to proceed with extended-range testing.

Comment: One option for the Army to use is a fair appraisal to buy out all the land under the booster drop zones and relocate the people from the area. (TR-0007-2)

Response: Because the program is temporary and the amount of land under consideration is very large, this suggestion is not considered feasible.

Comment: I am worried about the missiles that are going to be bombed at WSMR. (MW-0153-1)

Response: The health and safety impacts are addressed in Section 4.1.1.7 of the Draft EIS. Missiles will not be "bombed" at WSMR.

Comment: The missiles might veer off course or need to be destroyed; therefore, the flight test will affect a corridor of land and not just a line as the crow flies. (MW-0207-3)

Response: This is correct. An analysis of the safety impacts within LHAs and booster drop zones is discussed in sections 2.1.1.3, 2.1.2.3, and 2.2.1.2 of the Draft EIS. Health and safety impacts along the flight corridor are discussed in Section 4.1.4.7 and Appendix I of the Draft EIS. Additional information is contained in the Supplement to the Draft EIS and in Appendix B of the Final EIS.

Comment: The TMD proposal must be abandoned because it is difficult to understand how the plan ever progressed to the EIS stage. The genuine risks of the tests are ignored in the Army's "whitewash of an EIS." The current practice of test firing missiles over the ocean should be sufficient for testing purposes. (MW-0191-1; MW-0191-3; MW-0219-5)

Response: Three of the four alternative range areas considered do involve ocean testing. All foreseeable risks are analyzed in the EIS and will be considered in the decision whether or not to proceed with TMD extended-range testing. An analysis of the safety impacts within LHAs and booster drop zones is discussed in sections 2.1.1.3, 2.1.2.3, and 2.2.1.2 of the Draft EIS. Health and safety impacts along the flight corridor are discussed in Section 4.1.4.7 and Appendix I of the Draft EIS. Additional information is contained in the Supplement to the Draft EIS and in Appendix B of the Final EIS.

Comment: Are there any related connections between the Department of Defense missile launches and the development of the observatory by the Air Force Office of Scientific Research? (EG-0007-19; TG-0002-19)

Response: There is no connection between the Department of Defense missile launches and the Air Force observatory.

Comment: The WSMR and U.S. Army Kwajalein Atoll alternatives should be rejected. (MW-0101-6)

Response: A final decision whether or not to proceed with testing at WSMR and/or the USAKA will be made following the publication of the Final EIS. Foreseeable environmental impacts analyzed in the EIS will be considered in this decision.

Comment: Why is booster rocket retrieval so important? Is booster rocket retrieval the only reason why the Government must use the WSMR alternative? When will the Government decide which site will be used? (MW-0103-28; MW-0103-30; MW-0103-31)

Response: Booster rocket retrieval is important from an environmental standpoint; it is desirable to remove boosters from the natural environment. Recovery and analysis of intercept debris in some tests is desirable in order to evaluate the effectiveness of system lethality and to analyze flight

failures and malfunctions. Also, WSMR is one of two dedicated national missile test ranges and has sophisticated range assets. A final decision on which candidate test area(s) to be used will be made following the publication of the Final EIS.

Comment: What cost-benefit analysis have you performed in your evaluation of each site? (MW-0103-29)

Response: A discussion of alternative sites and criteria used to evaluate sites is in Section 2.5 of the Draft EIS. A cost-benefit analysis has not been performed for the four alternative ranges.

Comment: For the record, on behalf of many communities that did not have the opportunity to speak up on the issue, the "unknown plans" by the Department of Defense are unacceptable. (MW-0068-1)

Response: Sections 1.2 and 1.3 of the Draft EIS outline the Army's current plans for Extended Test Range missile testing.

Comment: The Army's option to use Fort Wingate for TMD test activities is now gone since the state of Utah's Congressional denial of the Army proposal. (EG-0008-2; TG-0005-2)

Response: The Congressional limitation on launches from the GRLC only affects Canyonlands National Park and Arches National Monument lands for a 1-year period.

Comment: The majority of people on the Navajo reservation, including the older, more traditional people, are opposed to the TMD test activities near Shiprock. (TS-0009-1; TS-0015-6; ES-0004-1; ES-0005-1; MW-0239-1)

Response: Thank you for your comment.

Comment: Why aren't you including other land alternatives? Why did you eliminate other areas from consideration? (TGQ-0023)

Response: A discussion of alternative sites and criteria used to eliminate sites is in Section 2.5 of the Draft EIS.

Comment: Will the missiles be constructed somewhere and then shipped to Fort Wingate and fired or will some assembly take place on Fort Wingate proper? (TGQ-0012)

Response: Target missiles would likely be assembled on site at Fort Wingate. Defensive missiles would likely be assembled off site and shipped intact to Fort Wingate, although some on-site assembly may be required.

Comment: It appears that the location of the booster drop zones will be moved. How soon will you know where those zones will be located. (TGQ-0006)

Response: The location of additional booster drop zones was identified in the Supplement to the Draft EIS.

Comment: The missile tests should be conducted in a location where there are no people or where things won't be destroyed. (MW-0231-3)

Response: Health and safety and land use are analyzed in the Draft EIS and the Supplement to the Draft EIS and will be considered in the decision to use one or more candidate test area(s).

Comment: What gave the Army the idea that its needs outweigh the harm it intends to inflict on treasures such as Shiprock and Canyonlands National Park? (MW-0191-5)

Response: No impacts or harm are anticipated on either Shiprock or Canyonlands National Park as stated in Section 4.1 of the Draft EIS.

Comment: The maps [on pages 2-37 and 3-10 of the Draft EIS] are inadequate to determine the exact boundaries of the booster drop zone and its potential impact on El Morro. (TR-0010-2)

Response: El Morro National Monument is outside Booster Drop Zone A as shown in figure 3.1-16 of the Draft EIS. Potential impacts on El Morro are discussed in Section 4.1.4.8 of the Draft EIS.

Comment: Will the booster drop zone at the GRLC be moved to the south and, if that is the case, will it be within the Shiprock area? We would like to see if the booster drop zone could be moved south and would agree as long as it goes far south like Huntsville, Alabama. (TS-0006-1; TR-0019-1)

Response: More detailed maps showing the proposed location of the new booster drop zones were included in the Supplement to the Draft EIS.

Comment: I object to the proposed test activities because of violations of the proposed revision of the Native American Religious Freedom Act. (ES-0001-13; ER-0018-13)

Response: It was through the public hearing process that the Army became aware of these concerns. The Native American Religious Freedom Act has been studied and will be taken into consideration in the decision whether or not to proceed with TMD extended-range testing. TMD extended-range testing would comply with all relevant U.S. laws.

Comment: The purpose and need for the project is inadequate and unexplained; it is unclear why the Army must fire missiles and drop booster rockets over civilian land, especially when the Army promises that debris from shooting practice will land on WSMR. The military should work within the military lands allotted to them. It is fine to test the missiles on WSMR itself. (MW-0035-3; MW-0141-3; MW-0167-2; MW-0204-4; EU-0015-3; ER-0014-1; EG-0010-11; TR-0011-1)

Response: In order to validate system effectiveness, TMD missiles must be tested against targets whose trajectories closely replicate likely threat missile trajectories. Some of these trajectories are impossible to achieve if both the target and defensive missile are launched from within WSMR, hence the need for extended-range testing. Debris from intercepts would land on WSMR.

Comment: Are the HERA A and HERA B missiles still in the TMD test program plans? Do the termination debris corridor illustrations on pp. I-2 and I-3 represent tests using HERA vehicles? (TU-0009-9; TU-0009-11)

Response: The HERA is a planned target. Figures I-1 and I-2 in Appendix I of the Draft EIS represent HERA data.

Comment: What will be in the payload section of the target vehicles? (MW-0220-13)

Response: As discussed in Section 2.1.1.2, payloads of target vehicles may include triethyl phosphate or water.

Comment: Define the HERA family of target vehicles. What does HERA stand for, and who are the contractors and subcontractors who make these missiles? Who are the contractors and subcontractors who make the defensive missiles. (MW-0220-10; MW-0220-11)

Response: HERA is not an acronym. It is derived from the name of a figure in Greek mythology. The prime contractor for the HERA family of target vehicles is the Coleman Research Company. Subcontractors include the Aerotherm Corporation and the Space Vector Corporation. A more complete discussion of the HERA family of target vehicles can be found in the TMD HERA Target Systems Environmental Assessment, January 1994. Potential defensive missile contractors include Raytheon, Loral, and Lockheed.

Comment: The Army is now bringing the missiles into an area where they are not wanted and, in the process, depriving the residents of everything they have including freedom. (MW-0222-8)

Response: The purpose of the EIS process is to identify environmental issues, analyze impacts, inform the public, and solicit participation from the public. Scoping meetings, publication of the Draft EIS, public hearings, and public comments achieve this goal. All public input will be considered in the decision whether or not to proceed with TMD extended-range testing.

Comment: Even though the GRLC is in an area with few inhabitants and has an economy that is desperate for a Government-funded missile launch site, the area is negatively impacted by the decision, and it is unwise to consider the area. (MW-0223-5)

Response: Thank you for your comment.

Comment: The decision to locate the launch site should be based only on the engineering, scientific, and program objectives criteria, and the decision maker should not be swayed by the tiny but vocal minority. (MW-0224-1; MW-0225-2)

Response: In accordance with the NEPA, input from the public, as well as technical and program criteria, will be considered in the decision whether or not to proceed with TMD extended-range testing.

Comment: The EIS proffers TMD as the only method to achieve national security. It does not identify a single alternative strategy which is directed towards the objective of national security. The Army has a continuing obligation to assess alternatives to TMD systems and their associated environmental risks. The lack of an alternative is exacerbated by the inclusion of only one ground-based test site in the alternative regardless of the drawbacks to other ground-based sites. (MW-0219-10; MW-0219-12; MW-0219-13; MW-0219-14; MW-0219-15)

Response: As discussed in Section 1.6 of the Draft EIS, the national security justification of the TMD program is beyond the scope of this EIS. A no-action alternative is discussed in Section 2.4. A discussion of alternative sites and criteria used to eliminate sites is in Section 2.5 of the Draft EIS.

Comment: The inadequate exposition of purpose and need makes it virtually impossible to develop the required alternatives analysis. The Draft EIS is nothing more than a discussion of the one alternative (testing at all four identified sites) which the Army has previously identified as the preferred alternative. (MW-0219-7; MW-0219-9)

Response: The proposed action is to test at one or more of the four candidate test areas analyzed. Additionally, the no-action alternative is presented. A decision may be made to test at all four candidate test areas, at none of the candidate test areas, or at some combination of candidate test areas.

Comment: Tests should be performed in South Africa because not many people live in that area. (MW-0177-3)

Response: Thank you for your comment.

Comment: Public Law 99-606 states that the McGregor Range is to be managed under the Federal Land Policy and Management Act of 1976. The use of the McGregor Range by the TMD Extended Test Range program will significantly reduce the uses of Otero Mesa and the northern McGregor Range. This is contrary to PL 99-606 and the FLPMA. (MW-0238-9)

Response: Otero Mesa and the northern McGregor Range are not within the ROI of the proposed action.

Comment: No boosters would be dropped in the Zuni Mountains or the Malpais National Monument per the Gallup Independent. (MW-0215-2)

Response: Booster drop zones A and B are still being evaluated for the TMD Extended Test Range program, in addition to new proposed Booster Drop Zone C evaluated in the Supplement to the Draft EIS.

Comment: There is a concern regarding the Draft EIS addressing the economic impacts of the four different proposals in terms of dollar costs and how that translates to the proposal. (TU-0010-1)

Response: The dollar cost of each alternative is beyond the scope of the EIS, which focuses only on the environmental impacts.

Comment: Since there are up to 100 flights proposed, the grand total is a great smattering of debris which then must be sought out whether or not roads are available; if roads are not available, then they may be created when necessary. (MW-0066-6)

Response: Under the WSMR candidate test range alternative, intercept debris impacts would be limited to existing range areas. Intercept debris may or may not be recovered according to program requirements. Construction of new roads is not part of the proposed action. Booster recovery is outlined in Appendix D of the Supplement to the Draft EIS.

Comment: The potential for disaster, the loss of human life, and irreparable harm to the environment, not to mention the three billion dollar price tag, make this proposal unconscionable; the Army should abandon the plan at once. (MW-0191-9)

Response: The purpose of the EIS process is to identify environmental issues, analyze impacts, inform the public, and solicit participation from the public. All foreseeable environment impacts, as well as public input, will be considered in the decision whether or not to proceed with TMD extended-range testing.

Comment: Why can't the land-based launches be simulated over seas? (TMQ-0004)

Response: Recovery and analysis of intercept debris is desirable for some tests in order to evaluate the effectiveness of lethality systems and to analyze flight failures and malfunctions. Debris recovery at sea is not feasible, hence the desire for some tests over land areas.

Comment: Why do we have no real idea how many missiles may be launched in our area? (TMQ-0005)

Response: The exact number of tests and candidate ranges will not be determined until after the Final EIS. The total number of extended-range tests covered by this Draft EIS, at all locations, would not likely exceed 100.

Comment: The alleged devastating results from missile parts falling on people and on the pristine environment are exaggerated. (MW-0200-4)

Response: No significant impacts from falling debris are anticipated.

Comment: The Army should proceed with the TMD project making a diligent commitment to being forthright to the citizenry. (MW-0200-5)

Response: Thank you for your comment.

Comment: Will applicable flight plan approval be withdrawn if missile debris does not land as intended, and will missile flight plan disapproval criteria be published? (MW-0201-3)

Response: Flight plans would be revised if debris impacts would be different than or greater than impacts described in this EIS. There are no plans to publish flight plan disapproval criteria; however, flight plans must comply with the areas designated in the Final EIS.

Comment: Will any kind of nuclear fuel be used in these test activities? (TGQ-0039)

Response: There are no plans to use nuclear fuel in any tests.

Comment: Will available infrared tracking devices, which identify warm-blooded targets, be used to identify where people are within or adjacent to hazardous areas, including the stage impact areas? (MW-0201-4; TU-0022-5)

Response: Helicopter surveys would be made to confirm full evacuation of LHAs and booster drop zones. Target missiles, defensive missiles, and intercept debris would be contained on WSMR in closed areas. There are no plans to use infrared tracking devices to identify personnel in evacuated areas.

Comment: How close to the missile launch site will multiple tracking radars be to insure or guarantee positive missile tracking and stage impact determination? (MW-0201-5)

Response: Range radars would be placed in the vicinity of the launch point, probably less than 3 miles away, and also at WSMR. Helicopters may be standing by at the edge of the booster drop zone to track the impact of the booster. Boosters may be equipped with locator beacon transmitters.

Comment: Will government missile flight safety software (using applicable ballistic coefficients, winds, and nominal trajectory) be used to validate missile contractor drop zones? It is recommended

that up-to-date instrumentation be used in locating missile debris that falls to the earth from intended missile launches. (MW-0201-7; MW-0201-9)

Response: WSMR's Safety Office, using missile flight safety software, is responsible for validating and approving all booster drop zone areas. Booster debris would be located with radar track information and an on-board locator.

Comment: Students in local high schools should be included in locating the stage impact locations; this would bring the public into the participation process. A photo documentation situation could also be used to illustrate that actual missile stage impacts are indeed within their intended boundaries. (MW-0201-10; MW-0201-11; MW-0210-1)

Response: There are no plans to involve local high schools in locating booster impacts.

Comment: As noted on p. 2-13, how many scheduled jettisons will there be per test flight? How many more impact craters will that create? Will the military come in and fill the craters and replant the trees and things? (MW-0220-18; TGQ-0041)

Response: The jettisons described on p. 2-13 would typically consist of several small pieces that would not cause impact craters.

Comment: Specific sites on the McGregor Range should be listed and described in the EIS. (MW-0214-9; MW-0238-5)

Response: The Pershing site and the IFC-25 site at the McGregor Range are under consideration for use in TMD extended-range testing. These sites are shown on p. 2-46, figure 2.2-8, of the Draft EIS.

Comment: No comprehensive mitigation plan has been developed for this EIS with Federal and state natural resource agencies. (MW-0214-14)

Response: A mitigation plan will be prepared, for any required mitigations, and published with the Record of Decision.

Comment: Maps of flight corridors for defensive missiles should be included and clearly labeled in the EIS. (MW-0214-21)

Response: A representative flight path is shown on p. 2-55, figure 2.2-13, of the Draft EIS.

Comment: The cost of recovering hazardous debris should be included in the overall program costs. (MW-0214-23)

Response: Thank you for your comment.

Comment: Figure 2.2-8 on p. 2-46 of the Draft EIS shows only one candidate site on the Fort Bliss McGregor Range, and the text states on p. 2-33 that the McGregor Range area is located in New Mexico and would be the primary use area. This error should be corrected. (MW-0214-25)

Response: The Pershing site and the IFC-25 site at the McGregor Range are under consideration for use in TMD extended-range testing. These sites are shown on p. 2-46, figure 2.2-8, of the Draft EIS. The text on p. 2-33 of the Draft EIS is not inconsistent with figure 2.2-8.

Comment: Are the missile sites in TMD the same sites planned in the Roving Sands Programmatic EIS? (MW-0214-26; MW-0238-2)

Response: The Roving Sands program is a joint-training exercise planned and conducted independently of TMD testing. The Pershing launch site, located in the southwest corner of the McGregor range, appears to be planned for use by both Roving Sands and the TMD Extended Test Range programs.

Comment: Where are launch pads and blockhouses to be built and additional infrastructure to be located? The location of all construction sites should be clear. (MW-0214-27)

Response: Test site modifications are discussed in general terms in Section 2.2.1.1. Detailed facility designs for specific test missions will not be addressed in this EIS but may be addressed in other site-specific environmental documentation.

Comment: The EIS states that no target missiles are expected to be launched from WSMR or the Fort Bliss McGregor Range. What about the defensive launches from Fort Wingate? Will they be aimed at anything on WSMR or Fort Bliss McGregor Range, or will a target missile also be launched from Fort Wingate at the same time as the defensive launch? (MW-0220-57)

Response: Target launches could be made from WSMR or Fort Bliss McGregor Range. Defensive missiles launched from FWDA would impact on WSMR at proposed impact sites that include the ABC and 649 sites shown on p. 2-45 of the Draft EIS. There are no plans to launch target and defensive missiles simultaneously from FWDA. Text on p. 4-43 of the Draft EIS has been changed in response to this comment.

Comment: There are no locally available resources around FWDA to handle emergencies or mishaps; these resources should be provided as part of the test program and their cost included in the program. (MW-0214-34)

Response: Provisions would be made for the availability of fire suppression, hazardous materials emergency response, and emergency medical teams during launch operations.

Comment: The information in the Draft EIS is sufficient to eliminate entirely the proposed overland test routes so as to avoid impacts on national parks. I do not agree that parks should be closed for military tests that could be conducted elsewhere. (MW-0235-11; MW-0235-20)

Response: The purpose of the EIS process is to identify environmental issues, analyze impacts, inform the public, and solicit participation from the public. All foreseeable environment impacts, as well as public input, will be considered in the decision whether or not to proceed with TMD extended-range testing.

Comment: Impact zones should not include WSMR extension areas or the McGregor Range which is now contaminated. (MW-0214-39)

Response: All impact zones would be approved by the WSMR Range Safety and Environmental offices prior to testing.

Comment: The impacts of the no-action alterative described on p. 4-53 in the Draft EIS are inaccurate. (MW-0214-43)

Response: Thank you for your comment.

Comment: If off-site locations and corridors are used, all debris should be recovered after the tests; boosters and payloads should be equipped with locator beacons. (MW-0214-24)

Response: Spent boosters would be recovered. Intercept debris may be recovered according to program requirements. Any hazardous debris would be recovered as soon as possible. Boosters and payloads may be equipped with an onboard locator.

Comment: How much is the TMD test program going to cost the American taxpayer? (TR-0022-1; TSQ-0015)

Response: Federal budget priorities and issues are beyond the scope of this EIS.

Comment: Would you please elaborate on the surface-to-surface test that will be conducted? (TMQ-0001)

Response: As stated on pp. 2-19, 2-23, 2-47, 2-54, and 2-81 of the Draft EIS, the only surface-to-surface missile currently identified for extended-range testing is the Army TACMS missile, although other systems may be used. Two locations are currently under consideration for Army TACMS flight testing: WSMR and the Western Range. Army TACMS flight tests at WSMR would be launched from FWDA with impacts on WSMR sites ABC or 649. Army TACMS flight tests at the Western Range would be launched from Vandenberg AFB with impacts on FSA-2 at San Clemente Island or possibly in open ocean areas. Army TACMS tests at WSMR would dispense several hundred inert submunitions. Army TACMS tests at the Western Range would dispense several hundred high-explosive submunitions. Up to ten Army TACMS flights are currently planned at both the Western Range and at WSMR. All hardware impacts would be confined to open sea areas or existing range areas. The Army TACMS is illustrated in figure 2.1-9.

Comment: How likely is it that the Green River area will be selected for test activities compared to other sites? (TMQ-0002)

Response: The Army has not identified preferred alternatives, and all ranges are still being considered.

Comment: The temporal aspects of the TMD proposal are not clearly set forth in that a definitive end date for the project is never mentioned or alluded to. This lack of an ending test date gives rise to the potential of a perpetual test zone, which is entirely inappropriate for the overland alternative set forth in the Draft EIS. (MW-0056-35)

Response: Section 2.0, p. 2-1 states, "Tests would begin in mid-1995 and continue through approximately 2000."

Comment: I am against the missile testing because it is against the law. (MW-0164-1)

Response: The TMD program is being carried out in compliance with the Missile Defense Acts of 1991 and 1993, as discussed in Section 1.1 of the Draft EIS. All TMD extended-range testing would comply with applicable U.S. laws.

Comment: The Army is able to pinpoint a relatively tight ellipsoid of the two locations that will result in debris falling out of the sky. It should not be too difficult to stage debris recovery from ships with helicopters, and the three offshore location alternatives set forth in the Draft EIS could serve as well as the one overland alternative. (MW-0056-6)

Response: Recovery of boosters and debris at sea may be attempted based on range procedures and mission requirements; however, the instrumentation capabilities are also somewhat lessened at sea.

Comment: The Draft EIS states that "off-road travel would not involve multiple traverses along a single track." Does this mean that multiple-tracking to a single recovery point is supposed to be preferable? Exactly how much tracking up of the wilderness do you propose? (MW-0056-23)

Response: Every effort would be made to minimize off-road disturbances. Existing roads and helicopters would be used to the extent possible in order to minimize ground disturbance. If helicopter use proves impossible, the boosters would be cut up and removed by horse pack. A qualified biologist and/or archaeologist, as appropriate, would monitor recovery operations. Further information regarding booster recovery plans is contained in Appendix D of the Supplement to the Draft EIS.

Comment: What other sites were considered for analysis in the EIS? (TR-0022-3; TR-0024-12)

Response: As discussed in Section 2.0 of the draft EIS, alternatives considered but eliminated from further consideration were: Fort Churchill, Canada; Woomera, Australia; Poker Flats Research Range, Alaska; Cape Canaveral, Florida; Pacific Missile Range Facility, Kauai, Hawaii; Wallops Flight Facility, Virginia; and the Utah Test and Training Range, Utah.

Comment: How much collateral damage is acceptable for the TMD test program? (TR-0024-13)

Response: Every effort would be made to minimize damage from TMD extended-range testing. No acceptable level of collateral damage has been established for the TMD extended-range program.

Comment: I commend the Army for eliminating the El Malpais as a drop area. (TR-0023-1)

Response: While Booster Drop Zone B for the FWDA launch site is not a preferred alternative, it is still being evaluated for the TMD Extended Test Range program. A Record of Decision regarding this program will not be issued for at least 30 days following the release of the Final EIS.

Comment: We are in favor of the proposed TMD test activities at FWDA; there are benefits to using the GRLC to WSMR flight path. These include an ability to reduce program costs by using technical assets already installed and an ability to prevent the Russians from gaining knowledge of the reentry systems technology development; it will allow for recovery of debris for analysis and the ability to take advantage of the logistics advantages and reduced costs attendant to a CONUS launch site. (EU-0001-2; EU-0001-3; EU-0001-4; EU-0001-5; MW-0084-2; MW-0085-1; MW-0100-1; MW-0190-4; MW-0200-2; MW-0201-12; MW-0241-1; MW-0242-1; TM-0001-1; TM-0005-2; TM-0011-1; TU-0004-2; TU-0004-3; TU-0004-4; TU-0006-2; TU-0022-1; TU-0022-10)

Response: Thank you for your comment.

Comment: I do not want to have any engines falling through my roof. (TR-0023-3)

Response: Thank you for your comment.

Comment: It is unacceptable for the Army to force the evacuation of the homes and businesses in the area. (TR-0009-6)

Response: As stated in the Draft EIS, voluntary evacuation agreements would be negotiated with all private property owners in both the LHAs and booster drop zones before the proposed action would be implemented.

Comment: Can the Army guarantee that the missiles will never go off course? What if one of the tests is not flawless? (MW-0122-4; MW-0172-3)

Response: Test flights would not be conducted unless detailed trajectory modeling and planning showed that flight vehicles and hardware would be contained within predetermined areas. Flight termination systems would be used, if necessary, to terminate the flight if a missile went off course or another unsafe condition developed. Safety planning measures are discussed in sections 2.1.1.1, 2.1.1.2, and 2.2.1.2 and Appendix I of the Draft EIS.

Comment: The use of the GRLC for the TMD test activities would require considerable new and replacement construction in order to launch missiles. The use of the complex is no longer a good idea. (TU-0020-1; TU-0020-7)

Response: Existing facilities would be used to the maximum extent possible in order to minimize the need for new construction. Construction/modification requirements at the GRLC are discussed in Section 2.2.1.1 and include a new Guard House, berm construction in front of the MAB, a new launch stool, environmental shelters, and rails for shelters at pads 1 and 3.

Comment: Because of the size of the area and the type of terrain where debris might fall, I am not sure that the retrieval of any debris that may fall in the area would take place "in my lifetime." The terrain is too rugged for vehicles to travel. (TG-0018-2; TG-0018-5)

Response: Helicopters may be used for booster and/or debris retrieval where ground access is difficult. Pack animals may be used if necessary to retrieve debris where access is difficult.

Comment: What is the proposed budget for the next 2 years for the TMD project? (EM-0002-1; TMQ-0011)

Response: The proposed budget is beyond the scope of the EIS.

Comment: What do you mean by "defensive missiles" being fired from Fort Wingate? (TRQ-0001)

Response: Defensive missiles are defined in Section 2.1.2 of the Draft EIS, including surface-to-air and surface-to-surface missiles. Both types of defensive missiles may be launched from FWDA.

Comment: Since the Army wants to use an overland range, it should launch the missiles from an airplane just off the edge of WSMR, have them go up and come down, and then intercept the missile. (TR-0005-4)

Response: Current technical problems associated with aircraft delivery restrict it from being available within the time frame required. Also, aircraft delivery is not within the total budget guideline.

Comment: It is common sense to test these systems over the ocean where there is minimal threat to human lives and minimal disturbance of human activities. (MW-0078-2; MW-0099-13)

Response: Three of the four candidate test areas analyzed involve over-water testing. Overland testing may be desired for some tests in order to facilitate intercept debris recovery.

Comment: The distance from FWDA to WSMR does not require a booster on the missile. If so, the fact that the Army is saying that they need booster rockets on the outgoing missiles causes concern that both missiles are being tested. Can't a single-stage rocket with no boosters be designed? (TG-0017-3; MW-0217-13)

Response: Missiles can fly from FWDA to WSMR without dropping a booster. An example is the Army TACMS missile tests described on p. 2-54 of the Draft EIS. The target missiles, however, must perform a different mission in that they must reach velocities and corresponding reentry angles that can best be provided by multi-staged missiles.

Comment: There are real concerns that test activities will result in actions that simply result in an attitude of "we'll see what happens." This would be a concern for the people living under the flight corridor. (TC-0002-7)

Response: The purpose of the EIS process is to identify environmental issues, analyze impacts, inform the public, and solicit participation from the public. Scoping meetings, publication of the Draft EIS and Supplement to the Draft EIS, public hearings, and public comments achieve this goal. All public input will be considered in the decision whether or not to proceed with TMD extended-range testing.

Comment: If the reason that the WSMR is being used for test activities is because of its in-place tracking system, then there may be use problems when the missiles are used in places such as the Middle East where there are no permanent tracking systems. A portable tracking system should be used to ensure that the overall system is functioning correctly. (TR-0005-1; TR-0005-3)

Response: A portable tracking system, the TMD-GBR, would be used during many tests as well as during operational deployments

Comment: If captured, would non-U.S. Government items would be tested in this program. (EU-0014-7)

Response: There are no current plans to test captured, non-Government items under the TMD Extended Test Range program. If the use of captured, non-Government items were considered and resulted in environmental impacts which exceed those analyzed in this Draft EIS, supplemental environmental documentation would be required.

Comment: How much does the missile weigh? What is the weight of the booster used for test activities? (EU-0014-8; EG-0006-4; TG-0010-5)

Response: Typical missile data are shown in figures 2.1-1 and 2.1-2. The empty weights of the following boosters are:

Booster	Weight
Castor IV	2,697 lb
Castor IVB	3,126 lb
M56A-1	1,028 lb
SR19-AJ-1	1,740 lb

Comment: From what working group did the TMD test program come from? (EU-0014-9)

Response: The TMD test program did not come from a working group but was the result of extensive studies performed for the Ballistic Missile Defense Organization.

Comment: The Army is committing an act of terrorism against the individual with the TMD test program. (MW-0104-3)

Response: Thank you for your comment.

Comment: The analysis fails to consider the civil disobedience that has been discussed at public hearings and how the Army will evacuate those who refuse to leave the drop zones. (MW-0035-25)

Response: Booster drop zone evacuation plans are included in the Supplement to the Draft EIS.

Comment: I am highly skeptical of the need for more military testing over the state of New Mexico, and there is too much land locked up for military use. The state and people of New Mexico have given their fair share. If you drop missiles or boosters on the Zuni Mountains, it would be considered a declaration of war on the people. (ER-0020-1; TR-0010-7; TR-0012-1)

Response: The purpose of the EIS process is to identify environmental issues, analyze impacts, inform the public, and solicit participation from the public. Scoping meetings, publication of the Draft EIS and Supplement to the Draft EIS, public hearings, and public comments achieve this goal. All public input will be considered in the decision whether or not to proceed with TMD extended-range testing.

Comment: Booster drop zones proposed for missiles fired from the Green River site and from FWDA are wholly unacceptable because the damage caused by retrievals (and perhaps even damage by impacts) is just not on the same scale as the advantages that the overland firing might have in terms of convenience, cost, or data gathering. (MW-0109-2)

Response: The purpose of the EIS process is to identify environmental issues, analyze impacts, inform the public, and solicit participation from the public. Scoping meetings, publication of the Draft EIS and Supplement to the Draft EIS, public hearings, and public comments achieve this goal. All public input will be considered in the decision whether or not to proceed with TMD extended-range testing.

Comment: Tens of thousands of people will fight the Army as far as possible to keep missiles and boosters out of the area. (MW-0109-4)

Response: Thank you for your comment.

Comment: It appears that the northern part of the Otero Mesa in the McGregor Range is excluded from the TMD test proposal; if it is to be included, it should be protected from use as well. (MW-0109-5)

Response: The proposed action does not include testing in the northern part of Otero Mesa.

Comment: According to the EIS, there are at least two other sites, all over water, which could host the proposed TMD test activities without serious environmental impacts. That cannot be said of any Utah site. (MW-0108-6; TU-0001-3)

Response: A discussion of other areas considered and the criteria used to evaluate candidate ranges can be found in Section 2.5 of the Draft EIS.

Comment: We are in favor of the TMD test activities and believe that the Army will take the necessary precautions to ensure safety. (MW-0013-1; TU-0019-6)

Response: Thank you for your comment.

Comment: Missile tests should be conducted at a different location such as a small island like New Zealand or in Jamaica. (MW-0157-3)

Response: A discussion of other areas considered and the criteria used to evaluate candidate ranges can be found in Section 2.5 of the Draft EIS.

Comment: There is a lack of clarity as to the number of launches planned for the TMD program. How many flights are proposed and what will be their frequency? (MW-0039-3)

Response: Approximately 100 test events could be conducted between 1995 and approximately 2000 at one or more candidate test areas. The number of test events at any one site is not likely to exceed 4 per month.

Comment: I am against the TMD test activities and ask that the Army go play its war games somewhere else. (ES-0002-1)

Response: Thank you for your comment.

Comment: Would it be possible to test the missiles within the existing WSMR, by launching the missiles from one side to the other, since the range consists of 4,000 square miles? (TS-0014-3)

Response: In order to achieve the target velocities, altitudes, and reentry angles required by the defensive missile programs, it is necessary to launch some targets from outside WSMR.

Comment: I am concerned about the missiles that would be going from WSMR to the GRLC. (MW-0155-1)

Response: No missiles would be launched from WSMR to the GRLC. Target missiles launched from the GRLC would be intercepted over WSMR.

Comment: The Army did not think realistically about any hypothetical situations that may arise. The "what-ifs" are too great to ignore. (MW-0229-1)

Response: All foreseeable environment impacts have been analyzed and all public input will be considered in the decision whether or not to proceed with TMD extended-range testing.

Comment: The Army should consider alternatives that might provide greater safety to the people and resources of the area and avoid an American Chernoble. (EU-0016-5)

Response: Human health and safety is an important factor. All foreseeable environment impacts, as well as public input, will be considered in the decision whether or not to proceed with TMD extended-range testing.

Comment: I will not support the TMD program regardless of its environmental impact because of its health risk. No community should be required to assume any additional health risk to support the need to create weapons of war. (TG-0008-3)

Response: Thank you for your comment.

Comment: Eventually the current missile being tested will go out of date and there will be a need to have new missiles being tested over the lands that have been approved for the TMD test activities; the Army will simply continue to use the test area through the right-of-way granted for the TMD activities. (TS-0015-3)

Response: Test activities which exceed the scope of the EIS will require supplemental environmental documentation.

Comment: The EIS states that ground-based sensors may be positioned to cover anticipated impact areas to assist in locating boosters. What sensors will be used? How big are they? How many people will be required to operate them? Where would the sensors be located, and what would be the environmental consequences of this action? (MW-0035-10; MW-0220-19)

Response: The use of ground-based sensors, other than at the launch point and on WSMR, to locate boosters is not planned. Most ground-based sensors will be at WSMR to track the target and defensive missiles and intercept debris.

Comment: As stated on p. 2-23 of the Draft EIS, bomblets will be used in test activities. In the event of a mishap, what will be the effect of these bomblets falling from an altitude of 30 miles? How many bomblets will be used? (MW-0220-21)

Response: In the event of a mishap, the FTS would separate the payload section from the launch vehicle. The payload section would then fall to the ground without dispensing the bomblets. Several hundred bomblets would be used. Only inert bomblets would be used for testing at WSMR. These bomblets would weigh approximately 0.45 lb and would consist of gypsum powder, glyceride, resin, and lamp black powder.

Comment: We are opposed to any test activities from FWDA or in the vicinity of the Zuni Mountains. We demand more involvement of the local communities, in particular the Ramah Navajo Agency. (EG-0001-1; EG-0001-4; EG-0006-9; EG-0007-1; EG-0009-1; ER-0001-1; ER-0001-4; ER-0001-6; ER-0003-1; ER-0004-1; ER-0006-1; ER-0008-1; ER-0012-1; ER-0014-17; MW-0006-1; MW-0008-1; MW-0010-1; MW-0011-1; MW-0017-1; MW-0019-1; MW-0021-4; MW-0022-1; MW-0026-1; MW-0028-1; MW-0031-1; MW-0032-1; MW-0038-1; MW-0040-1; MW-0044-1; MW-0052-1; MW-0053-1; MW-0054-1; MW-0062-1; MW-0088-1; MW-0088-4; MW-0089-1; MW-0090-1; MW-0091-1; MW-0092-1; MW-0094-1; MW-0095-1; MW-0096-1; MW-0103-32; MW-0104-1; MW-0107-25; MW-0113-1; MW-0113-8; MW-0122-1; MW-0123-1; MW-0123-11; MW-0124-1; MW-0126-1; MW-0128-2; MW-0131-1; MW-0133-1; MW-0136-1; MW-0139-1; MW-0143-1; MW-0144-1; MW-0145-1; MW-0146-1; MW-0147-1; MW-0149-1; MW-0151-1; MW-0154-1; MW-0156-2; MW-0157-1; MW-0165-1; MW-0166-1; MW-0167-1; MW-0168-1; MW-0169-1; MW-0173-1; MW-0174-1; MW-0177-1; MW-0181-1; MW-0182-1; MW-0183-1; MW-0187-1; MW-0193-1; MW-0194-1; MW-0195-1; MW-0196-1; MW-0197-1; MW-0199-2; MW-0202-1; MW-0205-1; MW-0208-1; MW-0209-3; MW-0211-1; MW-0212-1; MW-0216-1; MW-0217-22; MW-0218-1; MW-0226-1; MW-0226-3; MW-0228-1; MW-0229-3; MW-0231-1; MW-0234-1; MW-0218-1; TC-0003-10; TC-0005-1; TC-0005-7; TC-0006-1; TC-0008-1; TC-0009-1; TC-0010-1: TC-0002-8; TG-0002-1; TG-0003-5; TG-0007-2; TG-0007-3; TG-0010-10;

TG-0012-1; TG-0012-3; TG-0016-1; TR-0001-1; TR-0001-4; TR-0001-6; TR-0002-3; TR-0006-12; TR-0007-5; TR-0011-17; TR-0016-5; TR-0017-1; TR-0018-1; TR-0019-2; TR-0024-1; TR-0026-3; TR-0030-1)

Response: In response to these comments, an additional hearing was held at the Ramah Navajo chapter house in order to provide additional involvement of local communities in the vicinity of the FWDA booster drop zones.

Comment: How close to the launch site will the multiple tracking radars be to insure and guarantee tracking missiles for the missile and the stage drop-off? (TU-0022-6)

Response: Exact sensor locations are not yet determined. The radars will be located at the launch sites and on WSMR to ensure proper tracking.

Comment: At all public hearings in New Mexico all speakers have been opposed to the missile launch action over the state; not a single person has spoken in favor of the action. It is a highly controversial project as the public meetings and numerous local resolutions against missile testing show. (MW-0202-2; MW-0220-40)

Response: The purpose of the EIS process is to identify environmental issues, analyze impacts, inform the public, and solicit participation from the public. Scoping meetings, publication of the Draft EIS and Supplement to the Draft EIS, public hearings, and public comments achieve this goal. All public input will be considered in the decision whether or not to proceed with TMD extended-range testing.

Comment: The EIS states such things as "to mitigate hazards a reasonable guideline might be no more than one missile per 24-hour period" and "that no launch will occur in unfavorable weather conditions." This is vague. Will mitigations be performed or not? (MW-0220-48; MW-0220-51)

Response: A mitigation plan will be prepared, for any mitigations selected, and published with the Record of Decision.

Comment: The Army should truly listen to the people of the area and move the launches over the sea or discontinue them completely. (MW-0202-4)

Response: All public input will be considered in the decision whether or not to proceed with TMD extended-range testing.

Comment: The missile test is not wanted because all of the people will be scared. What might occur is that when the missile is sent from Fort Bliss to the GRLC is that the missile might fall on something along the way. (MW-0175-1; MW-0175-2)

Response: The proposed action does not include sending missiles from Fort Bliss to the GRLC.

Comment: Did anyone at the Ramah public hearing say that they wanted the TMD test activities in the area? (TR-0027-1)

Response: To the best of our knowledge, no one at the Ramah public hearing expressed support for TMD test activities.

Comment: I am opposed to the proposed tests in the vicinity of Shiprock, New Mexico. (MW-0188-1)

Response: There are no proposed tests in the vicinity of Shiprock, New Mexico. Missiles would overfly the area at an altitude of up to 100 km (62 mi).

Comment: The area in New Mexico is being considered for these test activities only because a proposal was made to use the test area in Utah and the folks there chased off the test activities. (TR-0019-4; TR-0026-1)

Response: The GRLC in Utah is still being considered for the TMD extended-range program. A discussion of alternative sites and criteria used to eliminate sites is in Section 2.5 of the Draft EIS.

Comment: We are against the missile testing because the missile might run off the track and hit a city such as Albuquerque, Santa Fe, Shiprock, or Las Vegas. (MW-0178-1; MW-0179-1; MW-0180-1; MW-0185-1)

Response: The proposed action includes planning, analysis, and safety precautions to minimize the possibility of impacts on inhabited areas and exclude the possibility of hitting urban areas. These safety measures are discussed in sections 2.1.1, 2.1.2, and 2.2.1 and Appendix I of the Draft EIS.

Comment: I am against the proposed missile range from Salt Lake City to WSMR. (MW-0186-1)

Response: The proposed action does not include missile flights from Salt Lake City to WSMR.

Comment: I am against the missile tests because they can "mess up" the country. At the same time I am also "kind of" for the tests. (MW-0171-1; MW-0171-2)

Response: Thank you for your comment.

Comment: WSMR is the right place for the tests, but it is the wrong time for the tests. (MW-0166-4)

Response: Thank you for your comment.

Comment: There has been no explanation of how notification is going to be successful in a 121-square-mile area. (MW-0107-12)

Response: Evacuation notification procedures are addressed in the Supplement to the Draft EIS. Experience with similar procedures at two large extension areas of WSMR suggests they would be successfully accomplished.

Comment: I hope that the Army does a better job notifying the public when the missiles go over than they did in publicizing the meeting in Ramah. (TR-0008-3)

Response: Thank you for your comment.

Comment: I am unclear about proposed target interceptor tests as to whether missiles are to be intercepted in flight by other missiles, but if so, I am is against the test activities. (EG-0007-9; TG-0002-9)

Response: The proposed action includes defensive missiles intercepting target missiles in flight over an existing test range or open sea area. This action is illustrated in figure 2.1-3 of the Draft EIS.

Comment: The EIS has information that there will be 100 missiles flying over the land for 6 years. Will there be one flight per month, two per month, and will they be in the summer or the winter? How much debris will be falling, and will it be radioactive? (MW-0103-19; TC-0008-4)

Response: The current plan is to have 6 to 10 launches per year from either FWDA or the GRLC. A spent booster casing would fall in the booster drop zone or open sea area. All other missile pieces and intercept debris would fall on an existing test range or open sea area. The proposed action does not include the possibility of any radioactive debris.

Comment: Why is there a "notch" in the FWDA LHA? (MW-0107-17)

Response: Flight safety procedures allow for early termination of the missile flight if it deviated from the planned trajectory and flew in the direction of Fort Wingate. This results in a LHA which is not circular. Subsequent modeling of the target missile, using Booster Drop Zone C, has resulted in a modification of the LHA as shown in the Final EIS. This smaller LHA is the preferred alternative.

Comment: The current planned test activities would have the flight projection of the missiles and the debris patterns over more heavily populated areas. (EG-0001-3)

Response: The flight patterns and debris containment corridors are presented in the Draft EIS and the Supplement to the Draft EIS. No debris impacts on populated areas are planned.

Comment: The TMD test activities do not need missiles that require boosters. The first third of the 200-mile shoot is the part that has the greatest risk factor and is probably the highest-populated area along the flight path. (TR-0016-2)

Response: Thank you for your comment.

Comment: The EIS fails to consider a range of reasonable alternatives including the firing of missiles from the GRLC without dropping boosters in Utah, using an alternative land-based launch location for long-range land-based firing, and firing missiles from off shore and dropping booster rockets in the ocean and then shooting the target missiles down over land. (MW-0035-4; MW-0035-5; MW-0035-6)

Response: A discussion of alternative sites and criteria used to eliminate sites is in Section 2.5 of the Draft EIS.

Comment: The scope of the EIS is unstated and should express the maximum number of missile flights which would be permitted pursuant to the EIS, the seasons to which the flights would be limited, the times of day to which the flights would be limited, the limits to the amount of helicopter use which would be allowed to recover boosters, the limits to the amount of time launch areas and drop zones (including roads) would be closed for flights, and the limits to the amount of vehicle use off of constructed roads for the retrieval of booster rockets. (MW-0035-7; TU-0008-2)

Response: Considerations relative to the times of year and number of flight tests conducted are discussed in the Final EIS. There would be minimal use of off-road wheeled or tracked vehicles. If helicopter use were impossible, horse pack of debris would be used after the vehicle was cut up into pack-size pieces. Repeated overflight to find and recover the booster would be minimal.

Comment: What is the maximum number of tests expected as part of the TMD program? What are the chances of more than four such tests in any month? What is the absolute maximum number of

launches from any single location? How many tests are really possible per month within the WSMR Candidate Test Area? What is the maximum potential number of target missile launches within the WSMR Candidate Test Area? (MW-0204-6; MW-0204-7; MW-0204-8)

Response: Approximately 100 flights would be conducted. The number of tests during any one month would not likely exceed four. The absolute maximum number of launches from any single location would not likely exceed 100.

Comment: Even though the Army contends that an overland test range is desirable to fully validate system effectiveness, there is no overland alternative to the WSMR; this makes WSMR seem like more than just a candidate. (MW-0207-2; MW-0220-22)

Response: No decision will be made on the proposed action until publication of the Record of Decision after completion of the Final EIS.

Comment: On p. 2-53 the document states that WSMR would assume primary responsibility for a flight termination. The flight trajectories go over populated areas. Will giving WSMR responsibility somehow lessen the impacts of deaths of innocent people. (MW-0220-25)

Response: Clearly no, but WSMR has the responsibility and authority to terminate a flight if a missile goes off course and populated areas are threatened. WSMR has a long history of conducting missile testing with no injuries or deaths to individuals.

Comment: Army TACMS will be launched from FWDA according to p. 2-54 of the Draft EIS. Will these contain live warheads? If so, is this a wise decision being so close to a school and small town? (MW-0220-27)

Response: Army TACMS launches from FWDA would carry only inert bomblets instead of the high-explosive bomblets normally carried.

Comment: The environmental consequences discussed in the EIS describe potentially destructive scenarios regarding health and safety, economic development, civil rights, and equity in national security sacrifice. (MW-0207-1)

Response: Thank you for your comment.

Comment: What will occur if there is termination of the missile flight after the missile is beyond the LHA? What will be the size of the area in which hazardous materials will be scattered? All hazardous materials should be described in the Final EIS and not in some other report. (MW-0204-14)

Response: Termination of the missile flight after the missile is beyond the LHA would result in debris impacting within the debris containment corridor. This is described in Appendix I of the Draft EIS.

Comment: I disagree with the EIS conclusion that missile overflights and the evacuation of large areas in Utah and New Mexico will have a not significant impact. (MW-0204-19)

Response: Thank you for your comment.

Comment: I am against a proposal to shoot a missile from FWDA to Green River, Utah. If tests are required, why don't they take place somewhere else? (MW-0141-1)

Response: There is no proposal to launch missiles from FWDA to Green River. A discussion of alternative sites and criteria used to evaluate sites is in Section 2.5 of the Draft EIS. The GRLC would be used only for target launches of missiles to WSMR.

Comment: I ask that the Army not throw bombs at Green River. (MW-0161-1)

Response: The proposed action does not include throwing bombs at Green River. The GRLC would be used only for target launches of missiles to WSMR.

Comment: I want the missile test to stop immediately. (MW-0058-1; MW-0142-1)

Response: No testing described in the Draft EIS is currently being conducted. A decision will be made following publication of the Final EIS.

Comment: Can recreational users of areas in the booster drop zones plan to use the areas and not be interrupted in the process? (TSQ-0002)

Response: Booster drop zones must be evacuated for some test scenarios. Evacuation notice procedures and advance time notices are identified on p. 2-52 of the Draft EIS.

Comment: Is Shiprock under or near the flight path of the missiles? (TSQ-0006)

Response: As shown in figure 2.2-1 of the Draft EIS, Shiprock is near a potential missile flight path.

Comment: The Army should perform fly-over technology to better understand how many dwellings, etc., are in the area affected by the test activities. (ER-0005-4)

Response: This is routinely done by the WSMR Safety Office before test flights.

Comment: Since only 70 persons are projected to be involved in each launch activity, will that be adequate to clear the booster drop area? Closure and evacuation of the drop areas appear unrealistic. How can those individuals both ready the missile and the drop zone? Are other military personnel going to be brought in for this action? If so, then why was that not addressed in the EIS? Will local law enforcement agencies be expected to erect the road blocks at the many access points? (MW-0039-6; MW-0039-7)

Response: Detailed evacuation plans and booster recovery plans will be developed after final selection of drop zones. In general, residents of the evacuation areas would enter into contractual agreements with the Government to evacuate after formal notification in writing by mail and hand delivery of confirmation notices. Agreements would need to be entered into with local law enforcement agencies. Helicopter overflight just prior to the test would survey the area to ensure the evacuation was successful.

Comment: I am concerned that the boosters that may impact in the national parks are not to be considered a low impact; who will clean up the debris and how will the debris-recovery teams get to the sites? There is a concern about the sensitivity of the booster recovery. (MW-0067-5; TRQ-0010)

Response: There are no planned impacts of boosters within national parks. Every effort would be made to minimize the impacts of debris-recovery operations in general. Existing roads and helicopters would be used to the extent possible in order to minimize ground disturbance. If

helicopter use proves impossible, the booster would be cut up and packed out by horse. A qualified biologist and/or archaeologist, as appropriate, would monitor recovery operations.

Comment: Is it correct that the Army has ten different missiles that it plans to use in the proposed flight corridors? The EIS only shows two. (TCQ-0002)

Response: Other target vehicles, in addition to the HERA family of target vehicles, may be used in TMD testing. The HERA target missile was described as representative of target missiles that would be used.

Comment: Pertaining to the economics of testing at different sites, which would cost the most and which would cost the least? (TUQ-0016)

Response: Cost considerations are not within the scope of the EIS.

Comment: If the primary stages of any missile launched from Green River will not drop in Canyonlands or Dead Horse State Park, where will they drop? (TUQ-0008)

Response: They would drop in the booster impact areas identified in the Draft EIS and Supplement to the Draft EIS.

Comment: Elaborate on booster debris recovery. (TUQ-0006)

Response: Boosters would be recovered almost immediately and located with radar track information and an onboard locator. The booster would be pinpointed by helicopter and sling-loaded out to the nearest road where vehicles would be available for ground transport. There would be minimal use of off-road wheeled or tracked vehicles. If helicopter use were impossible, horse pack of debris would be used after the vehicle was cut up into pack-size pieces. Repeated overflight to find and recover the booster would be minimal. Two flights could recover the entire booster. Road construction in the impact areas would not be required.

Reclamation of affected areas would be accomplished to the satisfaction of the agencies with responsibility for the management of the land. Representatives of these agencies could participate in recovery operations.

Comment: The only reason given for using WSMR is for recovery of debris. With a launch site in New Mexico, why is the second launch site in Green River needed? (TUQ-0002)

Response: The selection of candidate test areas is based on a number of factors, only one of which is debris recovery. In order to achieve the target velocities, altitudes, and reentry angles required, different distances are necessary to properly test the missiles. A final decision whether or not to use the GRLC and/or FWDA has not yet been made.

Comment: Is there any reason why the target missile can't be launched close enough to WSMR such that any boosters drop on WSMR only? (TUQ-0001)

Response: In order to achieve the target velocities, altitudes, and reentry angles required, it is necessary to launch some targets on trajectories which result in booster impacts outside WSMR.

Comment: What kind of explosive does the Army plan to use on the missile fuse? (TCQ-0003)

Response: The proposed action does not include using fuses in TMD missiles.

Comment: Even though the target missile is currently a multi-stage missile, would it be possible to change the TMD program? (MW-0018-3)

Response: A single-stage missile is also under consideration.

Comment: We are opposed to any test activities from the GRLC or within the southern Utah area. (EM-0003-1; EM-0004-1; EM-0005-1; EM-0007-1; EU-0002-4; EU-0003-3; EU-0005-1; EU-0007-4; EU-0008-1; EU-0010-3; EU-0013-4; MW-0016-1; MW-0024-1; MW-0042-1; MW-0045-1; MW-0047-1; MW-0051-1; MW-0051-3; MW-0060-1; MW-0069-1; MW-0070-5; MW-0073-2; MW-0076-1; MW-0081-6; MW-0098-1; MW-0102-1; MW-0105-1; MW-0106-14; MW-0130-1; MW-0138-1; MW-0140-1; MW-0148-1; MW-0150-2; MW-0159-1; MW-0160-1; MW-0162-1; MW-0163-1; MW-0192-1; MW-0213-1; MW-0221-1; MW-0223-1; MW-0236-2; MW-0237-1; MW-0237-2; TU-0001-1; TU-0012-3; TU-0014-4; TU-0017-4; TU-0018-4; TU-0021-4; TM-0006-10; TM-0009-7; TM-0009-12; TM-0010-2; TM-0016-1; TM-0016-10; TM-0018-4; TM-0019-2; TM-0022-2; TR-0015-6)

Response: Thank you for your comment.

Comment: Launching missiles from Green River poses unacceptable risks to the people, environment, and archaeology of the Canyonlands areas. (TM-0016-2)

Response: Thank you for your comment.

Comment: As the Emery County Commissioner, I would like to guarantee that county planning and local planning will be in cooperation with the Federal government; I feel that the program is vital and essential for this government. (TU-0019-1)

Response: Thank you for your comment.

Comment: I support the proposed TMD program at the FWDA if the proposed launch site is relocated to the former Pershing missile launch site near McFerren Lake. (MW-0014-1)

Response: Thank you for your comment.

Comment: The Army cannot determine the environmental impacts of test activities because the EIS fails to describe what specific actions would be taken to evacuate booster drop zones and retrieve missile debris and how much of the action would be performed by ground vehicles and how much by helicopters. (MW-0035-17)

Response: Boosters would be located with radar track information and an onboard locator and recovered almost immediately. The booster would be pinpointed by helicopter and sling-loaded out to the nearest road where vehicles would be available for ground transport. There would be minimal use of off-road wheeled or tracked vehicles. If helicopter use were impossible, horse pack of debris would be used after the vehicle was cut up into pack-size pieces. Repeated overflight to find and recover the booster would be minimal. Two flights could recover the entire booster. Road construction in the impact areas would not be required.

Reclamation of affected areas would be accomplished to the satisfaction of the agencies with responsibility for the management of the land. Representatives of these agencies could participate in recovery operations.

Comment: Alternative 1, WSMR, should be removed from the prospective list of test sites due to the negative impact from the closing of Interstate Highway 70 and the dropping of boosters on Canyonlands/Dead Horse Point State Park. We are not in favor of the test activities because of test activities near the parks. (MW-0009-1; TU-0017-1)

Response: If Booster Drop Zone C1 or C2 is selected, Interstate Highway 70 would not need to be closed. Under no circumstances would boosters be dropped on Canyonlands/Dead Horse Point State Park.

Comment: I am in favor of the test activities at the GRLC and ask that those people with negative concerns try to look at the positive as well as the negative. Everyone should work together and try to do the best thing overall. I approve of the plans to launch from Fort Wingate. (TM-0002-4; TM-0012-4; MW-0227-1)

Response: Thank you for your comment.

Comment: There is a concern that the missiles being tested may not be actually used in a theater in the Western Hemisphere now but may be used here in the future. (TM-0003-4)

Response: Ultimate use of the missiles is a political and policy decision and outside the scope of this EIS.

Comment: If the TMD test activities do occur in the region, it would be more appropriate to test from the FWDA rather than the GRLC. (TM-0003-5)

Response: Thank you for your comment.

Comment: Some issues identified during scoping were discussed in the EIS but not to the desired level, but it is hoped that they can be worked out. The issues include the time of year for testing, the method of debris retrieval, the increase of long-term access to the areas, and methods used to secure and monitor the booster drop zones. (TM-0004-2)

Response: Considerations relative to the times of year test activities are conducted are discussed in the Final EIS. Boosters would be recovered almost immediately and located with radar track information and an onboard locator. The booster would be pinpointed by helicopter and sling-loaded out to the nearest road where vehicles would be available for ground transport. There would be minimal use of off-road wheeled or tracked vehicles. If helicopter use were impossible, horse pack of debris would be used after the vehicle was cut up into pack-size pieces. Repeated overflight to find and recover the booster would be minimal. Two flights could recover the entire booster. Road construction in the impact areas would not be required.

Reclamation of affected areas would be accomplished to the satisfaction of the agencies with responsibility for the management of the land. Representatives of these agencies could participate in recovery operations.

Additional details are included in the updated Evacuation Plan and Booster Recovery Plan which are included as Appendix B and Appendix D, respectively, of the Supplement to the Draft EIS.

Comment: We are opposed to any missile test flights over public or private land in Colorado, New Mexico, Utah, or Arizona. (MW-0041-1; MW-0049-1; MW-0064-1; MW-0115-1; MW-0118-1; MW-0119-1; MW-0172-1; MW-0189-1; MW-0198-1; MW-0203-1; MW-0230-1)

Response: Thank you for your comment.

Comment: No one wants to have homes in the area of the drop zones, but for the safety of the United States, they should abide by the requirements. (MW-0120-2)

Response: Thank you for your comment.

Comment: How well does the Army know the flight path of the missiles for these tests? (MW-0209-1)

Response: Missile flight paths are simulated using sophisticated, state-of-the-art modeling techniques. The degree of confidence in these simulations is high.

Comment: There are no problems with the proposed alternatives of launching missiles from either FWDA or the GRLC onto WSMR. Both of these flight paths lie over very sparsely populated areas of land and cannot possibly pose a threat to human or other animal life below the path. In addition, testing should be done over land in order to obtain accurate data required for an understanding of what will happen in realistic situation. (MW-0015-1; MW-0015-2; TU-0004-5; TU-0019-3; TM-0001-5; TM-0012-1;)

Response: Thank you for your comment.

Comment: If temporary inconveniences such as highway closings and restrictions of recreational land uses seem like grave impositions, it is only because our population has been spared really serious tragedies of repression experienced by much of the rest of the world. (MW-0200-3)

Response: Thank you for your comment.

Comment: I don't know what size drop zone is being planned or if liquid propellants are going to be utilized and suggest that the EIS show that information. (TM-0014-9)

Response: The booster drop areas are identified in the Draft EIS and the Supplement to the Draft EIS. The proposed action does not include liquid-fueled target vehicles.

Comment: The military is going to come in and wreck the area; this is based on personal feelings on the truthfulness of the military. (TM-0014-11)

Response: Thank you for your comment.

Comment: I am confident that the TMD test activities can proceed in a safe manner with minimal impact on the environment because of the manner in which the military operated Green River in the past. I am proud to be associated with a project that would keep America strong and welcome the program back to Green River. The people of southern Utah who care about southern Utah and have lived there for some length of time are in favor of the project. (TU-0015-3; TU-0015-4; TU-0016-2; TM-0013-1)

Response: Thank you for your comment.

Comment: Are the debris containment corridors the actual potential evacuation and containment areas. (TU-0009-3)

Response: Debris containment depicted in Section 4.1.4.7 and Appendix I of the Draft EIS illustrates the maximum geographical extent of debris dispersal with a kinetic energy at impact of 11 feet-pounds (the critical threshold of injury requiring medical attention) in the unlikely event that a mission would have to be terminated after a successful launch of a missile from FWDA or the GRLC. They do not represent the area that would be swept over by aircraft looking for debris, nor do they represent evacuation areas, since the probability of injury or death is so low. Appendix I contains a discussion of debris fragment size, a hazard analysis, and a risk analysis to individuals in the debris containment corridor. The analysis concluded that the probability of a vehicle malfunction that would require a flight termination reduces the total expected casualty for a single launch to less than 2×10^{-8}. Unpublished casualty expectation thresholds of less than 10^{-5} on range and less than 10^{-6} off range are used within the WSMR Safety Office.

Comment: We are opposed to any missile testing in which debris falls outside of the missile range. (MW-0023-1; TS-0006-2; TS-0011-1; MW-0214-50)

Response: Thank you for your comment.

Comment: I am against any missile test activities due to unacceptable risk regarding public safety and the certain damage that would be sustained in national park and other heavily used public lands. Does the Army think that locating a booster drop zone near a national park will be acceptable to the American public? (MW-0030-11; EU-0014-11)

Response: The potential impacts of locating GRLC booster drop zones A and B near Canyonlands National Park are addressed in sections 4.1.2 and 4.1.4 of the Draft EIS. The potential impacts of locating GRLC Booster Drop Zone C1 near Canyonlands National Park is discussed in Section 4.1.8 of the Supplement to the Draft EIS. Booster drop zones C1 and C2 are analyzed in the Supplement to the Draft EIS and were identified in an effort on avoid impacts on heavily used recreational and park areas.

Comment: Could unpopulated areas such as the Pacific Ocean or the Arctic be used for missile tests activities? (MW-0064-2; MW-0094-3)

Response: Alternative 4 involves testing in the Pacific. There are no candidate test areas in the Arctic which would meet program requirements.

Comment: The Army should look to established test ranges such as WSMR or Fort Bliss to do the proposed tests. Are there other such overland sites that could be used and not close public highways and isolate individuals from groceries, gas, medical care, and the right to move around freely? Use of facilities at Eglin AFB or the Western Range alternative would be a more obvious choice. The military should look to the island range alternatives as well. The island range alternatives have less potential of hazardous impacts on the flight corridor beneath the missiles. (MW-0026-6; MW-0038-5; MW-0042-4; EU-0011-4; EU-0013-5; TU-0009-1; TU-0014-5; TG-0016-9)

Response: In order to achieve the target velocities, altitudes, and reentry angles required, it is necessary to launch some target missiles outside WSMR. WSMR and Fort Bliss McGregor Range are no longer large enough to accommodate the new generation of defensive missile test requirements. The other alternative candidate test areas are being evaluated in this EIS.

Comment: The description within the EIS to intercept all target missiles over existing WSMR lands is unbelievable because that would mean that all tests would be identical; there are concerns that impacts would occur over areas not enclosed within WSMR. (TS-0003-3)

Response: The large area available at WSMR permits a number of different intercept scenarios which could vary greatly in location and altitude. Tests would not be conducted at WSMR unless it could be assured with a high degree of certainty that all intercept debris would be contained within WSMR.

Comment: The Army should not put the missiles at WSMR because they would ruin many things. (MW-0184-1)

Response: All foreseeable environment impacts, as well as public input, will be considered in the decision whether or not to proceed with TMD extended-range testing.

Comment: Why is WSMR being considered as an alternative? (TUQ-0018)

Response: A discussion of alternative sites and criteria used to evaluate sites is in Section 2.5 of the Draft EIS.

Comment: I cannot accept the use of the WSMR area as an alternative because the area is too important to the country and to me. (MW-0206-10)

Response: Thank you for your comment.

Comment: We do not want missiles fired over the lands and the homes in the Fort Wingate area. (TS-0004-3; TS-0007-7; TS-0016-2; ER-0011-1)

Response: Thank you for your comment.

Comment: Suppose the threat is a rogue asteroid? Suppose the threat is a exo-space launched warhead? How would the TMD system work against these threats? (EU-0014-1; EU-0014-2)

Response: The proposed action does not include testing against rogue asteroids or exo-space launched warheads. The TMD Extended Test Range program is designed to address theater threats, i.e., short- and medium-range missile systems.

Comment: How does the TMD test activity differ from the PATRIOT testing? Be specific. Where was the PATRIOT testing done previously? (EU-0014-4; TR-0016-1)

Response: PATRIOT testing is included in the proposed action for TMD extended-range testing. Previous PATRIOT testing has been conducted at WSMR.

Comment: The TMD test activity is a "harebrained" idea because it is the thought of a government that proposes to bomb its own citizens with metal fragments from the sky. (TS-0005-1; TR-0006-8)

Response: Thank you for your comment.

Comment: There is a serious possibility of damage to the land, water supply, livestock, wildlife, homes, and people from falling boosters and the resultant fires. (MW-0122-3)

Response: The risk from falling boosters is addressed in the Draft EIS.

Comment: I am submitting the claims process required in the event of damage sustained during TMD test activities. (ER-0016-1)

Response: The U.S. Army would be responsible for any physical damage sustained as a result of the TMD Extended Test Range program.

Comment: What would be the approximate square mileage within the booster drop zone where debris would be removed. The locations of the booster drop zones have been left impermissibly vague by the Army during project planning. (TS-0013-3; MW-0219-28)

Response: The Supplement to the Draft EIS provides a more detailed definition of the booster impact areas. Booster debris is expected to be one or two large pieces, essentially the intact booster itself, which would be recovered almost immediately.

Comment: Other sites could be used for TMD test activities; these could include areas around Colorado Springs such as Fort Carson, the Bonneville Salt Flats in Utah, or the missile range above Las Vegas, Nevada; there is a feeling that the New Mexico area was selected because the decision maker felt that there was only a bunch of Indians out there. What other locations are being looked at that are over land? The tests should be done where there is less population. (MW-0159-3; MW-0163-3; MW-0166-5; MW-0221-2; MW-0223-2; TS-0007-8; TS-0013-2; EU-0008-3; ER-0009-1; TU-0017-3; TC-0006-4; TG-0017-1; TR-0005-2)

Response: A discussion of alternative sites and criteria used to eliminate sites is in Section 2.5 of the Draft EIS.

Comment: Of the four sites analyzed, only one is over land, and that one is near three Indian reservations; test activities should take place over the Pacific Ocean or in Saudi Arabia. (TS-0008-6)

Response: Alternative 4 considers testing over the Pacific Ocean. Testing in Saudi Arabia is not part of the proposed action.

Comment: It is ludicrous that the Army is considering having live missiles fly over populated areas of the country. (EM-0011-1; ER-0007-1)

Response: The booster impact areas are in sparsely populated regions. The missiles to be used for TMD test activities do not have "live" explosive warheads.

Comment: There is a tremendous amount of activity in the proposed launch area, Booster Drop Zone A, and Booster Drop Zone B; the EIS does not indicate if the necessary research has been completed to realize the immense job it will be to schedule the test events and communicate with the public. (MW-0217-21)

Response: The proposed evacuation notification procedures are outlined in the Supplement to the Draft EIS. Years of experience with the Extension Areas at WSMR give the U.S. Army confidence that the job can be accomplished successfully.

Comment: More information needs to be presented regarding the exact size of the booster drop zones. How was the booster drop zone size determined? (MW-0107-15; EM-0012-4)

Response: The Draft EIS and Supplement to the Draft EIS provide a more detailed definition of the booster impact areas and their delineation.

Comment: How much is it going to cost to evacuate everyone from the booster drop zones? Does the Army know how many people live in the zones? I am not willing to negotiate with the Government at any time regarding evacuation of my home. (ER-0014-11; TR-0006-4; TR-0011-11)

Response: The actual costs of evacuation are not known at this time. Detailed evacuation plans and booster recovery plans will be developed after final selection of drop zones. One of the criteria for selection of booster drop zones is the ability to obtain agreements with public or private landowners to evacuate after formal notification in writing by mail and hand delivery of confirmation notices. Security of the area would be worked out in agreements with local law enforcement agencies. Helicopter overflight just prior to the test would survey the area to ensure the evacuation was successful.

The properties of any individual not willing to negotiate evacuation agreements with the Government would not be included in the booster drop area. The actual booster impact area is considerably smaller than the identified booster drop zone, which gives the U.S. Army considerable latitude in defining the booster impact areas and thus the actual areas that would be evacuated.

Comment: I urge the Government not to do the testing because I will not cooperate in any manner while the military takes over my home and life. (MW-0104-5)

Response: Thank you for your comment.

3.1.3 AIR QUALITY

Comment: Missile tests would add to the other pollutants and cause environmental damage to the air in the area of the testing. (ES-0003-1; MW-0029-1; TC-0002-3; TM-0013-13; TM-0018-3; TR-0015-3; TS-0009-4; TS-0015-5)

Response: The analysis in the Draft EIS has determined that the impacts on air quality would be not significant, either by themselves or cumulatively with other activities occurring in the area.

Comment: We are concerned about the 75 pounds of Freon that are released into the atmosphere every time a launch occurs. (TM-0003-6; TM-00023-4)

Response: The Draft EIS (in Section 4.1.1.1, pp. 4-16 and 4-17) determined that the amount of Freon that would be released from the launch of target missiles is not significant. It has subsequently been established that the HERA target missiles would not be constructed with components that would use and release Freon.

Comment: Explosive chemicals will get in the air and pollute it; the people will then breath the air. (MW-0173-4)

Response: As described in Section 4.1.1.7 of the Draft EIS, all explosive handling operations would follow DOD, individual military branch, installation, and local regulations. Air emissions that would be expected to occur in large quantities are nonexplosive, and the analysis in the Draft EIS (especially in Section 4.1.1.1) indicates that the public would not be exposed to concentrations of air pollutants in excess of health-based guidelines.

Comment: The impacts section in the EIS fails to address the in-city problems such as the increase of launch personnel that would cause additional air pollution in the area. (MW-0106-9)

Response: As discussed in the Draft EIS, TMD Extended Test Range launches would be short-term events for which only transient personnel would be required. For purposes of analysis, Section 4.1.1.10 assumes a 2-week launch event period. For target missile launches it is assumed that 70 personnel would be required for this period, and for defensive missile launches 140 personnel would be required. The impacts on air quality from such few persons for such a short period of time would be indistinguishable from normal transient populations, such as tourists (see Appendix J of the Draft EIS).

Comment: There is enough air pollution, and TMD will only add to this problem. (ES-0002-2; MW-0222-6)

Response: The Draft EIS has determined the cumulative impacts on air quality would be not significant.

Comment: Smoke and other pollutants would make a lot of people sick. (TR-0014-2)

Response: The analysis in the Draft EIS (especially in Section 4.1.1.1) indicates that the public would not be exposed to concentrations of air pollutants in excess of health-based guidelines.

Comment: The use of pollutant-control technologies would be required to support the IRF Act of 1978. (TR-0024-11)

Response: It is planned that all TMD Extended Test Range activities would comply with pollution-related laws and regulations (see, for example, table 1.7-1 in the Draft EIS).

Comment: Concentrations of hydrochloric acid may exceed published air quality guidance levels, and the Army will continue to do tests. (TR-0024-19)

Response: Analysis in the Draft EIS (see sections 4.1.1.1, 4.1.2.1, 4.1.3.1, 4.2.2.1, and Appendix E) and further detailed analysis in the Final EIS indicate that the public would not be exposed to concentrations of HCl in excess of health-based guidelines.

Comment: I would like more information about the effects on air quality in the area of test activities. (TCQ-0001)

Response: The air quality analysis in the Draft EIS examines predicted concentrations of pollutants at distances greater than or equal to 1 kilometer (0.6 mile) from the launch site. Air quality regulations apply primarily to concentrations of pollutants in the ambient air, where ambient air means air to which the public has access. As the public would be evacuated from the LHA during launch events and the LHA would always be greater than 1 kilometer (0.6 mile), analysis of air quality specifically at lesser distances is not relevant to most air quality regulations.

Secondary impacts from air pollutants to other resources, such as biological resources, health and safety, and water resources, are addressed in these sections. It is expected that impacts on these resources would be not significant.

Comment: Cumulative impacts on air quality in the El Paso/Juarez area should be included in the EIS especially if Fort Bliss sites are used in test activities. The reasons for this are that the El Paso/Juarez area is downwind from Fort Bliss and WSMR and the area is not in compliance with National Ambient Air Quality Standards for particulate matter. Cumulative impacts of ongoing WSMR programs and facilities should also be included in the EIS. (MW-0214-29; MW-0214-31)

Response: As stated in the Draft EIS, the El Paso/Juarez area is not in the Region of Influence (ROI) for air quality. The candidate launch site for Fort Bliss McGregor Range is shown in figure 2.2-8 of the Draft EIS. As described in the Draft EIS, the winds are predominantly from the west (or the southeast in the summer). Thus, TMD Extended Test Range activities at WSMR and Fort Bliss McGregor Range would not be expected to influence the air quality in the El Paso/Juarez area. As stated in the Draft EIS (p. 4-20), the cumulative impacts on air quality from on-going programs are expected to be not significant.

Comment: Tables 3.1-3, -4, -5, and -7 present information not relevant to the test program and should not be included. The areas addressed are west of the Organ Mountains and outside of the ROI for the Draft EIS. What should be included is air quality data from the Tularosa Basin. (MW-0214-32)

Response: Of data known to be available, those shown in tables 3.1-3 through 3.1-7 are the most representative of air quality in the WSMR area. As discussed in Section 4.1.1.1 on p. 3-10 of the Draft EIS, the air quality at WSMR should be as good or better than that at the sites presented in these tables.

Comment: Discussion of air quality impacts in the Draft EIS is inadequate particularly with respect to air quality impacts associated with an on-pad missile failure. It is stated that any on-pad missile failure assumes that all solid propellant in the booster would be released at a height of 656 feet. The EIS also states that this assumption under-predicts air quality impacts associated with a successful launch. If this is the case, then it must significantly under-predict the severity of impacts attributable to an on-pad launch failure. The EIS understates the significance of the impacts by relying on the dispersal of pollutants to support a conclusion of non-significance. The impacts analysis is also flawed by an impermissible limited scope of analysis. The Army must disclose all of the environmental effects of the proposed test program including atmospheric effects. (MW-0219-39; MW-0219-40; MW-0219-41; MW-0219-43)

Response: While, as discussed in the Draft EIS in Section 4.1.1.1, p. 4-14, the assumption that all the emissions from the first-stage rocket motor are released at the ground cloud stabilization height "tends to underpredict concentrations very near the launch site," other assumptions used in the air quality modeling (as summarized on p. 4-16) tend to over-predict the concentrations of the pollutants in the ambient air. Air quality regulations apply primarily to concentrations of pollutants in the ambient air, where "ambient air" means air to which the public has access. As the public would be evacuated from the LHA (i.e., very near the launch site) during launch events, a methodology that tends to underpredict concentrations very near the launch site and tends to over-predict concentrations at all other locations is a valid one for analyzing impacts on air quality.

Other resources which may be impacted by rocket motor emissions very near the launch site, such as biological resources, health and safety, and water resources, are addressed in those sections. It is expected that impacts on these resources would be not significant.

Comment: What about the persistent organochlorides, such as dioxin, formed when HCl is combusted? Page 4-13 of the Draft EIS states that pollutants will become diluted in very large volumes of air. There is no method in nature to break down organochlorides such as dioxin. There will be cumulative impacts of the introduction of organochlorides into the environment. (MW-0220-41; MW-0220-42; MW-0220-43)

Response: So-called "dioxins" are not formed when hydrogen chloride is combusted. 2,3,7,8-tetrachlorodibenzo-p-dioxin and related compounds are typically formed when chlorinated aromatic hydrocarbons are combusted at low temperatures. The best-known example of this phenomenon is

the burning of polychlorinated biphenyl (PCB)-contaminated oil. Neither PCBs nor other chlorinated aromatic hydrocarbons are constituents of solid rocket propellant; therefore, no so-called dioxins are present in the combustion products of the target or defensive missiles. The combustion products that are present are listed in tables 4.1-4 and 4.1-5 of the Draft EIS.

Comment: Pages 4-18, 4-82, and 4-101 of the Draft EIS admit that clouds of HCl could affect Fort Wingate. While the cloud may be temporary, the residual deposits of chlorine byproducts are persistent. (MW-0220-44)

Response: For those resources where there is a potential for impact from deposits of rocket motor combustion products (such as biological resources and water resources), this potential is analyzed. Analysis indicates that impacts on these resources would be not significant (see, for example, discussions in sections 4.1.1.3 and 4.1.1.12 of the Draft EIS).

Comment: The Draft EIS does not consider the combined effects of exposure to aluminum oxide, nitrogen tetroxide, solid fuels, hypergolic propellants, persistent organochlorides, and other toxic byproducts produced by missile launches and/or misfires. (MW-0220-46)

Response: The Draft EIS analyzes the effects of exposure of humans, plants, and animals to chemicals associated with proposed TMD Extended Test Range activities in proportion to their potential for impact. The combined effects of exposure to these chemicals were considered as part of the cumulative impacts, and it is expected that they would be not significant.

Comment: On pp. 4-18 and 4-19 of the Draft EIS comparisons are made to worldwide anthropogenic impacts on the atmosphere and to the Titan missile and space shuttle. These are irrelevant. Just because there are bigger messes somewhere else does not justify depleting the ozone over the test area. (MW-0220-50)

Response: The analysis of Freon release in Section 4.1.1.1 of the Draft EIS uses data from the report "Atmospheric Effects of Chemical Rocket Propulsion" (American Institute of Aeronautics and Astronautics, 1991) in order to compare the potential maximum annual amount of Freon 114B2 released by the launch of TMD Extended Test Range target missiles to the annual global stratospheric chlorofluorocarbon burden.

It has subsequently been established that none of the HERA target missiles would be constructed with components that would use and release Freon; therefore, no Freon 114B2 is expected to be released.

Comment: What effect will the acid rain caused by release of HCl by the rockets have on the area's trees and plants? (MW-0220-61)

Response: The effect of HCl gas, which is emitted during missile launches, is addressed in the biological resources sections, and it is expected that it would be not significant. The potential for there to be a cumulative impact on acid rain is addressed in Section 4.1.1.1, pp. 4-17 and 4-18, and it is expected that it would be not significant.

Comment: There are enough other pollutants and environmental damage to the air breathed in the state of New Mexico as well as a problem with air inversion in the state. (MW-0010-2)

Response: The Draft EIS has determined that the cumulative impacts on air quality from TMD testing would be not significant.

Comment: Hydrogen chloride cannot possibly be considered a non-existent threat. (EG-0009-6; MW-0052-6)

Response: The Draft EIS has determined that the impacts of the concentrations of HCl would be not significant.

Comment: It is stated on p. 2-47 of the Draft EIS that night launches may occur. On p. 3-9, the document also states that due to very low mixing heights in the morning, even moderate amounts of emissions may lead to high pollutant concentrations. Will night launches also lead to high pollutant concentrations? (MW-0220-23)

Response: As discussed in Section 2.0 of the Final EIS, even under very conservative screening modeling methodologies (i.e., ones that tend to over-predict the concentrations) launches or on-pad accidents of defensive missiles would generally not be expected to cause the relevant health-based air quality guidelines to be exceeded. This conservative approach includes the possibility of low mixing heights. Furthermore, for those combinations of specific LHA, target missile launch site, and target missile configuration where the screening model indicated that air quality guidelines might be exceeded, a more detailed site-specific model was run. In all cases emissions were well below the air quality guidelines.

3.1.4 AIRSPACE

Comment: The use of airways above states considered for test activities should continue so as to ensure a ready defense of the country in the event of war. (MW-0015-3)

Response: The intent of the program is to have minimal impact on both the low-altitude airways and high-altitude jet routes.

Comment: TMD test activities conflict directly with aviation activities in the area near the GRLC. The Canyonlands airport approaches would cross the missile flight lines, causing serious safety issues for the seven aviation companies in the area. Scenic flights would be endangered. (MW-0046-2)

Response: The Draft EIS concluded that there would be no effect outside of R-6413 on aerial operations at local airports or flights, including Canyonlands Field outside Moab (p. 4-55, para. 3).

Comment: Missile flight paths will intrude into Navajo Nation airspace. (ER-0013-5; TGQ-0028; TR-0024-5)

Response: Figures 2.2-9 and 2.2-10 of the Draft EIS depict representative target missile trajectories. Sections 4.1.2.2 and 4.1.3.2 indicate that the missile flights outside of the restricted airspace would be at altitudes well above Class A airspace with its attendant jet route structure. They would not intrude into airspace over the Navajo Nation or any other airspace.

Comment: Missile flights will cause air traffic in the region to be halted, thus preventing emergency services to hospitals in Albuquerque. (ER-0019-11; TR-0013-11)

Response: Air traffic would not be halted but rerouted to avoid the booster drop areas for 3 to 4 hours surrounding the proposed launches and test flights. Emergency flights would be allowed through, and in an emergency, any launches would be delayed, postponed, or rescheduled.

Comment: I am concerned about having wide corridors of off-range airspace appropriated for military testing. (EU-0013-7; TU-0014-7)

Response: No off-range land or air would be appropriated for the TMD Extended Test Range program other than the proposed additions to the R-6413 Restricted Airspace above the GRLC (Section 4.1.2.2 of the Draft EIS, p. 4-54); proposed new restricted areas above booster drop zones B, C1, and C2 in Utah; a proposed new restricted area above FWDA (Section 4.1.3.2 of the Draft EIS, p. 4-73); and proposed new restricted areas above booster drop zones A, B, and C in New Mexico. Even this new joint-use restricted airspace, when not needed, would be released by the using agency, Deputy for Air Force, WSMR, to the FAA controlling agency (Draft EIS, p. 4-74, para. 3).

Comment: Improved procedures are necessary to insure that pilots are properly informed regarding specific times that airspace will be in use for missile test activities. When the GRLC was in use previously, there were times when the Federal Aviation Administration did not know if tests were being conducted, and this caused problems for pilots in the area. (TM-0015-1)

Response: The Draft EIS notes that launches would be coordinated with the FAA (Section 4.1.2.2, p. 4-55, para. 5, line 1).

Comment: The Draft EIS only mentions Restricted Area 6413 and two unidentified additions to the airspace; it does not indicate the amounts of time the airspace will be closed or what notice will be given. The launch window would not be managed properly, and as a result, the airspace would be closed for at least 2 days. (MW-0056-34; TU-0020-4; TUQ-0015)

Response: Sections 4.1.2.2 and 4.1.3.2 of the Draft EIS and sections 4.1.2 and 4.2.2 of the Supplement to the Draft EIS identify in detail the proposed airspace additions related to the GRLC and FWDA. While the exact time that the airspace would be closed is not specified, consideration would be given to such factors as IFR procedures which impinge upon the restricted area, communications, and time required to ascertain that all VFR aircraft are clear of the area.

Comment: Would airline corridors in the area be affected since this will cause flight scheduling and adequate fuel concerns. (MW-0201-6; TU-0022-7)

Response: The Draft EIS and Supplement to the Draft EIS indicate that airways and jet routes would be subject to penetration by the spent rocket booster. For both launch locations, both the low-altitude airways and high-altitude jet routes would have been closed and aircraft rerouted for the 3 to 4 hours surrounding the proposed launches and test flights. The exact number of aircraft affected would depend on the day and time of launch. It is unlikely that any aircraft transiting the flight corridor would have to reschedule their departure or arrival times, since rerouting takes place frequently to avoid weather, for example. Similarly, aircraft fuel sufficiency is not an issue. In any event, the required coordination procedures with the FAA ensure minimal impacts on the nation's airlines.

Comment: Affected towns are not shown on the map of Low Altitude Airways, Restricted Areas, and Military Operations Areas. This does not give local residents a clear picture of the effects of this proposed operation on local air traffic. (MW-0056-20).

Response: Towns or other objects on the ground outside the LHAs would not be affected by the proposed action, with the exception of booster debris in the booster drop areas, which would be evacuated, and the possible exception of flight termination debris from a missile malfunction, which is addressed in Section 4.1.4.7 of the Draft EIS. The Airspace analysis in sections 4.1.2.2 for the

GRLC, 4.1.3.2 for FWDA, and 4.1.4.2 for the WSMR Flight Corridor concluded that there would be no effect outside the existing and proposed new restricted areas on aerial operations at local airports or flights. Refer to the Supplement to the Draft EIS for further discussion.

Comment: The people of Colorado's San Luis Valley are painfully aware of the noise pollution and fears associated with low-level flights in restricted airspace. (MW-0056-21)

Response: Both the noise (Section 4.1.2.9) and health and safety impacts (Section 4.1.2.7) of target missile launches out of the GRLC and noise (Section 4.1.3.9) and health and safety (Section 4.1.3.7) of both target and defensive missile launches out of FWDA are addressed in the Draft EIS. The TMD Extended Test Range program involves just missile launches, not low-level aircraft flights.

Comment: What the Army does not show is the more than half dozen sovereign Indian nations' airspace and reservation lands which will be violated. (MW-0074-3)

Response: The Draft EIS does state that flight in the flight corridor may include overflight of American Indian lands. Although American Indians do not have jurisdiction over the airspace above their lands, the DOD has traditionally coordinated with the tribal councils through the Bureau of Indian Affairs. (p. 4-91, Section 4.1.4.2, para. 1, line 10). Once the final flight path has been determined, coordination will be made through the Bureau of Indian Affairs.

Comment: Newly created restricted airspace should be more clearly shown. (MW-0214-36)

Response: The affected airspace is shown in figure 3.1-1, p. 3-16 of the Draft EIS, and illustrated three-dimensionally in figure F-1, Appendix F, Volume II of the Draft EIS. There are additional illustrations in the Supplement to the Draft EIS (figures 3-1 and 3-11).

3.1.5 BIOLOGICAL RESOURCES

Comment: The Draft EIS is deficient in its analysis of the effects of the proposed action upon wildlife, threatened and endangered species, and sensitive species and their habitats. The adverse impacts regarding disturbance to wildlife and the cumulative impacts on wildlife were not discussed in the Draft EIS. (MW-0001-6; MW-0001-14; MW-0035-16; MW-0035-18; MW-0066-2; MW-0112-7; MW-0219-47; TR-0011-15)

Response: The impact analysis of the effects of the proposed action addressed the species as listed in tables G-1 through G-4 of the Draft EIS. These data included threatened, endangered, and sensitive species. The cumulative impact discussion has been expanded in the Final EIS.

Comment: We oppose the proposed TMD testing because it would endanger wildlife, livestock, and domestic animals in the area; the impact on wildlife is not temporary when a 12-foot long missile lands on it. (EG-0009-7; MW-0026-3; MW-0031-3; MW-0038-3; MW-0048-2; MW-0052-7; MW-0089-3; MW-0090-4; MW-0091-3; MW-0115-5; MW-0134-2; MW-0135-2; MW-0136-3; MW-0139-2; MW-0157-5; MW-0181-2; MW-0193-4; MW-0194-3; MW-0195-4; MW-0203-4; MW-0205-4; MW-0222-3; TG-0002-5; TG-0012-2; TR-0025-3)

Response: As described in sections 4.1.3.3, pp. 4-75 to 4-78, and 4.1.4.3, pp. 4-94 to 4-96, of the Draft EIS, there would be no significant impacts on biological resources for the proposed FWDA alternative. If an unexpected economic loss were to occur as a result of the proposed missile tests, then the DOD would provide appropriate compensation.

Comment: The vegetation in the proposed test area contains many fragile and sensitive resources. The vegetation requires many years of recovery once disturbed. Native stands of unique plant communities should be left undisturbed. The native grasses are mainly bunchgrasses and in many cases are already under stress due to overgrazing. (MW-0007-3; MW-0057-18; MW-0107-24)

Response: As described in Section 4.1.4.3, pp. 4-94 and 4-95, of the Draft EIS, sensitive species in the booster drop zone regions are widely scattered and occupy small surface areas. Recovery operations would be coordinated with appropriate agencies, and standard restoration procedures would be followed if necessary.

Comment: We are opposed to the TMD proposal because the boosters will crash in areas that have great wilderness and biological value or possibly forest areas; this would be unacceptably disruptive or harmful to the lives of human beings and livestock. (EU-0002-2; MW-0012-2; MW-0033-1; MW-0034-2; MW-0047-2; MW-0093-1; MW-0123-8)

Response: As mentioned in the previous response, Federal and state regulatory agencies have been consulted as to the sensitive nature of habitats potentially affected by the proposed action. Potential impacts on the human population are addressed in the Draft EIS under the health and safety sections. In addition, follow-on consultation with appropriate agencies will be required prior to the use of the selected extended test range(s) by any specific TMD program.

Comment: Test activities from the GRLC will significantly impact wildlife, natural resources, and fragile ecosystems in the area, these activities being both dropping boosters and retrieving them. (EG-0007-5; EU-0003-1; MW-0016-2; TG-0007-5; TM-0016-7)

Response: As described in Section 4.1.4.3, pp. 4-94 and 4-95, of the Draft EIS, sensitive species in the booster drop zone regions are widely scattered and occupy small surface areas. Because of this, the chance of individual species being struck by spent boosters is very remote. For the recovery of spent boosters, appropriate mitigations would be applied to minimize any impacts.

Comment: How will the disturbance by helicopters of nesting wildlife be dealt with? Use of helicopters for recovery would displace wildlife and shatter the solitude of recreational users. Noise levels while searching for people to evacuate, searching for debris, and collecting debris will be unacceptable to both wildlife and humans for long periods of time. (EM-0005-6; MW-0106-4; MW-0057-9; MW-0093-3; MW-0099-12; MW-0103-17; TR-0005-8)

Response: The use of helicopters in conducting low-level flights to recover spent boosters or other debris would be of short duration and low frequency and therefore would result in minimal impacts on sensitive wildlife. For the recovery of spent boosters, appropriate mitigations would be applied to minimize any impacts. Such mitigations could include limited use of light-lift utility helicopters in sensitive wildlife areas, limiting as much as possible off-road vehicle use, avoiding testing during critical lambing or nesting seasons, and having a trained biologist involved in booster recovery operations to monitor for any potential impacts on sensitive species. If helicopter use were impossible, the booster would be cut up and packed out by horse. A debris-recovery plan was incorporated in the Supplement to the Draft EIS. State and Federal agencies would be consulted prior to any debris-recovery activities.

Comment: The last native herds of bighorn sheep should not be threatened any more than currently done. There is no doubt that the missile flights would adversely impact the wildlife in the long run. (MW-0007-4; MW-0240-6; TG-0004-6; TU-0007-6;)

Response: Bighorn sheep may be startled by test activities, but no significant impacts are expected. Recovery procedures would ensure the least amount of intrusion possible to sensitive habitats and species.

Comment: Booster retrieval, road construction, ecosystem interference, noise, pollution, and vehicular use will compromise the pristine wilderness character of the affected areas. (ER-0008-5; EU-0005-3; MW-0009-2; MW-0240-8; TU-0001-6; TU-007-8)

Response: Should the WSMR Candidate Test Area be selected as a TMD flight testing option, debris-recovery activities would follow the Debris Recovery Plan included in the Supplement to the Draft EIS. Road construction would be minimal, and specific construction would be addressed in follow-on documentation required for extended test range use by any specific TMD program. Potential impacts on sensitive ecosystems and threatened and endangered species have been identified in Section 4.0 of the Draft EIS, Environmental Consequences and Mitigations. Federal and state regulatory agencies have been contacted to review the Draft EIS, and the Final EIS addresses any additional issues of agency concern.

Comment: There is no way that the military will be able to compensate the public for the losses of endangered species provoked by the effects of the launches. (MW-0043-3)

Response: The DOD does not propose to compensate the public for the loss of endangered species due to military operations. Rather, this EIS process is designed to make available to the public the full record of environmental consideration, including Federal and state regulatory agency consultation and concerns. The Final EIS will serve as a tool for decision makers in considering environmental consequences of the proposed action and the safeguards and mitigations that must be followed when either the proposed action or an alternative is selected.

Comment: The desert is a fragile and vulnerable ecosystem that is most sensitive to the high-impact use and abuse thrust upon it. (MW-0030-2; MW-0240-7; TU-0007-7)

Response: Recovery operations would follow the Recovery Plan included in the Supplement to the Draft EIS and would be coordinated with all appropriate agencies to ensure a minimum of intrusion on the desert ecosystem.

Comment: The description of the affected environment fails to adequately describe wildlife and plants within the booster drop zones. (MW-0035-11)

Response: The affected environment description of the booster impact zones has been expanded in Section 2.0 of the Final EIS.

Comment: Coyotes protected by the BLM are a far greater threat to the bighorn sheep than the missiles would be. (TU-0019-4)

Response: It is beyond the scope of this EIS to interfere with the current policies of Federal regulatory agencies.

Comment: What will be done to protect birds such as eagles during the rocket launches. (TC-0005-10; TGQ-0032)

Response: As described in Section 4.1.4.3, pp. 4-94 and 4-95 of the Draft EIS, sensitive, endangered, or threatened species in the booster drop zone regions are widely scattered and occupy

small surface areas. Because of this, the chance of individual species being struck or disturbed by spent boosters is very remote.

Comment: Risk of malfunction, regardless of how small, is an unacceptable risk to the people, wildlife, and natural resources in the area. (EU-0016-2)

Response: As stated in Section 2.1.1.3 of the Draft EIS, flight termination systems for both target and defensive missiles, as well as other safety parameters, would be in effect on reduce the risk of impacts on people, wildlife, and other natural resources.

Comment: I am concerned about livestock being left unattended during evacuations. They require daily care to be fed, watered, and protected from predators. The use of helicopters may cause stampeding leading to injury and death; loss of livestock is not compensatable. Will livestock be evacuated? (ER-0002-2; ER-0006-4; TGQ-0030)

Response: Included in an appendix in the Supplement to the Draft EIS is a Debris Recovery Plan, which outlines standard operating procedures to be followed for use of helicopters. No impacts on livestock from the proposed action are anticipated, and there are no plans to evacuate livestock. In the event of an accident involving livestock, compensation would be made. Evacuations are expected to last no more than a maximum of 12 hours. Follow-on consultation with appropriate agencies would be required prior to the use of the selected extended test range(s) by any specific TMD program.

Comment: The endangered species list for the Fort Wingate booster drop area in Volume II of the Draft EIS is incomplete. (ER-0014-15)

Response: The endangered species list (table G-4) has been expanded in Section 2.0 of the Final EIS.

Comment: Endangered species are habitat-dependent and are found clustered in particular habitats. If the habitat is wiped out, the species has no chance of survival. (ER-0014-16; TR-0011-16; TRQ-0012)

Response: Consultations with various agencies, including the U.S. Forest Service, have occurred. Several of these agencies did identify other endangered species not included in the Draft EIS, which have now been taken into consideration.

Section 3.1.3.3, pp. 3-73 to 3-75 of the Draft EIS does identify various species and habitat areas found in the western portion of New Mexico. Section 4.1.4.3, p. 4-94 of the Draft EIS states that endangered or threatened species tend to be "widely scattered." This statement is true for individuals of a particular species within their habitat and because habitat areas for various species are scattered throughout much of the region. There are no plans to modify land areas within the proposed booster drop zones. It is expected that booster impacts and recovery operations would have little or no impact on wildlife.

Comment: The Draft EIS did not address or consider any of the important issues concerning long-term effects on ecosystem management. Some species of plants and animals exist in high desert areas because they are undisturbed by man and machine. The rugged terrain affords their ecosystem protection. (ER-0019-1; ER-0019-2; ER-0019-18; TR-0013-1; TR-0013-2; TR-0013-19)

Response: Ecosystem management was not addressed in the EIS; however, potential impacts on sensitive ecosystems and threatened and endangered species have been identified in Section 4.0 of

the Draft EIS, Environmental Consequences and Mitigations. Federal and state regulatory agencies have been contacted to review the Draft EIS and the Supplement to the Draft EIS.

Comment: It is not possible to reestablish the desert vegetation once it has been disturbed. (EM-0008-3)

Response: Desert vegetation can usually be reestablished once it has been disturbed. Standard procedures of restoration, such as reseeding and replanting, would be coordinated with applicable agencies.

Comment: There is a concern about the potential impacts on woodlands, forests, and ecosystems caused by fires resulting from the missiles. (EG-0007-13; TG-0002-13; TR-0013-13)

Response: The Emergency Response Plan included in the Supplement to the Draft EIS would be followed. Fire suppression is one of the top priorities of this plan.

Comment: The oldest Douglas Firs in the state have been found in the Chain of Craters Wilderness Area located in Booster Drop Zone B. (EG-0010-5; TG-0015-5)

Response: No impacts are expected to occur in the Chain of Craters Wilderness which is outside of Booster Drop Zone B.

Comment: The Zuni Mountains are home to many threatened and endangered species, such as the Mexican spotted owl and the northern goshawk. The drop zones also encompass a unique area, a non-alpine kistosolic bog. (TG-0016-3)

Response: As described in Section 4.1.4.3, pp. 4-94 and 4-95 of the Draft EIS, sensitive species in the booster drop zones are widely scattered and occupy small surface areas. Because of this, the chance of individual species being struck by spent boosters is very remote. Threatened and endangered species and unique areas would be avoided whenever possible.

Comment: The El Malpais National Monument contains important biological and geological resources, with many new species being discovered recently. (TG-0016-6)

Response: As described in Section 4.1.4.3, pp. 4-94 and 4-95 of the Draft EIS, sensitive species tend to be widely scattered. It is expected that booster impacts and recovery operations would have no significant impacts on biological and geological resources.

Comment: The issue of reclamation of disturbed areas was not covered as thoroughly as it could have been in the scoping document. (TM-0004-3)

Response: Standard procedures of restoration, such as grading and reseeding, would be followed and coordinated with applicable agencies. Restoration is discussed in the Booster Recovery Plan which is included in the Supplement to the Draft EIS.

Comment: The Draft EIS is lacking a description of the existing environment as to wildlife and threatened plant and animal species. (TM-0006-4)

Response: The affected environment description has been expanded in Section 2.0 of the Final EIS.

Comment: Endangered species such as the Peregrine falcon and bighorn sheep would be affected by the noise created by sonic booms, helicopters, and recovery vehicles. (MW-0057-12; TM-0013-4)

Response: Endangered species may be startled by the proposed activities, but no significant long-term impacts are expected. The Booster Recovery Plan included in the Supplement to the Draft EIS would be followed and coordinated with all applicable agencies to ensure a minimum of intrusion.

Comment: Destruction of forests and national monuments is not acceptable. (TR-0009-5)

Response: Forests and national monuments are not expected to be destroyed by the proposed activities. No significant impacts are expected. The Booster Recovery Plan would be followed and coordinated with appropriate agencies to ensure a minimum of disruption.

Comment: Wildlife such as deer, elk, and rabbits are hunted in the Zuni Mountain area. There are also edible plants in this area. (TR-0014-3)

Response: As described in Section 4.1.4.3, pp. 4-94 to 4-96 of the Draft EIS, there would be no significant impacts on biological resources in the proposed booster drop zones. This includes species used for hunting, medicinal purposes, or as other sources of food.

Comment: There is concern for the environment and wildlife of Cibola National Forest. The Cibola National Forest Plan does not envision this type use of Forest Service lands. (EG-0003-3; MW-0214-20)

Response: The Draft EIS and Supplement to the Draft EIS discuss potential impacts on the Cibola National Forest. Consultation with the U.S. Forest Service has been initiated in support of the Final EIS. If the WSMR alternative is selected, additional consultation will be carried out as required.

Comment: Little Water Canyon is a rare high-altitude bog. It cannot be replaced if damaged. (MW-0107-5)

Response: The risk of damaging unique habitats, such as a bog, is very small. In the event of an unexpected impact, the surface disturbance would be expected to range from a shallow depression in the soil to a crater approximately 4 by 10 ft across.

Comment: The baseline biologic data for the unique ecosystems on McGregor Range are especially important and should be included in the EIS. Likewise, the biological baseline data and evaluations for WSMR and the drop zone areas should be included. (MW-0117-3; MW-0214-8; MW-0238-1)

Response: Baseline biological data for potentially affected areas of McGregor Range and drop zone areas are included in sections 3.1.1.3, 3.1.2.3, and 3.1.3.3 of the Draft EIS. The affected environment description has been expanded in Section 2.0 of the Final EIS.

Comment: The Draft EIS states that the bighorn sheep habitats are more than 8 km from the launch site, but this area is never actually shown in the Draft EIS. (MW-0056-14)

Response: Figures 4.1-1, 4.1-2, 4.1-3, and 4.1-4 depict launch noise contours. The affected environment description of the booster drop zones has been expanded to include a graphic representation of sensitive habitats.

Comment: The Draft EIS states that booster fragments may not be recovered if they fall in bighorn sheep habitats because the noise of the choppers may have adverse effects on the sheep. The Draft EIS also states that impacts on sensitive species are anticipated to be not significant because they will not go where bighorn sheep exist. Does this mean that bighorns don't enter into any of the booster drop zones? (MW-0056-16; MW-0056-17)

Response: This statement is referring to bighorn sheep in the San Andres Mountains. According to the U.S. Fish and Wildlife Service, radio transmitters allow location of these sheep, and debris could be removed by personnel on foot with minimal impact during times when bighorn sheep are not in the immediate vicinity of the debris. The short-term noise of launch activities is not expected to have an adverse effect on bighorn sheep. There may be a possibility for bighorn sheep to enter into the proposed booster drop zones. Section 5.0 of the Final EIS contains a record of agency consultation. Follow-on consultation with appropriate agencies would be required prior to the use of the selected extended test range(s) by any specific TMD program.

Comment: How will the low-level chopper flights for notification purposes affect the bighorn sheep? (MW-0056-18)

Response: Low-flying helicopters can cause bighorn sheep to temporarily abandon an area, but no long-term significant impacts are expected. The helicopters planned for use would have a short-term maximum noise level of 85 dBA, below the wildlife significance cutoff level of 92 dBA.

Comment: Fires from early flight termination could impact animals and plant life and would be impossible to control in remote areas. (ER-0019-13; MW-0057-11)

Response: Fire suppression is one of the highest priorities of the Emergency Response Plan which is included in the Supplement to the Draft EIS. Fire suppression units would immediately respond to any indication of fire caused by launch operations or debris impacts.

Comment: How will bighorn sheep and peregrine falcons will be identified and located in order to avoid buzzing them during helicopter sweeps? (MW-0057-15)

Response: Bighorn sheep, peregrine falcon, and other sensitive species' habitats are currently known and would be avoided where possible.

Comment: McGregor Range has not been routinely used for vehicular maneuvers for many years, and most of the range is not regularly disturbed as the Draft EIS states. Northern McGregor Range and Otero Mesa are uncontaminated and managed as true multiple-use areas. Cattle graze there, and hunters and wildlife observers enjoy the use of these lands when not precluded by military missions. (MW-0214-28; MW-0238-8)

Response: Figure 3.1-4 has been altered to reflect the area of Fort Bliss McGregor Range which would be used in the TMD program. Only the southern portion of McGregor Range and the Fort Bliss Maneuver Area would be used.

Comment: The cumulative impacts of this program, the implementation of the Fort Bliss Master Plan, and Roving Sands Joint Training Exercises are significant impacts and will significantly affect wildlife. (MW-0214-38; MW-0238-4)

Response: The cumulative impacts discussion has been expanded in the Final EIS.

Comment: Regarding wildlife, the Draft EIS states "no cumulative impacts are expected," then under Mitigation Measures you propose that a biologist will monitor debris-recovery activities. Why? (MW-0217-15)

Response: In the Mitigation Measures subsections in the Final EIS it will state that a qualified biologist would accompany the debris-recovery team if determined necessary by the WSMR Environmental Resources Branch. This statement ensures that a biologist has the opportunity to be present should the WSMR Environmental Resources Branch consider it necessary or advisable. In the unforeseen event that debris-recovery operations were jeopardizing sensitive biological resources, recovery operations would cease until a solution was worked out in conjunction with Federal and state regulatory agencies.

Comment: There are a number of threatened or endangered wildlife species and plants species that occur on WSMR, Fort Bliss McGregor Range, the GRLC, and FWDA. NEPA-mandated analysis of effects on these species can best be accomplished through consolidated NEPA compliance and Endangered Species Act compliance. A decision to implement the proposed testing program should not be made until after the Army conducts the required Endangered Species Act consultation. (MW-0219-26)

Response: Initial consultations with applicable agencies, including the U.S. Forest Service, have occurred. Several of these agencies did identify other endangered species not included in the Draft EIS. These species and other recommendations have now been taken into consideration. Follow-on consultation with appropriate agencies would be required prior to the use of the selected extended test range(s) by any specific TMD program.

Comment: The Draft EIS does not adequately disclose impacts on national wildlife refuges. (MW-0219-37)

Response: Potential impacts on wildlife, threatened and endangered species, and sensitive species and their habitats have been identified in Section 4.0 of the Draft EIS, Environmental Consequences and Mitigations. Target and interceptor launch sites, booster drop zones, and debris impact areas were examined. Federal and state regulatory agencies were then contacted to review the Draft EIS, including the lists of threatened and endangered species in Appendix G. Appendix H contains a record of preliminary agency consultation. As a result of these consultations and agency correspondence received since the Draft EIS was published, the Final EIS will include additional information of agency concern. Follow-on consultation with appropriate agencies would be required prior to the use of the selected extended test range(s) by any specific TMD program.

Comment: The Army will not be able to implement the contemplated test program until it completes a Section 7 consultation under the Endangered Species Act. During this consultation the Army will acquire information on the occurrence of threatened and endangered species in the project areas and the potential for adverse effects on these species. This information should then be integrated into the Draft EIS and made available for public review and comment. (MW-0219-48)

Response: Federal and state regulatory agencies were contacted to review the Draft EIS, including the lists of threatened and endangered species in Appendix G. Appendix H contains a record of preliminary agency consultation. As a result of these consultations and agency correspondence received since the Draft EIS was published, the Final EIS includes additional information of agency concern. At present, there are no plans to republish the Draft EIS. All members of the public who received a copy of the Draft EIS will automatically be sent a copy of the Final EIS when the document is published. Follow-on consultation with appropriate agencies would be required prior to the use of the selected extended test range(s) by any specific TMD program.

Comment: Endangered species, such as the Zuni milk vetch on Chinle sandstone at 7,000 feet, are habitat-dependent. This formation is found in mounds around the Zunis. The impact of a booster could wipe out the entire habitat for a population. (MW-0220-53)

Response: The Zuni milk vetch has been downgraded to a Candidate 3 species and is no longer listed. However, impacts on this or other sensitive species as a result of proposed activities are expected to be not significant.

Comment: The spotted owl and goshawk populations could be entirely wiped out by booster impact. Although the dropped booster may miss the bird itself, it could destroy the habitat it is dependent on, either by fire or by impact. (MW-0220-54)

Response: The booster drop would cause limited areal impacts. Impacts on species such as the spotted owl and goshawks or their habitat expected to result from the proposed activities are not significant.

Comment: A slight change in pH has serious effects on the fish living in the lake, plants in the area, and cryptograms. (MW-0220-60)

Response: Page 4-89 of the Draft EIS describes the degree of alkalinity of surface waters as being a measure of how well HCl deposited in water from missile exhaust emissions can be buffered. Based on the alkalinity of McCaffey Lake, the water would buffer any HCl deposition to a not significant level. The pH of the water would not be expected to change, and there would be no effect on the fish, plants, or cryptogams in the area.

Comment: The Draft EIS is deficient in its discussion of wildfire impacts and mitigations. (MW-0235-12)

Response: An Emergency Response Plan with fire suppression procedures is included in the Supplement to the Draft EIS.

Comment: Fawning mule deer and pronghorn and their young could be affected by tests in June and July. Otero Mesa and unimpacted areas of McGregor Range presently support large herds of these animals. (MW-0055-2; MW-0238-11)

Response: Figure 3.1-4 of the Draft EIS has been altered to reflect the area of Fort Bliss McGregor Range which would be used in the TMD program. Only the southern portion of the McGregor Range and the Fort Bliss Maneuver Area would be used. Impacts on wildlife, including fawning mule deer and pronghorn, expected to result from TMD Extended Test Range program activities are not significant.

3.1.6 CULTURAL RESOURCES

Comment: Any loss of such resources as Chaco Canyon, Mesa Verde, Hovenweep, or El Morro National Monument would be unforgivable and a great loss to future generations. Can the Army guarantee the safety of archaeological sites scattered throughout protected areas? Is the Government exempt from laws prohibiting destruction of archaeological and cultural sites? If the safety of these sites cannot be guaranteed, the program could be a violation of Federal law concerning protection of archaeological sites. (MW-0022-6; MW-0030-9; MW-0030-10; MW-0057-3; MW-0066-3; MW-0136-4; MW-0144-2; MW-0145-2; MW-0148-3; MW-0149-2; TG-0016-5;TM-0013-9; TM-0023-2; TMQ-0010)

Response: Missile debris striking an archaeological or cultural site is a remote possibility. All Federal and state laws concerning historic preservation have been, and would continue to be, adhered to during all TMD testing.

Comment: The Draft EIS conclusion that the likelihood of missile debris impacting on historic and cultural sites is remote is erroneously founded on an analysis of a single launch event rather than the cumulative likelihood from dozens of such launches. (MW-0219-54)

Response: Missile debris striking an archaeological or cultural site is a remote possibility even in the event of numerous launches. Cumulative impacts are addressed in the Final EIS.

Comment: The description of the affected environment in the EIS fails to adequately describe archaeological sites within the booster drop zones and also underestimates their prevalence; new sites are being discovered all the time. The EIS also fails to address the impacts on these resources from the removal of booster debris. (ER-0019-3; MW-0035-13; MW-0035-23; TM-0006-5; TR-0010-3; TR-0013-3)

Response: The booster drop zones are large areas which cover many square miles. It would be impractical to list all known cultural resources which are in each zone within the text of the EIS; however, a detailed description of all resources is provided in the TMD administrative record. The information provided is based on the most recent cultural resource surveys available. The analysis of the impacts and associated mitigation measures are based on years of missile testing and recovery at WSMR.

Comment: The information on pp. 4-96 and 4-97 of the Draft EIS is not based on actual data regarding existing archaeological sites, especially towers, located under the missile flight path. (MW-0035-15)

Response: The flight corridors are large areas which cover many thousands of square miles. It would be impractical to list all known cultural resources which are in each zone. Instead a listing of the types of resources was provided. The information provided on pp. 4-96 and 4-97 is based on the most recent cultural resource surveys conducted in that area.

Comment: We disagree with the Draft EIS conclusion that there would be no significant impacts on cultural resources for Fort Wingate and its booster drop zones. (EG-0007-4; EU-0003-2; MW-0217-2; TG-0002-6; TR-0022-2)

Response: Information on the cultural affected environment was based on the most recent cultural resource survey for the areas in question. Analysis of the TMD program's impact on those resources and the necessary mitigation measures are based on years of missile testing and recovery at WSMR.

Comment: Cultural resources should be protected by conducting surveys and logging the known archaeological sites. (TR-0024-9)

Response: Archaeological surveys of entire booster drop zones and LHAs would be impractical in terms of time and cost. In the event the WSMR Candidate Test Area is selected for the proposed action, the requisite National Historic Preservation Act Section 106 consultations would be conducted before potential impacts of the proposed action occurred. These consultations would involve the concerned American Indians, the Advisory Council on Historic Preservation, the New Mexico and Utah State Historic Preservation offices, and the Army. The NEPA process is a process

of identification and evaluation of potential impacts in the EIS which assists in the decision-making process and can be completed before NHPA Section 106 consultations are complete.

Comment: Section 106 of the National Historic Preservation Act requires consultations with the State Historic Preservation Officer in Utah and New Mexico as well as acquisition of accurate inventory information. It also obligates the Army to conduct a comprehensive analysis of effects on cultural and historic sites which might be eligible for inclusion on the National Register of Historic Places. These consultations, inventories, and analyses have been inadequate so far and should be completed before a Final EIS is issued. (MW-0219-27; MW-0219-44; MW-0219-45; MW-0219-46)

Response: Inventory information was obtained from the SHPOs in Utah and New Mexico and is based on the most recent cultural resource surveys available. In the event the WSMR Candidate Test Area is selected for implementation of the proposed action, the requisite National Historic Preservation Act Section 106 consultations would be completed before potential impacts of the proposed action occurred. The NEPA process is a process of identification and evaluation of potential impacts in the EIS which assists in the decision-making process and can be completed before NHPA Section 106 consultations are complete. If the WSMR Candidate Test Area is selected for implementation of the proposed action, a Memorandum of Agreement could be developed involving concerned American Indians, the New Mexico and Utah State Historic Preservation offices, the Advisory Council on Historic Preservation, and the USASSDC. This MOA would identify courses of mitigation action, acceptable to all parties, to be implemented for potential impacts on cultural resources potentially eligible or eligible for listing on the NRHP.

Comment: The New Mexico State Historic Preservation Office does not have sole jurisdiction over cultural resources on Indian lands; the person to contact at the Navajo Nation Historic Preservation Office is Allen Downer. (TR-0024-16; TR-0024-17)

Response: The National Historic Preservation Act, under the Section 106 process, requires the Army to take into account any impact it may have on cultural resources regardless of where the action takes place. Section 106 requires the Army to consult with the New Mexico State Historic Preservation Office to ensure that its action would not adversely impact cultural resources potentially eligible or eligible for listing on the National Register of Historic Places. Consultation with the SHPOs, the Advisory Council on Historical Preservation, and other interested parties, including American Indian tribes, has been conducted and will continue when and if a range is selected for TMD testing.

Comment: The risk to archaeological resources from the proposed action is too great. (EU-0011-2; EU-0016-3; MW-0074-6)

Response: It is estimated that a small-diameter crater (10 feet across) up to 1 to 2 feet deep could be created when the booster falls to earth. Obviously, this would seriously damage an archaeological site should it be hit directly by the booster. The chances of the booster striking such a site, however, are extremely remote.

Comment: I am glad to see that the EIS considers the Native American Burial Rights law since I helped draft it. (TU-0013-4)

Response: Thank you for your comment.

Comment: Archaeological sites are irreparable; how will the Army repair damage to cultural and archaeological resources? (EM-0012-3; TR-0024-15)

Response: If the WSMR Candidate Test Area is selected for implementation of the proposed action, a Memorandum of Agreement would be developed involving concerned American Indians, the New Mexico and Utah State Historic Preservation offices, the Advisory Council on Historic Preservation, and the USASSDC. This MOA would identify courses of mitigation action, acceptable to all parties, to be implemented for potential impacts on cultural resources potentially eligible or eligible for listing on the NRHP.

Comment: Protection under Federal law for cultural and historic resources of national significance applies to Indian-held lands, such as the Old Pueblo on Acoma land which is listed on the National Register of Historic Places. (EG-0007-6)

Response: Missile debris striking an archaeological or cultural site is a remote possibility. If the WSMR Candidate Test Area is selected for implementation of the proposed action, a Memorandum of Agreement would be developed involving concerned American Indians, the New Mexico and Utah State Historic Preservation offices, the Advisory Council on Historic Preservation, and the USASSDC. This MOA would identify courses of mitigation action, acceptable to all parties, to be implemented for potential impacts on cultural resources potentially eligible or eligible for listing on the NRHP which may be present in the booster drop zones and LHAs.

Comment: We are concerned about potential damage to archaeological sites in the booster drop zones for Fort Wingate. (TG-0002-4; TG-0007-4)

Response: Missile debris striking an archaeological or cultural site is a remote possibility. If the WSMR Candidate Test Area is selected for implementation of the proposed action, a Memorandum of Agreement would be developed involving concerned Americans Indians, the New Mexico and Utah State Historic Preservation offices, the Advisory Council on Historic Preservation, and the USASSDC. This MOA would identify courses of mitigation action, acceptable to all parties, to be implemented for potential impacts on cultural resources potentially eligible or eligible for listing in the NRHP which may be present in the booster drop zone.

Comment: The El Morro Valley probably contains the highest concentration of archaeological sites in the state of New Mexico; the El Morro National Monument contains some of the oldest documents related to American history. (EG-0010-3; TG-0015-3)

Response: This area is outside the proposed booster drop zone and would not be affected by TMD Extended Test Range activities.

Comment: Booster Drop Zone A for the GRLC contains at least one extraordinary pictograph panel. (MW-0057-6)

Response: Missile debris striking an archaeological or cultural site is a remote possibility. If the WSMR Candidate Test Area is selected for implementation of the proposed action, a Memorandum of Agreement would be developed involving concerned American Indians, the New Mexico and Utah State Historic Preservation offices, the Advisory Council on Historic Preservation, and the USASSDC. This MOA would identify courses of mitigation action, acceptable to all parties, to be implemented for potential impacts on cultural resources potentially eligible or eligible for listing on the NRHP which may be present in this booster drop zone.

Comment: The large collection of irreplaceable ancient Indian pottery at the Ice Caves Trading Post as well as undiscovered ancient Indian artifacts within the lava flows of El Malpais are threatened by the Fort Wingate Booster Drop Zone B. (MW-0103-13; MW-0103-15)

Response: Missile debris striking an archaeological or cultural site is a remote possibility. If the WSMR Candidate Test Area is selected for implementation of the proposed action, a Memorandum of Agreement would be developed involving concerned American Indians, the New Mexico and Utah State Historic Preservation offices, the Advisory Council on Historic Preservation, and the USASSDC. This MOA would identify courses of mitigation action, acceptable to all parties, to be implemented for potential impacts on cultural resources potentially eligible or eligible for listing on the NRHP and paleontological resources of National Natural Landmark status which may be present in this booster drop zone.

Comment: The Ransdell Vineyard in Montezuma Canyon 17 miles south of Monticello, Utah, contains 90 irreplaceable Anasazi Indian ruins. (MW-0236-1)

Response: Missile debris striking an archaeological or cultural site is a remote possibility. If the WSMR Candidate Test Area is selected for implementation of the proposed action, a Memorandum of Agreement would be developed involving concerned American Indians, the New Mexico and Utah State Historic Preservation offices, the Advisory Council on Historic Preservation, and the USASSDC. This MOA would identify courses of mitigation action, acceptable to all parties, to be implemented for potential impacts on cultural resources potentially eligible or eligible for listing on the NRHP which are present in this area.

Comment: Damage from the launches to unstudied archaeological, historical, and paleontological resources in Booster Drop Zone A for Fort Wingate may destroy their scientific value. These resources include: an undug archaeological site known as Lookout Ruin; historic lumbering camps, town sites, and roads in the Zuni Mountains; and megaflora fossils correlated with the Petrified Forest of Arizona. (MW-0107-6; MW-0107-7; MW-0107-8; MW-0107-20)

Response: Missile debris striking an archaeological or cultural site is a remote possibility. If the WSMR Candidate Test Area is selected for implementation of the proposed action, a Memorandum of Agreement would be developed involving concerned American Indians, the New Mexico and Utah State Historic Preservation offices, the Advisory Council on Historic Preservation, and the USASSDC. This MOA would identify courses of mitigation action, acceptable to all parties, to be implemented for potential impacts on cultural resources potentially eligible or eligible for listing on the NRHP and paleontological resources of National Natural Landmark status which may be present in this booster drop zone.

Comment: An agreement does not exist between the New Mexico State Historic Preservation Office and the ACHP. (MW-0214-18)

Response: If the WSMR Candidate Test Area is selected for implementation of the proposed action, a Memorandum of Agreement would be developed involving concerned American Indians, the New Mexico and Utah State Historic Preservation offices, the Advisory Council on Historic Preservation, and the USASSDC. This MOA would identify courses of mitigation action, acceptable to all parties, to be implemented for potential impacts on cultural resources.

Comment: The National Radio Astronomy Observatory (NRAO) appreciates the response of the Draft EIS to its concerns about potentially harmful electromagnetic interference to its radio telescopes in New Mexico, i.e., the Very Large Array (VLA) and the Very Long Baseline Array (VLBA) antennae at Pie Town and Los Alamos. It should be pointed out that the harmful levels of interference listed in the Draft EIS table 4.1-10 were based on the International Telecommunications Union CCIR Report 224-7 (1990). More recently, the radio observatories of the world have deemed the more appropriate harmful levels to be those of ITU-CCIR Recommendation 769 (1992), Recommendation 611-2 (1992), and Recommendation 517-2 (1992). Therefore, the NRAO

requests that the Final EIS revise table 4.1-10 to conform to the provided tables: "Harmful Interference Levels . . ." dated 23 February 1994 and "Harmful Adjacent-Band Interference Levels . . ." dated 28 February 1994. (MW-0063-1; MW-0063-2)

Response: The updated information on "Harmful Thresholds of Interference . . ." has been incorporated in the administrative record.

Comment: The National Radio Astronomy Observatory (NRAO) is concerned that the Draft EIS made no mention of the WSMR Office of the Area Frequency Coordinator to ensure minimization of electromagnetic interference on and off the range. (MW-0063-3)

Response: The Final EIS corrects this oversight.

Comment: The Draft EIS is deficient because it does not discuss vibrational impacts from sonic disturbances on cultural resources and prehistoric and historic structures. (MW-0235-14)

Response: The issues of potential vibrational impacts on cultural resources and prehistoric and historic structures from sonic disturbances addressed in the Draft EIS sections 4.1.1.4 (WSMR) and 4.1.4.4 (Flight Corridor) apply to sections 4.1.2.4 (GRLC) and 4.1.3.4 (FWDA). The prehistoric pueblo on FWDA would not be affected by vibrations produced by missile launches, and it is unlikely that those historic structures of the Cold War era would be adversely impacted by vibrations produced by missile launches.

3.1.7 GEOLOGY AND SOILS

Comment: The description of the affected environment fails to adequately describe the soil crust within the booster drop zones. (MW-0035-12)

Response: Soil Conservation Service (SCS) reports and mapping were used to develop the affected environment information for soils. Soils with high erosion potential have been mapped by the SCS. The SCS maps generally do not show "soil crust" areas. In discussions with the BLM it was determined that the areal extent of the syano bacteria that forms a crust on some of the soils within the booster drop zones has not been mapped on a regional basis. However, mitigation measures have been successfully implemented by the BLM and National Park Service when limited off-road travel was required in areas similar to those described in the proposed action. Vehicular travel for booster recovery is planned to be on existing roads. Off-road travel for booster recovery would require prior consultation with the appropriate agency.

Comment: Since the GRLC has been in caretaker status for 20 years, vegetation has spread which has reduced the erosion potential; opening the facility again would create a need to spend taxpayer money to revegetate. (MW-0039-4)

Response: As discussed in the Draft EIS, the potential for increased erosion is limited to the areas in the vicinity of new construction as required to support the proposed action. Revegetation would only be required in close proximity to construction sites. The potential for erosion across the complex would not measurably change.

Comment: The proposed launches place the ice caves, ancient volcanos, and lava tubes of the Malpais area in jeopardy; once damaged, they cannot be repaired. (ER-0019-4; TG-0010-6; TG-0013-2; TG-0016-7)

Response: Booster impact on a cinder cone or volcano within the booster impact area would not cause irreparable damage. The physical nature of the cinders would allow the impact area to be readily restored to a natural state. In the unlikely event that a booster would land on a lava tube or ice cave, there is a potential for permanent damage depending on the structural stability of the feature at the point of impact. Any damage would likely be very localized; however, a collapse of a lava tube could result in restricting access to a larger area of the lava tube. Additional agency consultations would be required prior to using Booster Drop Zone B at Fort Wingate in order to define specific mitigations for unique geologic resources.

Comment: How big will the craters be from boosters falling in the drop zones? People do not want large divots in the earth as a result of boosters falling from the sky. (EG-0010-8; TG-0015-8; TGQ-0018; MW-0204-23, MW-0107-14; MW-0144-4; MW-0147-2; MW-0155-4; MW-0204-10; MW-220-52)

Response: The amount of disturbance to the soil from a booster impacting the ground depends on several factors including size, kinetic energy, and impact angle of the booster; compressibility of surficial materials; and presence of water. Based on similar missile booster impacts, ground depressions from several inches up to 1 or 2 ft may result.

Comment: The EIS demonstrates a lack of understanding of the delicate, nutrient-poor soils of the high desert and their extreme susceptibility to erosion. It takes 200 years for them to recover from compaction. If the integrity of the surface soil, which is held together by bacteria (cryptobiotic crust), is disturbed, there is no way to restore it. Removing the soil as part of a cleanup would also be devastating. (MW-0106-3; MW-0214-30; TM-0014-1; TM-0014-2; TM-0014-3; TM-0014-10; TM-0018-2; TR-0013-4)

Response: Disturbance to booster impact areas is restored by appropriate methods to be agreed upon with each land owner/agency. Restoration methods may include raking and revegetation of native species. Studies on areas with bacteria crust indicate that restoration, while a long-term process requiring 5 to 7 years, is possible. The total area to be disturbed as a result of booster impact and recovery should be less than an acre. Vehicular travel for booster recovery is planned to be on existing roads. Any off-road travel for booster recovery would require prior consultation with the appropriate agency. Raking of vehicle tracks has been used in the Canyonlands area to reduce the potential of water and wind erosion.

The only soil that would be removed from a booster impact area would be soil that is contaminated. There is a potential that a minor amount of solid propellant could remain in the spent booster when it drops within the booster drop zone. This would only involve small amounts of soil since the solid propellant is a rubbery type substance and would rest on the surface soil.

Comment: It is abhorrent to put the geologic formations in and around the national parks of southeastern Utah in danger of destruction from the proposed launches. (EM-0012-2; EU-0011-3; TM-0013-8; TM-0023-3)

Response: The risk of damaging unique geologic resources such as a natural arch is very small. The probability of impacting any given acre under the flight corridor (about equal to the areal extent of a small arch) is extremely small, and there are a limited number of such unique geologic resources along the corridor.

Comment: Do you have to bulldoze roads to retrieve rocket motors? (TUQ-0021)

Response: Roads would not be bulldozed to retrieve booster motors. Vehicular travel for booster recovery is planned to be on existing roads. Boosters would be recovered almost immediately and located with radar track information and an onboard locator. The booster would be pinpointed by helicopter and air-lifted out to the nearest road where vehicles would be available for ground transport. If helicopter use were not possible, horse pack of debris would be used after the booster was cut up in to pack-size pieces.

Comment: Page 4-99 of the EIS states that impact areas will be restored to the extent necessary to prevent undue erosion. What about revegetation and restoring the area to its pre-impact condition? The EIS must be more specific on this issue. (MW-0056-26; MW-0084-3; MW-0099-8)

Response: As stated in the Booster Recovery Plan in the Supplement to the Draft EIS, impact areas would be restored to a "natural" condition. In some areas this would include revegetation and other methods of restoration in order to facilitate the return to pre-impact conditions.

Comment: Page 4-100 of the Draft EIS states flight termination could result in impacts on unique geologic features similar to the arches, lava flows, and other forms found in southeast Utah. However, the potential for impacting any of these types of geologic features is extremely small due to the small probability of an impact within any given square mile of the flight corridor and the limited number of features within the corridor. What does a "square mile" unit of area have to do with anything? This statement is another blatant attempt at distorting the actual probability of irreparable environmental damage. (MW-0056-27; MW-0099-10; MW-0103-14)

Response: As stated in Section 4.1.4.5 of the Draft EIS, the probability of impacting any given acre under the flight corridor (about equal to the areal extent of a small arch) is extremely small, and there are a limited number of such unique geologic resources along the corridor.

Comment: The Draft EIS does not include an analysis of the probable areal extent of ground damage to be expected from the falling booster rockets for different types of earth strata. (MW-0056-31)

Response: The amount of disturbance to the soil from a booster impacting the ground depends on several factors including size, kinetic energy, and impact angle of the booster; compressibility of surficial materials; and presence of water. Based on similar missile booster impacts, ground depressions from several inches up to 1 or 2 ft may result. The total area to be disturbed should be less than an acre.

Comment: The biggest negative impact barring a catastrophic termination or a hit on a geologically significant formation is going to be the damage done to the soil. You cannot have people driving cross country to recover debris without causing significant impact on the highly erosion-prone soil. Even entry by helicopter will have people trampling the soil, breaking the crust, and smashing the vegetation. This is true if the booster should land in the wrong location. (MW-0057-17; MW-0057-19; MW-0057-20; MW-0217-3)

Response: Disturbance to booster impact areas would be repaired by appropriate methods to be agreed upon with each land owner/agency. Restoration methods may include raking and revegetation of native species. Studies on areas with bacteria crust indicate that restoration, while a long-term process requiring 5 to 7 years, is possible. The total area to be disturbed as a result of booster impact and recovery should be less than an acre. Boosters would be recovered almost immediately and located with radar track information and an onboard locator. The booster would be pinpointed by helicopter and air-lifted out to the nearest road where vehicles would be available for

ground transport. If helicopter use were not possible, horse pack of debris would be used after the booster was cut up into pack-size pieces.

Comment: Will there be hundreds of booster impact sites littering the fragile desert? Scars in the desert heal very slowly, and this testing would damage the ecosystem for many years to come. (MW-0067-6)

Response: As stated on p. 2-1 of the Draft EIS, approximately 100 tests would be conducted from one or more off-range locations and potentially at more than one test range.

Comment: Why is there no mention or concern that the Mesozoic Triassic Rock is exposed in the FWDA LHA and scattered through Booster Drop Zone A? (MW-0107-19)

Response: The Mesozoic and Triassic Chinle Formation that outcrops within the FWDA LHA and Booster Drop Zone A is generally not considered a unique geologic resource for this particular area.

Comment: How big of a crater will the penaids leave when they impact the ground at WSMR (p. 2-8)? How many craters? How big will the craters be from the meteorological rockets? How can we assess environmental damage if we have no quantitative information? (MW-0220-12; MW-0220-17)

Response: Penaids, if they are used, become part of the intercept debris that is described in the Draft EIS. Meteorological rockets generally do not leave an impact crater because of their small size.

Comment: Why is the soil considered a buffer? There is no reason to believe that the soil pH will not change. (MW-0220-59)

Response: Buffering refers to the ability of a soil to maintain its pH by neutralizing added acidity. Clays, organic matter, oxides of aluminum and iron, and calcium and magnesium carbonates are the components responsible for buffering in soil. The degree of alkalinity in soil is a measure of its buffering capability. Soils in the LHAs and booster drop zones of the WSMR alternative are relatively alkaline and therefore are able to neutralize the amount of acid that could potentially be added to them as a result of missile exhaust emissions. Because the acid is neutralized, the pH is not expected to change significantly.

Comment: The canyons and cliffs of Utah and the El Malpais National Conservation Area in New Mexico have values that cannot be priced. They must not be sacrificed to temporary military needs. (MW-0109-3; MW-0137-2)

Response: Thank you for your comment.

3.1.8 HAZARDOUS MATERIALS AND WASTE

Comment: The Draft EIS fails to adequately address the impacts of the proposed action by dismissing hazardous waste releases as very unlikely. This is not acceptable and not based upon any adequate documentation or data. (MW-0001-8; MW-0001-12)

Response: The analysis in the Draft EIS is based upon consideration of the relative types and amounts of hazardous materials proposed for use with TMD activities and consideration of the ways these materials would be handled and used. The results of this analysis have provided a determination that the impacts of any hazardous waste releases would be not significant.

Comment: We are concerned about the potential for contamination of the land and water from hazardous materials in the booster and missile debris. Will the effect be long-term? (ES-0003-2; ES-0004-4; TGQ-0040)

Response: The Army is committed to the recovery of booster debris and removal of any contaminants in order to restore the land to its pre-impact condition.

Comment: How are biological, chemical, and nuclear payloads simulated without being hazardous? Would a simulated nuclear warhead have a radiological signature? (EU-0014-6)

Response: Simulants are selected which exhibit desired properties similar to the actual warfare agents. For instance, chemical agents are simulated using liquids which have the same density, viscosity, combustion properties, and other physical properties as the actual chemical agents but which do not have the same chemical properties (i.e., they do not cause effects like chemical agents). In the case of nuclear warhead simulation, a "dummy" warhead can be produced which has the same "look and feel" (ballistically and mechanically the same) as an actual warhead but which does not contain any radioactive material and has no "radiological signature."

Comment: Even though tens of thousands of pounds of hazardous materials are going to be released by the launches, the releases will be permitted because air and water standards will not be exceeded because the air and water are so clean to begin with. (TM-0013-12)

Response: Analysis of impacts due to hazardous material releases are based not only on potential to exceed upper concentration limits but also on increases above the existing background in the region of influence. Thus there is no "penalty" in areas which are less impacted by existing activities.

Comment: What types of contamination could be scattered around El Malpais, and how will it be removed since the area is mostly rough terrain and porous soils? (ER-0019-5; MW-0204-12; TG-0013-1; TR-0013-5)

Response: Materials which may impact within booster drop zones are detailed in Section 4.1.1.7 of the Draft EIS. Debris would consist of pieces of solid materials (thus soil porosity is not a factor) which would be scattered over a relatively small impact area. The Army is committed to recovery of booster debris and removal of any other contaminants to restore the land to its pre-impact condition.

Comment: Flammable pink chunks can still be found on the Utah Navajo reservation from missile tests conducted out of Green River in the 1960s. They are a danger because children end up playing with them and nothing grows where the pink fragments have fallen. (TS-0004-1)

Response: Past test activities are not within the scope of this document; however, the Army is committed to the recovery of booster debris and removal of any other contaminants from TMD test activities to restore the land to its pre-impact condition.

Comment: Do the missiles emit hydrogen chloride or hydrochloric acid? How much hydrochloric acid/hydrogen chloride and dioxin byproducts will be released by the launches? The EIS does not

address the respiratory, neurological, and reproductive disorders that may result from dioxins being sprinkled across the countryside. (ER-0014-12; ER-0014-13; ER-0014-14; TR-0011-12; TR-0011-13; TR-0024-18)

Response: One product of solid motor combustion is hydrogen chloride (HCl). If HCl enters into a water solution, it tends to acidify the solution; however, amounts and concentrations of HCl released during a launch event (see Section 4.1.1.1 of the Draft EIS) would not be sufficient to produce a significant change in the pH of any surface waters. Generally, dioxins can only be produced during the combustion of specific chlorinated organic compounds and then only at low concentrations. Little if any chlorinated organic compounds would be expected in the exhaust plume of any TMD system; thus formation of dioxins would be negligible.

Comment: The EIS does not analyze the cumulative impacts from human exposure to the mixture of hydrochloric acid, aluminum oxide, Halon, carbon monoxide, nitrogen tetroxide, hydrazine, ammonium perchlorate, and their byproducts produced by the missile flights. (MW-0191-7; TR-0011-14)

Response: Analysis of "mixture effects" is applicable only where concurrent exposure occurs to two or more substances which have similar organ system effects. Of the chemical compounds named, not all would be produced together, and those that would (e.g., HCl, aluminum oxide) do not act together. Thus analysis of "mixture effects," particularly in light of the low concentrations expected for any of the materials, is not applicable.

Comment: The potential for hazardous waste contamination of Navajo land from terminations in the flight corridor must be addressed in the EIS, as well as how it would be cleaned up. (TR-0024-6)

Response: Sections 4.1.1.6, 4.2.1.6, 4.3.1.6, and 4.1.4.6 of the Draft EIS present an analysis of the effects of all materials which could be deposited during both routine and flight termination situations. The Army is committed to the recovery of booster debris and removal of any other contaminants to restore the land to its pre-impact condition.

Comment: Will hazardous materials be transported through Moab and what type? (TMQ-0009)

Response: Sections 4.1.1.6 and 4.1.1.7 of the Draft EIS discuss the transportation of hazardous materials and the potential impacts. At this time exact transportation routes have not been determined but would be expected to conform to typical routes currently used for commercial transportation of hazardous and nonhazardous commodities.

Comment: Will the Army notify the public as to what kind of debris (even the small pieces) they might encounter and if those chemical compounds would pose a hazard. (TSQ-0010; TSQ-0011)

Response: Appropriate warnings would be issued to persons in areas where missile debris may impact in accordance with the WSMR TMD Extended Test Range Evacuation Plan.

Comment: Concerning triethyl phosphate, what is considered a "small amount," and what properties make it up? (MW-0056-28; MW-0204-3; MW-0206-5)

Response: Triethyl phosphate is a generally environmentally benign liquid which adequately mimics the physical properties (density, viscosity, etc.) of certain chemical warfare agents. It is not a chemical warfare agent. The amount of TEP used on bulk targets would be up to 35 gallons.

Comment: It has taken 50 years to clean up McCarty's Crater from previous bombing. Will this happen with other booster parts? (MW-0108-4)

Response: The Army is committed to the recovery of booster debris and removal of any other contaminants to restore the land to its pre-impact condition within a reasonable time frame.

Comment: If the missile misses the intercept, it could spread radiation over Gallup and the Fort Wingate surrounding area including the reservation. (MW-0130-3; MW-0140-3)

Response: As stated in Section 4.1.1.6 of the Draft EIS, only very small quantities of radioactive material would be incorporated into TMD systems. These materials would be present as small metallic pieces contained within electronic switches. Because of the small quantities, contamination of wide areas would not be possible, and even under catastrophic conditions the total release of all radioactive material would present a not significant radiological hazard.

Comment: What, specifically, are the hazardous materials that will be transported and stored at Fort Wingate? (MW-0220-16)

Response: Section 4.1.3.6 of the Draft EIS provides a discussion of proposed hazardous material use at FWDA.

Comment: I am concerned about the use of solid fuel propellants, the hypergolic propellants, and working fluids. (MW-0206-8)

Response: The potential impacts of all hazardous material usage proposed as part of TMD activities, either in flight systems or at ground locations, have been considered and found to be not significant.

Comment: If Fort Wingate is used, a long-term plan for cleanup of hazardous waste should be included in the funding for this program. Fort Wingate does not have a hazardous materials management system nor a waste management program currently in place at the facility. (ER-0013-6; MW-0214-35; MW-0219-50)

Response: As discussed in sections 4.1.1.6 and 4.1.3.6 of the Draft EIS, the management of hazardous materials and hazardous waste at FWDA must conform with Federally established requirements, as well as applicable portions of the WSMR hazardous materials/hazardous waste management programs. Observance of these requirements would act to prevent inadvertent release requiring cleanup, and Federal law specifies that the U.S. Government would be responsible for any cleanup of hazardous materials resulting from mismanagement or accidents.

3.1.9 HEALTH AND SAFETY

Comment: What would be the impacts of the meteorological rocket payload landing within the LHA? Would the town of Green River be evacuated? (MW-0035-8)

Response: Section 4.1.1.7 of the Draft EIS provides a discussion of the hazards associated with meteorological rockets. The impacts of the use of these systems were found to be not significant. No evacuations beyond those required for the TMD operations (LHA and booster drop zones) would be required. The town of Green River would not be evacuated.

Comment: The Draft EIS fails to adequately address the impacts of the proposed action by dismissing accidents as very unlikely. This is not acceptable and not based upon any adequate documentation or data. Can the Army guarantee the safety of the public during test activities? (EG-0006-1; ER-0006-8; MW-0001-7; MW-0001-11; MW-0030-5; MW-0030-6; MW-0030-7; MW-0030-8; MW-0056-7; MW-0056-29; MW-0061-2; MW-0066-5; MW-0070-2; MW-0138-4; MW-0139-3; MW-0140-2; MW-0233-3; TSQ-0007; TC-0004-2; TG-0010-1; TG-0014-4; TR-0007-4; TR-0019-5; TU-0015-2)

Response: The risk from launching and flying over the public was determined by an in-depth analysis that used prior failure information from other flight programs, including the SR-19 booster. As discussed in Appendix I of the Draft EIS, the analysis included consideration of both flight system and population data to develop the risk estimate presented for operations originating at FWDA which are presented in Section 4.1.3.7 and Appendix I of the Draft EIS.

Comment: It is unbelievable that someone would propose dropping spent fuel casings in and around a national park, exposing people, animals, and a very unique area of topography to great harm and destruction. (EM-0008-4; MW-0030-3; MW-0098-3; MW-0145-3; MW-0152-2; MW-0158-2; MW-0160-2; MW-0161-2; MW-0162-2; MW-0164-2; MW-0198-2)

Response: Thank you for your comment.

Comment: Damage to homes, people, and the environment is disastrous, inexcusable, and probably unavoidable if this project goes through. There is no way to ensure that all persons have been removed from the proposed test areas. How does the Army plan to comb the mountains and canyons to find the people out in the wilderness before test activities take place? (EU-0007-3; MW-0006-2; MW-0012-4; MW-0026-5; MW-0028-3; MW-0031-2; MW-0034-1; MW-0036-1; MW-0045-3; MW-0046-1; MW-0056-2; MW-0056-5; MW-0057-14; MW-0061-4; MW-0071-2; MW-0073-1; MW-0074-7; MW-0077-4; MW-0080-3; MW-0087-4; MW-0103-5; MW-0103-7; MW-0108-1; MW-0116-4; MW-0130-4; MW-0134-3; MW-0137-3; MW-0153-2; MW-0172-4; MW-0173-2; MW-0188-2; MW-0240-3; TM-0003-3; TM-0014-6; TU-0007-3)

Response: Based upon the hazard analysis detailed in Appendix I of the Draft EIS, it is considered unlikely that significant damage would result from proposed operations. However, any damage to people, homes, or the environment which might result would be handled in the same manner as an airplane crash that could damage property in the state of New Mexico. Notice of the firings would be posted at least 2 weeks in advance on public and remote roadways. The launches would be advertised on local and Native American radio stations, if they desired to do so. On the day of test, local state and Government agencies would notify all personnel by vehicle, and in more remote areas helicopters would be use to overfly the area and inform people of the need to temporarily leave the area.

Comment: The FWDA LHA has an unexplained notch that excludes the town of Fort Wingate and the Fort Wingate High School. The HERA B rocket system calls for a LHA with a 4.5-mile radius. If the Green River LHA were overlaid on the Fort Wingate site, it would cover the locations mentioned. A revised launch site at the FWDA would include Fort Wingate High School, the town of Fort Wingate, families living off of Sundance and Shadow Farm roads, and the developed areas of FWDA. What would the true expected fatality rate be if the town of Fort Wingate, Fort Wingate High School, and families living on Sundance and Shadow Farm roads were included in the calculations for an errant missile launch. Will there be live warheads so close to a school? (MW-0014-5; MW-0014-6; MW-0014-9; MW-0070-1; MW-0116-2; MW-0116-8; MW-0123-6; MW-0217-4; MW-0220-28; MW-0220-47; TC-0003-6; TM-0009-5)

Response: The extent of the LHA for launches at FWDA reflects the areas potentially subject to debris impact in the event of an anomalous launch operation, using the anticipated TMD flight profiles. The differences between the LHA at FWDA and that at the GRLC reflects differences in flight profiles. At FWDA flight profiles are more restricted than at the GRLC in order to avoid the potential for impacts inside the town of Fort Wingate. Flight profiles which do not meet these restrictions would not be permissible from FWDA; thus the inclusion of the town of Fort Wingate inside the LHA is prevented due to the operational restrictions which are a part of the proposed action. An additional booster drop zone, Booster Drop Zone C, is analyzed in the Supplement to the Draft EIS. The use of this drop zone would result in a reduction of the LHA. Booster Drop Zone C is the Army's preferred option if FWDA is selected.

Comment: We are concerned that the Federal Government, the Department of Energy, and the U.S. Armed Forces, with their charge to protect the safety of U.S. citizens, would sight a missile flight range over populated areas. (EM-0004-2; MW-0111-3; TM-0009-6)

Response: The U.S. Army and WSMR each have strict operational requirements which must be met before any flight test operation is permitted. These requirements include strict adherence to safety standards which meet or exceed the safety criteria applied in the feasibility evaluation of many types of non-military public and commercial projects.

Comment: The test missiles may harm many innocent people; such testing should take place over water. (ER-0008-2; ES-0004-3; MW-0017-3; MW-0018-2; MW-0067-2; MW-0078-3; MW-0101-3; MW-0141-2)

Response: As discussed in several previous responses, a thorough analysis of potential safety impacts was conducted for proposed flight test operations. The results of this analysis demonstrate that proposed operations conform with all safety criteria established by the U.S. Army and WSMR and do not pose an unreasonable risk to the public as a result of either proposed or accident-case flight conditions.

Comment: I am concerned that the risk of environmental damage (e.g., fire) in ranching communities near Ramah was treated as temporary and insignificant. (MW-0021-3)

Response: The currently proposed HERA launches and overflight trajectories are miles from the Ramah, New Mexico, area. There is a very, very remote possibility that a failing missile could reach the Ramah area in the event of an anomalous flight. However, the U.S. Army has developed an emergency response plan which includes provisions for addressing such accidental occurrences and their effects, and the Army is committed to the recovery of booster debris, removal of any contaminants, and restoration of the land to its pre-impact condition.

Comment: The potential impact of a wayward missile into one of the numerous nuclear weapons facilities in the Albuquerque, New Mexico, area needs to be addressed in the EIS. (MW-0027-2)

Response: As shown in figure 4.1-5 of the Draft EIS, Albuquerque is outside the projected limits for debris impact. While the presence of nuclear facilities in the Albuquerque area would constitute a potential hazard if the area could be subject to debris impact, the urbanization of the area is such that impacts in the vicinity would be unacceptable due to the associated risk of injury to the public and thus cannot be a part of the proposed action.

Comment: Many people live in the area proposed for the booster drop zone that do not have electricity or telephones; they will not receive the notices of the upcoming launches. (EM-0010-4; EM-0011-2; EG-0003-4; MW-0062-2; TR-0013-7; ES-0003-3)

Response: An Evacuation Plan (Appendix B of the Supplement to the Draft EIS) has been developed for proposed TMD Extended Test Range operations at WSMR. Included in this plan are provisions for providing adequate warning of upcoming operations to all people residing in areas required to be evacuated. Notification would include individual written notices for residents, posting of evacuation requirements on public and remote roadways in advance of the firings, and notification via local media (community newspapers, TV, and radio). Helicopter sweeps would also be performed of all evacuation areas, and warnings would be issued to people that a launch was going to occur.

Comment: We object that we and our neighbors are being forced to gamble that the impact of the missile does not hit our houses and property. (MW-0057-4; TG-0007-6; TR-0003-6; TR-0006-3)

Response: Within the identified flight termination debris containment corridors (see figures 4.1-5 and 4.1-6 in the Draft EIS) there is a potential for property damage as a result of an anomalous flight requiring termination; however, an analysis of the actual risk has shown the potential for damage to be very low. In the event of property damage, owners would be appropriately compensated under existing U.S. Army policy (as well as New Mexico law). The Army is committed to the recovery of booster debris, removal of any contaminants, and restoration of land to its pre-impact condition.

Comment: I don't think that the possibility of vandalism of private property during a launch has been fully addressed in the EIS. (TR-0005-7)

Response: Following evacuation of designated areas, WSMR security forces would provide roadblocks to prevent any unauthorized entry into the evacuated areas, and pre-launch security sweeps would be performed to verify that evacuation had been completed. Thus access to the area by potential vandals would not be possible. In the event that vandalism were to occur, owners would be appropriately compensated under existing U.S. Army policy (as well as New Mexico law).

Comment: Fire precautions might not be enough. If the booster drops off into some of the canyons off of Oso Ridge and fire starts, there are going to be places that helicopters can't even get down into. Will the National Park Service, BLM, or military be responsible for dealing with fire or fire damage? (ER-0006-7; MW-0056-11; MW-0056-33; MW-0057-10; MW-0087-2; MW-0099-6; MW-0103-11; MW-0108-2; MW-0115-3; MW-0116-7; MW-0121-4; MW-0123-2; MW-0144-5; MW-0145-4; MW-0194-4; MW-0196-3; MW-0204-13; MW-0220-64; MW-0222-4; TRQ-0008; TG-0004-4; TG-0009-4; TG-0016-11; TG-0016-12; TG-0016-13; TM-0013-15; TR-0005-9; TR-0013-12; TU-0010-2)

Response: An Emergency Response Plan (Appendix C of the Supplement to the Draft EIS) has been developed for proposed TMD Extended Test Range operations at WSMR. Included in this plan are provisions for coordinating fire response efforts. These requirements can be supplemented by a Fire Response Plan, which would provide more detailed instructions concerning response procedures and responsibilities. However, in general the response to wildland fires resulting from TMD operations would be similar to the response action for other types of unanticipated fires (e.g., lightening strikes, campers).

Comment: The Army addresses how Army personnel will be protected but does not address how the public will be protected in the EIS. (ER-0018-10; ES-0001-10; TS-0002-10)

Response: Sections 4.1.1.7, 4.1.2.7, 4.1.3.7, and 4.1.4.7 of the Draft EIS provide thorough discussions of the public safety systems and hazards. Public safety systems include evacuation of

planned impact areas and LHAs, flight safety systems (tracking and flight termination), and pre-operational risk assessment requirements.

Comment: In the case of a termination of flight, the EIS states the impact of human casualties or property damage would be extremely remote in the event of an impact within the flight corridor; it does not specify the number of people or property occupying those areas within the flight corridor. (ER-0018-11; ES-0001-11; MW-0087-3; MW-0165-2; MW-0167-3; TS-0002-11)

Response: As presented in Appendix I of the Draft EIS, risk analysis was conducted using data from the 1990 Census.

Comment: Closing the road would cause traffic backups that prevent the rapid response to forest fires created by booster rockets falling. (ER-0019-12)

Response: While the risk of fire in booster drop zones is not considered high, preplacement of response equipment would allow rapid response within designated booster drop zones. Additionally, not all response units are ground-based; air units equipped for fire response would be able to rapidly respond under any traffic conditions.

Comment: The Candy Kitchen Fire Chief is concerned that the U.S. Government can't guarantee that the rockets are going to stay exactly where they want them. (TR-0006-1)

Response: The flight of the missile would be confined to a predefined corridor which is based on 5 seconds of flight failure. The missile will not be allowed to go beyond this distance. This is accomplished by positively tracking the flight of the rocket using radar, telemetry, and optical instruments and terminating flight in the event the rocket fails. If the WSMR Flight Safety Officer does not have good data to track the missile, then he/she would terminate the flight as well, thus preventing it from exceeding the 5-second failure limit.

Comment: I am concerned that my family members would have to leave their homes or be blown up. (TR-0006-13)

Response: Evacuation requirements are based upon debris impact potential, not explosion hazard. Only a small number of people would be affected by evacuation requirements since operational booster impact areas would be considerably smaller than the drop zones (although all impact areas would be located wholly within the drop zone boundaries). Also, the areas selected for booster drop zones have been selected in part due to the low population density in order to affect the smallest number of persons.

Comment: We are concerned about the pieces of the missiles that have been demolished (or errant missiles) falling down on people or property. (EG-0009-2; EM-0003-4; EM-0005-3; MW-0048-1; MW-0052-2; MW-0054-2; MW-0056-24; MW-0076-2; MW-0090-5; MW-0110-2; MW-0126-2; MW-0128-1; MW-0133-3; MW-0136-2; MW-0141-4; MW-0146-2; MW-0150-3; MW-0156-1; MW-0159-2; MW-0181-3; MW-0182-2; MW-0211-2; MW-0212-2; MW-0219-32; MW-0226-2; TG-0002-11; TG-0003-4; TG-0009-6; TG-0009-7; TM-0009-10; TM-0016-8; TR-0015-2; TS-0004-2; TU-0001-8)

Response: Large numbers of debris pieces would only be produced during a successful intercept, which would occur only over WSMR. Any resultant debris impacts would occur only on WSMR property. The likelihood of damage or injury due to debris from flight activities or flight termination has been evaluated and found to be low (see Appendix I and sections 4.1.2.7, 4.1.3.7, and 4.1.4.7 of the Draft EIS).

Comment: I am concerned with the psychological stress of the people who will be living under the flight path knowing that they could be killed. (MW-0112-6; TS-0005-7)

Response: As discussed in Appendix I and sections 4.1.1.7, 4.1.2.7, 4.1.3.7, and 4.1.4.7 of the Draft EIS, a thorough analysis of hazard potential has been performed. Results of this analysis show that the risk of injury or death associated with TMD activities is very low. These results have been publicly presented in order to alleviate any possible fears of the safety of the proposed operations.

Comment: Can you guarantee that, even though these boosters are not carrying nuclear warheads, they will not cause property damage, even as much as hitting Moab? (TM-0003-1)

Response: While an absolute guarantee cannot be given, analysis of the potential risks shows the likelihood of property damage or injury to be remote. Compensation for any physical property damage will be provided by the U.S. Army.

Comment: We would like the Army to take actual statistics, which are classified, of early terminations for this particular type of missile and use those to generate the statistics of how often something could fall on our heads. (MW-0099-9; MW-0103-27; TG-0009-8)

Response: As discussed in Appendix I of the Draft EIS, data concerning HERA reliability has been obtained from actual booster performance data obtained during past test operations.

Comment: People who have been injured during wars are not compensated properly, and I believe people who do not go to war and are injured by these tests will not be properly compensated. (TR-0006-6; TR-0015-4)

Response: The Army fully expects that there will be no injuries resulting from these tests; however, in the unlikely event that an injury does occur, claims for compensation for damages to personnel or property that result from test activities may be filed with the U.S. Army.

Comment: I feel the flight path should be reversed and shot from WSMR to Fort Wingate so that the first third of this 200-mile shoot will be over less populated area along the path. (TR-0016-3)

Response: A reverse trajectory is impossible in that interceptor engagements are planned for the terminal end. These engagements will create debris resulting from intercept and are programmed to occur over WSMR. The corridor was selected because of the low population density over the entire corridor. This corridor density, coupled with evacuation of the booster drop zone, will provide an acceptably low risk of damage or injury.

Comment: How much damage or injury to humans is acceptable? Mathematical assessments of risk do not assuage fears. (MW-0214-33; MW-0220-62; MW-0220-63; TR-0024-14)

Response: There is no level of damage or injury to humans that is acceptable. The corridor risk assessment shows that the risk probability of damage or injury resulting from these proposed test activities is extremely low. As presented in Appendix I of the Draft EIS, for public areas the total risk cannot exceed $1x10^{-6}$ (0.000001) in order to conform with WSMR safety requirements.

Comment: Launching missiles from Green River poses unacceptable risks to people and environment in the Canyonlands area if debris falls. (TUQ-0007; TU-0001-2)

Response: As presented in Appendix I and sections 4.1.2.7 and 4.1.4.7 of the Draft EIS, the risks associated with proposed TMD test flight activity are within generally accepted risk limits as established by WSMR.

Comment: A majority of Utahns believe that this proposal would threaten the health and safety of their state. (EU-0016-1; MW-0189-2; TU-0001-10)

Response: It is undocumented that a majority of Utahns believe this proposal threatens the health and safety of their state. As presented in sections 4.1.1.7 and 4.1.2.7 of the Draft EIS, health and safety risks associated with proposed actions have been found to be within acceptable limits and are considered to be not significant.

Comment: The Army in the area of WSMR has an excellent record on their boosters and their rocket launching operations, and I comfortably feel they can do it successfully. (EU-0001-1; TU-0002-2; TU-0004-1)

Response: Thank you for your comment.

Comment: We would like the Department of Defense to abandon the proposal to shoot missiles over southeastern Utah because the risk is too great that citizens will be harmed. (ER-00012-2; ER-0005-3; MW-0038-4; MW-0240-1; TU-0007-1)

Response: As presented in Appendix I and sections 4.1.2.7 and 4.1.4.7 of the Draft EIS, the risks associated with proposed TMD test flight activity are within generally accepted risk limits as established by WSMR.

Comment: How dependable is the Minuteman or any other missile system that would be used for test firings? I do not trust the reliability of the missiles. (EM-0006-3; MW-0075-5; TU-0008-1; TU-0020-2)

Response: All boosters under consideration are proven and reliable. These boosters have excellent track records and are considered extremely reliable booster stages in terms of performance and predictability for spent stage booster impact. In addition, the target will be tested in both booster static tests and with a number of flights over WSMR before it is fired from off range.

Comment: How many helicopter hours and what type of personnel will be required to assure test security and resident's safety when you evacuate, and if these launches occur in the early morning, when would the helicopter sweep? (TUQ-0010; TUQ-0011; TM-0004-4; TU-0009-8)

Response: As detailed in the Supplement to the Draft EIS (Appendix B, Evacuation Plan), evacuation notices will be delivered to evacuation residents by mail and in person prior to the operation. Helicopters will be used to perform a sweep to ensure that designated areas are properly evacuated. Sweeps may require about an hour's flight time per evacuation and could be conducted using "night vision" equipment in low-light conditions. Security of the evacuation area will be provided by military personnel augmented by local civilian law enforcement personnel provided on a contractual basis. Entry into the evacuation area during evacuations will be controlled.

Comment: Why does the target missile weigh 13 tons. Won't this much power introduce excessive safety risks? How large will the impact crater be? (EM-0008-6; MW-0207-4; TU-0009-10)

Response: The missile weighs much more at launch because of the fuel load on board. As fuel is expended, the weight is quickly reduced. In fact, the spent first-stage booster will only weigh approximately 1,200 to 3,000 lb. The safety risk assessment has been developed considering the full target configuration and does not induce excessive safety risks. Impact on the ground may result in ground depressions from several inches up to a foot or two.

Comment: The EIS has not taken into consideration the probability of motors blowing up and scattering debris where it's not intended. How do you intend to remove the debris from inaccessible areas? (MW-0056-25; MW-0176-2; MW-0184-2; TU-0020-3)

Response: This possibility has been taken into account, although the probability of such an occurrence has been found to be very low. A LHA has been defined around each proposed launch site and will be evacuated of all non-mission-essential personnel, with access into the area controlled by military personnel and local law enforcement personnel. The development of this area takes into account various malfunction possibilities including motor "blow up."

Comment: Will the actual debris impact be published following each launch to inform the public that actual launch debris stayed within the approved intended drop zones. (MW-0201-1; TU-0022-2)

Response: The fact that launch debris impacted within approved areas would be published after each launch. If the debris impacted outside such an area, that fact would also be published.

Comment: Will flight plan approval be withdrawn if debris does not land as intended, and will disapproval criteria be published and followed? (TU-0022-4)

Response: Should debris not impact as intended, all flight operations would be immediately ceased pending a full investigative analysis. If it is determined that additional launch constraints will prevent recurrence, then the flights may be resumed subject to these constraints. Should a revised zone be required, that will be addressed through appropriate public process. Successful completion of this process is required before flight could be resumed.

Comment: How accurately can the Army pinpoint the booster drop zone. Will it use flight safety software to validate missile contact or drop zones with associated wind? (TUQ-0005; TU-0022-9)

Response: Launch hazard analysis models (software) are used to determine booster drop zone boundaries. The booster drop zones shown in the EIS have been developed using extensive wind data to ensure a high probability of being able to conduct the operation under a variety of wind conditions as part of the planning process. For each operation, mission-specific data would be used to determine the limits of the mission-specific impact areas (which would be fully contained within the drop zones). At launch time, actual wind conditions will be monitored in real time to pinpoint the location where the booster would drop for that specific test and would serve as "go/no-go" criteria. Any prediction of impact outside an acceptable area would cause the test to be canceled. After each test, the model used will be revalidated to show that the actual impact location correlates with the prediction.

Comment: Will specific ballistic coefficients be identified which will stay within the debris drop zone? What is the smallest ballistic coefficient that will be used? (MW-0201-2; MW-0201-8; TU-0022-3)

Response: Ballistic coefficients of debris pieces have been theoretically identified using computer analysis; these coefficients will be validated in booster testing and in actual flights on WSMR before

off-range operations begin. These coefficients are incorporated into the safety analysis of proposed flight paths and are used to determine the extent of the booster drop zones and LHAs. For analysis purposes, the smallest ballistic coefficient that will be used is 60 lb/ft^2.

Comment: If a land owner refuses to sign an agreement to leave his property, what will the Army do then? (ER-0002-1; MW-0107-16)

Response: If a landowner refuses to sign an agreement, then launches which predict impacts on his/her property will not be conducted. The trajectory will be changed, and another location within the approved drop zone will be selected. The drop zones have been sized to accommodate a variety of trajectories and day-of-test launch conditions. The actual booster impact area for a specific test is a subset of the overall booster drop zone.

Comment: What if I want to engage in civil disobedience and refuse to leave the evacuation area? I do not feel that it is necessary to do all the scanning of the drop zone because there is very little chance that anyone will get hurt. (TM-0008-1; TM-0008-2; MW-0084-4)

Response: Due to established safety criteria, evacuation of designated areas are required for initiation of a flight test. If it is determined that an evacuation zone is not properly cleared, a hold or postponement of an operation will result. Where necessary, flight trajectories can be altered to avoid such difficulties since drop zones have been sized to accommodate a variety of trajectories and day-of-test launch conditions. The actual booster impact area for a specific test is a subset of the overall planning booster drop zone.

Comment: What happens after verbal notice to evacuate is given from a helicopter? (ER-0002-3)

Response: The purpose of a verbal warning from a helicopter is to provide additional notification of evacuation requirements and to provide an opportunity to determine if evacuation difficulties are occurring. If the helicopter locates personnel in the evacuation area, their location will be transmitted to the range control center where flight safety personnel will evaluate the risk associated with proceeding; however, in general, the launch will be canceled or delayed until personnel can evacuate the area. Any unsafe situation will cause cancellation if it cannot be corrected.

Comment: It is highly irresponsible and unacceptable to locate flight termination debris containment corridors over several cities such as Santa Fe, Gallup, Farmington, Moab, Monticello, Shiprock, Grants, Milan, Acoma Pueblo, Laguna Pueblo, and Socorro and over thousands of rural Ute and Navajo people. (MW-0138-2; MW-0147-3; MW-0157-2; MW-0174-3; MW-0178-2; MW-0179-2; MW-0180-2; MW-0183-2; MW-0185-2; MW-0204-15; MW-0220-56; TM-0009-2; TM-0020-2; TS-0015-2)

Response: As discussed in Appendix I and sections 3.1.2.7, 3.1.3.7, and 3.1.4.7 of the Draft EIS, an evaluation of the risks associated with proposed flight activities has been conducted. This analysis included consideration of population and population distribution of all areas beneath proposed flight paths. Results of the analysis demonstrate that risks associated with proposed activities are within acceptable limits as expressed in existing WSMR safety requirements.

Comment: A self-destruct mechanism should be placed in the missile in case something goes wrong and it goes off course so that it can be destroyed; however, what happens if the self-destruct signal does not work and the missile could perhaps fall on Shiprock or wobble off course and land someplace like Durango or Cortez or Farmington or who knows where? (TS-0001-2; TS-0003-1, TS-0003-2)

Response: The flight termination systems used on systems with off-base flight capabilities have proven themselves to be highly reliable in both test evaluations and actual use. Additionally, these systems incorporate redundant elements to ensure that failure of an individual component will not prevent proper flight termination from occurring.

Comment: A current and comprehensive population assessment should be done before any testing is considered to accurately assess the increased population in the area. (EG-0001-2; ER-0003-2; ER-0009-2; MW-0213-4; MW-0214-22)

Response: 1990 U.S. Census information was used to provide population information (see Appendix I of the Draft EIS). In addition, flight safety personnel have traveled the area both on the ground and by overflight to pinpoint population centers and locations of dwellings. This information was used in the risk assessment and will continually be monitored and updated over the life of the program.

Comment: I do not trust testing routes that the Army claims the missiles will follow because of the average of the Scud missile to impact is 30 to 50 miles off mark. (ER-0004-2; MW-0129-2)

Response: The Scud is simply an example of the type of ballistic missile threat to American troops that makes the development of interceptor technologies a high national priority. The HERA target utilizes proven systems to simulate the flight performance characteristics of various types of theater ballistic missile weapons. However, the HERA utilizes technology which is much more reliable than older systems (such as the Scud) and will be highly accurate in terms of flight performance and capability to fly the profiles which are planned. It should be remembered that the HERA is to serve as the target system for the TMD defensive missiles which are actually being tested. Target accuracy is desirable in order to obtain the highest quality test information of defensive missile performance.

Comment: What do you plan to do with students who are unable to go home after school because of evacuations? Will the military provide facilities and supervision for these students? (ER-0015-1; EG-0003-1; EG-0011-3; TG-0004-1)

Response: The military will provide compensation in the form of per diem for displaced persons. The per diem rate will allow families to spend the day in town or at other locations outside the evacuation area and make their own arrangements for accommodations, other services, and their children. In general, the evacuation will be for a very short period, although evacuations may be in effect for up to 12 hours.

Comment: What kind of services does the military plan to provide for displaced persons? Will there be designated shelter areas for people and pets? Will food and drinks be provided with sleeping areas or resting areas as well as handicapped and senior facilities? (ER-0015-2)

Response: The military will provide compensation in the form of per diem for displaced persons. The per diem rate will allow families to spend the day in town or at other locations outside the evacuation area and make their own arrangements for accommodations, other services, and their children. In general, the evacuation will be for a very short period, although evacuations may be in effect for up to 12 hours.

Comment: How large of an area will be affected (square mileage and location) if a missile launch is aborted in flight? (ER-0015-3; TRQ-0007)

Response: If a missile has to be aborted after approximately 9 seconds into the second-stage burn, thrust-termination ports will be activated. The missile is expected to impact the ground in one piece with most of the propellant burned up during the descent. The area actually affected on the ground is conservatively estimated to be less than 5,000 ft^2 (50 by 100 ft). If a missile has to be aborted during the first few seconds prior to enablement of the second-stage thrust-termination ports, the motor case would be cut open, resulting in numerous smaller pieces falling to the ground. Although these pieces would be spread over a large area, the ground area actually impacted by debris should be less than 5,000 ft^2. Depending on where a malfunction may occur in the flight corridor, the boundaries of the affected area move down the flight path from the launch area to WSMR as indicated in the EIS. Total exposure time for the entire flight corridor is approximately 110 seconds.

Comment: The EIS does not specifically address how temporary evacuation will be executed. Few people would be willing to evacuate and leave their property. The impact areas need to be thoroughly evacuated. Can a launch proceed knowing persons are in the area? (ER-0018-9; ER-0019-7; ES-0001-9; EG-0011-4; MW-0101-4; MW-0103-3; MW-0123-5; TM-0014-5; TC-0003-7; TS-0002-9; TUQ-0004; TGQ-0037)

Response: The Supplement to the Draft EIS contains the Evacuation Plan for TMD Extended Test Range activities at WSMR. This document explains evacuation procedures. In addition, landowners would voluntarily agree to evacuate or their property would not be included in an evacuation area.

Comment: We are very concerned about the Navajo environment and their health and well being. (ES-0005-3; ES-0004-2; MW-0068-2; MW-0058-2; MW-0096-2; MW-0143-2; MW-0148-2; MW-0148-4; MW-0154-3; MW-0168-2; MW-0169-2; MW-0203-3; MW-0228-2; TC-0002-4; TC-0010-4; TS-0009-2; TS-0009-3; TS-0011-2)

Response: The corridor risk analysis, as indicated previously, has taken into account the location of the Navajo people, population centers, sensitive areas, and other factors. These considerations have been a major factor in the selection of the overflight corridor and booster drop zones. Where intentional impacts will occur, i.e., booster drop zones, evacuation of these areas will be accomplished.

Comment: I am very concerned that missiles as well as airplanes cause cancer and many other diseases when they fly over. (TC-0005-4; TC-0010-3; TS-0012-1)

Response: Missile overflights have never been identified as causing cancer or other disease in overflight areas.

Comment: We are very concerned about debris from missiles that may be terminated in flight or from missiles that may malfunction in flight over tribal lands. (EG-0007-2; EG-0007-11; MW-0089-4, MW-0091-4; MW-0093-5; MW-0119-2; MW-0169-4; MW-0187-2; MW-0209-2; MW-0231-2; TG-0002-2)

Response: Within the identified flight termination debris containment corridors (see figures 4.1-5 and 4.1-6 of the Draft EIS) there is a potential for property damage as a result of an anomalous flight requiring termination; however, an analysis of the actual risk has shown the potential for damage to be remote. In the event of property damage, owners would be appropriately compensated under existing U.S. Army policy (as well as New Mexico law). The Army is committed to the recovery of booster debris and removal of any contaminants and restoration of land to its pre-impact condition.

Comment: Would Department of Defense personnel be willing to live out here (New Mexico) and subject their families to the possible hazards of such missile testing? (MW-0110-4; TSQ-0012)

Response: Many DOD personnel already do live around WSMR.

Comment: The catastrophic risk of a missile destruction overhead and the massive consequence on the ground by such destruction are unacceptable to personnel and property. (MW-0116-3; MW-0131-2)

Response: Within the identified flight termination debris containment corridors (see figures 4.1-5 and 4.1-6 of the Draft EIS) there is a potential for property damage as a result of an anomalous flight requiring termination; however, an analysis of the actual risk has shown the potential for damage to be remote. Analysis of possible injury potential has also shown this potential to be remote (see Section 4.1.4.7 and Appendix I of the Draft EIS). In the event of property damage, owners would be appropriately compensated under existing U.S. Army policy (as well as New Mexico law). The Army is committed to the recovery of all debris, removal of any contaminants, and restoration of land to its pre-impact condition.

Comment: If a vehicle exceeds the limits of its flight safety parameters, what would happen to the wayward vehicles? (MW-0123-7)

Response: The Range Safety Officer (RSO) would determine the potential hazards posed by the errant flight and if necessary would activate the Flight Termination System. However, where possible the RSO would allow the system to proceed to its termination point, provided that this will occur on WSMR.

Comment: What happens if the missile intercept misses and blows up an airplane or spreads radiation over Gallup, Fort Wingate, or the surrounding area. (MW-0130-2)

Response: Air traffic within the flight corridor will be rerouted, so there is little potential of damaging an aircraft in flight. As stated in Section 4.1.1.7 of the Draft EIS, only very small quantities of radioactive material would be incorporated into TMD systems. This material would be present as small metallic pieces contained within electronic switches. Due to the small quantities, contamination of wide areas would not be possible, and even under catastrophic conditions the total release of all radioactive material would present a not significant radiological hazard.

Comment: What happens if you blow up WSMR and the area around the base? (MW-0157-4)

Response: The quantities of explosive materials aboard proposed TMD systems will be insufficient to affect any large areas even in the event of a complete explosion.

Comment: I am impressed with the safety measures considered in the missile programs planned for the Green River launch to WSMR. (MW-0190-1; MW-0190-3)

Response: Thank you for your comment.

Comment: If you do an intercept of "your toys" over the Zuni Mountains, where will the parts go? (MW-0192-2)

Response: Intercepts will only occur over WSMR property. Debris produced by these intercepts will impact entirely within the WSMR (and/or contiguous extension area) boundaries.

Comment: We are concerned for the safety of everyone in the drop zones over the Zuni Mountains and El Malpais National Monument and also the "fall out zones." (MW-0199-1; MW-0208-3)

Response: All designated drop zones will be evacuated prior to launch. Target intercepts will occur only over WSMR property, and all debris produced by these intercepts will impact entirely within the WSMR (and/or extension area) boundaries.

Comment: The potential impact of flight termination debris upon public safety is very significant and unacceptable. (MW-0204-16; MW-0204-22)

Response: As discussed in Appendix I and sections 4.1.1.7, 4.1.2.7, 4.1.3.7, and 4.1.4.7 of the Draft EIS, an evaluation of the risks associated with proposed flight activities has been conducted. This analysis included consideration of population and population distribution of all areas beneath proposed flight paths. Results of the analysis demonstrate that risks associated with proposed activities are within generally accepted limits as expressed in existing WSMR safety requirements.

Comment: The TMD EIS must incorporate a discussion of the consequences of failure (uncontrolled impact) of a missile launch since they are so catastrophic. (MW-0219-22; MW-0219-23)

Response: A discussion of launch hazards, including launch failure, is included in Section 4.1.1.7 of the Draft EIS. Because of the potential hazards, a LHA will be determined for each launch operation. A LHA represents the extent of the area which could be affected by debris in the event of a launch failure and would be evacuated of unauthorized personnel in order to assure the safety of the public.

Comment: The Draft EIS fails to discuss impacts on human health and safety associated with target missiles launched from Fort Wingate, including the fact that the program will result in short-term exposure of humans to air pollutants (HCl). (MW-0219-42; MW-0219-49; MW-0219-55; MW-0220-45)

Response: A discussion of air quality issues relevant to FWDA, including HCl emissions, is presented in sections 4.1.1.1 and 4.1.3.1 of the Draft EIS. Analysis of these issues showed that airborne HCl concentrations could exceed air quality standards only under very specific meteorological conditions present at the time of an on-pad accident; however, limiting launches to other weather conditions has been identified as an acceptable mitigation measure. Other launch hazards are discussed in sections 4.1.1.7 and 4.1.3.7 of the Draft EIS. In all cases, analysis of the hazards has shown that impacts on human health and safety are not significant.

Comment: We are concerned about adequate fire protection in the Fort Wingate area for test program-related fires or adequate emergency response care available in the case of a target malfunction. (MW-0122-7; MW-0219-51; MW-0219-52)

Response: An Emergency Response Plan for proposed TMD Extended Test Range operations is included in the Supplement to the Draft EIS. Included in this plan are provisions for coordinating fire fighting and emergency response efforts. These requirements can be supplemented by a Fire Response Plan, which would provide more detailed instructions concerning response procedures and responsibilities. However, in general the response to wildland fires resulting from TMD operations would be similar to the response action for other types of unanticipated fires (e.g., lightening strikes, campers).

Comment: I would like an independent audit of the Army's success record in termination of an off-course flight within 3 seconds and within 5 seconds. The LHA has been miraculously edited to exclude the town of Fort Wingate. (MW-0220-20)

Response: The extent of the LHA for launches at FWDA reflects the areas potentially subject to debris impact in the event of anomalous launch operations, using the anticipated TMD flight profiles. The differences between the LHA at FWDA and that at the GRLC reflect differences in flight profiles. At FWDA flight profiles are more restricted than at the GRLC in order to avoid the potential for impacts inside the town of Fort Wingate. Flight profiles which do not meet these restrictions would not be permissible from FWDA; thus the inclusion of the town of Fort Wingate inside the LHA is prevented due to the operational restrictions which are a part of the proposed action. In addition, the LHA required for a scenario using Booster Drop Zone C would be much smaller than that for the other booster drop zones. The use of Booster Drop Zone C is preferred if FWDA is selected.

Comment: The Army is taking advantage of the poverty in the area to do its testing; these people also deserve to be safe and not to be treated as statistics. (MW-0229-2)

Response: Safety analyses performed to determine operational risk (see Appendix I of the Draft EIS) used 1990 U.S. Census Bureau population numbers and distribution. Socioeconomic factors were not part of the safety analysis.

Comment: I am concerned that the entire rocket trajectory can be considered a drop zone, subject to impacts, both physical and environmental. (TGQ-0020)

Response: The information presented in Section 4.1.4.7 of the Draft EIS includes consideration of the potential impacts along the entire ground track of the flight path. Analysis of the hazards (presented in Section 4.1.4.7 and Appendix I of the Draft EIS) showed all risks to be within limits established in WSMR safety protocol.

Comment: How much time there is to terminate the missile in flight and then at the same time coordinate with the people that are living in the potential drop zone? (TGQ-0025)

Response: Persons within designated drop zones would be warned of a test flight well in advance of test operations. Should flight termination become necessary it would be initiated within 5 seconds of a missile deviating from its intended trajectory. Notification of persons in the termination debris area would not be possible prior to debris impact.

Comment: Are there any kind of radiation risks? (TGQ-0038)

Response: As detailed in Section 4.1.1.6 of the Draft EIS, only very small quantities of radioactive material would be incorporated into TMD systems. This radioactive material, primarily Nickel-63, would be present as small metallic pieces contained within electronic switches. Due to the small quantities, contamination of wide areas would not be possible, and even under catastrophic conditions the total release of all radioactive material would present a not significant radiological hazard.

Comment: What is the probability of a drop outside of the designated areas? (TUQ-0013)

Response: The size of designated drop zones is based upon the known ballistic performance parameters of the booster vehicles, mission-specific flight parameters (trajectory, separation time, etc.), and the range of expected meteorological conditions. With the exception of accident cases,

there is only a very small potential for any debris impacts outside of designated drop zones. For accident cases, the debris limits shown in figures 4.1-5 and 4.1-6 of the Draft EIS represent modeled debris impact limits using a large number of computer-generated accident "runs" under a variety of meteorological conditions. Impacts beyond these limits would also be considered to have only a very small potential to occur.

Comment: What are the impacts involving a fire from a launch, prelaunch, or postlaunch activities or an abort, and does the Draft EIS address and mitigate those concerns? (TUQ-0017)

Response: Section 4.1.4.7 of the Draft EIS provides a discussion of fire hazards and response procedures. In addition, the Supplement to the Draft EIS presents the Emergency Response Plan prepared for TMD Extended Test Range activities at WSMR. Included in this Emergency Response Plan are provisions for fire response activities.

Comment: How will non-English-speaking Navajos in remote areas be notified of launch activities and their safety assured? (EU-0016-4)

Response: Notices for the Navajo Nation would be translated.

Comment: I am concerned with the release of missile boosters/debris over the flight path and endangerment of lives and property below, especially on the Navajo Reservation. (MW-0239-2)

Response: The information presented in Section 4.1.4.7 of the Draft EIS includes consideration of the potential impacts along the entire ground track of the flight path. Analysis of the hazards (presented in Section 4.1.4.7 and Appendix I) showed that all risks are within limits established in WSMR safety protocol.

3.1.10 LAND USE

Comment: I hope that other booster drop zones will be chosen, even if there would also be significant impacts. (TM-0006-11; MW-0177-2)

Response: The new locations of the booster drop zones have been analyzed in the Supplement to the Draft EIS.

Comment: We are opposed, appalled, and incredulous that the Federal government would even consider using Canyonlands country, Canyonlands National Park, Dead Horse Point State Park, El Malpais National Monument, or the Zuni Mountains as a booster drop zone and hope that other booster drop zones will be considered. (EG-0009-5; EG-0010-1; EG-0010-2; EG-0010-4; EG-0011-2; EM-0004-3; EM-0005-8; EM-0006-1; EM-0012-1; EU-0006-1; EU-0008-2; EU-0011-1; MW-0028-2; MW-0030-1; MW-0030-11; MW-0034-3; MW-0035-19; MW-0050-1; MW-0052-5; MW-0056-3; MW-0061-3; MW-0069-3; MW-0071-1; MW-0071-5; MW-0074-5; MW-0075-1; MW-0076-3; MW-0076-5; MW-0077-2; MW-0080-4; MW-0082-1; MW-0098-2; MW-0099-1; MW-0103-10; MW-0106-1; MW-0106-15; MW-0111-1; MW-0112-3; MW-0123-3; MW-0170-2; MW-0173-5; MW-0179-3; MW-0184-3; MW-0206-3; MW-0223-4; MW-0228-3; MW-0235-4; MW-0235-9; MW-0235-16; MW-0237-3; MW-0240-4; TG-0016-8; TM-0009-3; TS-0005-5; TU-0007-4)

Response: The Draft EIS, figure 3.1-14, p. 3-100, shows that the booster drop zones are north and southeast of Canyonlands National Park, not over Canyonlands National Park itself. The Island in the Sky District of Canyonlands National Park is not located in the proposed booster drop area

and would not be evacuated. Only access to the district would be curtailed because the access road, Highway 313, passes through the Booster Drop Zone A. Moreover, the Draft EIS does acknowledge that "while the number of individuals affected is not large, the impacts are considered significant nonetheless since access to a national park and a state park is involved" (p. 4-111, paragraph 3, line 1). The new locations of the booster drop zones have been analyzed in the Supplement to the Draft EIS.

Comment: The Draft EIS does not describe the many units of the National Park System that are in the vicinity of proposed test routes (corridors) adequately or accurately. There are no references to the public laws or executive orders that preserved these areas for future generations and established their purposes. Paramount among these purposes is the legal mandate to preserve the resources within national park units "unimpaired for future generations." This is a serious omission. (MW-0235-5; MW-0235-6)

Response: Only those units of the national park system that would be affected by the proposed action are described and shown in figure 3.1-14 of the Draft EIS. Furthermore, the impacts of the program, as discussed in Section 4.1.4.8, are limited to curtailed visitor access to the Island in the Sky District of Canyonlands National Park and river running on the Green River through the park, not actual impacts on the park. Figure 3.1-14, p. 3-100, shows that the booster drop zones are north and southeast of Canyonlands National Park, not Canyonlands National Park itself.

Comment: The EIS needs a complete discussion of the values and resources of the protected units of the National Park System. The discussion should include recognition of its purpose, namely to protect unique natural, cultural, and recreational resources, as well as natural quiet, solitude, and other qualities. (MW-0043-5; MW-0107-4; MW-0219-31; MW-0235-7; MW-0240-10; TG-0003-2; TR-0006-9; TU-0003-5; TU-0007-10)

Response: The proposed action would only curtail access to Canyonlands National Park, not impact any of the natural, cultural, and recreational resources of the park itself. Potential disturbance to the natural quiet and solitude values in adjacent or nearby national parks and wilderness areas is addressed in Section 4.1.4.8, p. 4-109, paragraph 2, of the Draft EIS.

Comment: The maps in the Draft EIS are inadequate to describe the affected environment or gauge impacts and are unclear and fail to show the exact boundaries of the booster drop zones or the location of sensitive resources within national park units. (MW-0235-8; TG-0011-2)

Response: The location of sensitive resources within the national park units are not shown since none of the national park units themselves, or any sensitive resources within the parks, would be directly impacted by the proposed action.

Comment: The discussion of the impacts of restricted land use access to national parks, including the Island in the Sky District of Canyonlands National Park, the Chain of Craters area of El Malpais National Monument, and El Morro National Monument, is deficient. (MW-0014-3; MW-0170-1; MW-0235-15; TU-0008-5; TU-0009-2)

Response: Based on the latest available data, the number of individuals who would be affected by road closures and area evacuations has been identified in the Draft EIS. Moreover, the Draft EIS does acknowledge that "while the number of individuals affected is not large, the impacts are considered significant nonetheless since access to a national park and a state park is involved" (p. 4-111, paragraph 3, line 1 of the Draft EIS).

Comment: We are opposed to the program and to the disruption of peace and quiet and are unwilling to evacuate. (MW-0099-4; MW-0110-1; MW-0113-3; MW-0176-3; MW-0237-5; TGQ-0002; TGQ-0003)

Response: Thank you for your comment.

Comment: I am concerned about disruption of vacation plans that are made months in advance. (MW-0213-3; TU-0020-5)

Response: Thank you for your comment.

Comment: The Canyonlands area belongs to all the people, and just because there are no towns does not mean that it should be used as the Army's "playground." (MW-0075-2)

Response: Thank you for your comment.

Comment: I disagree with the "not significant impact" finding for land use at FWDA. (MW-0217-5)

Response: Thank you for your comment.

Comment: We are opposed to the closure of highways and restriction of access to the area's national and state parks and national monuments. (EM-0007-2; EU-0007-1; EU-0013-3; MW-0009-3; MW-0075-3; MW-0080-1; MW-0081-1; MW-0103-4; TR-0010-4; TU-0017-2)

Response: The Draft EIS does acknowledge that "while the number of individuals affected is not large, the impacts are considered significant nonetheless since access to a national park and a state park is involved" (p. 4-111, paragraph 3, line 1 of the Draft EIS).

Comment: We are opposed to the fact that national monuments, particularly El Malpais, are being considered as booster drop areas. (MW-0022-5; MW-0108-5; MW-0117-7; MW-0217-8; MW-0235-22;TG-0015-1; TG-0015-2; TG-0016-2; TG-0017)

Response: The new locations of the booster drop zones have been analyzed in the Supplement to the Draft EIS.

Comment: I am concerned that river running would be halted for hours and that access to Island in the Sky, Dead Horse Point, and many other areas would blocked for hours. (TM-0016-5)

Response: The Draft EIS acknowledges that if Booster Drop Zone A or B is used, river running, rafting, and canoeing on the Green River would be curtailed for at least 12 hours because of the logistical difficulties of ensuring that the stretch of Green River within the LHA is clear of river runners. If Booster Drop Zone C1 or C2 is used, access to the Green River would not be affected. However, the access road to the Island in the Sky District of Canyonlands National Park and Dead Horse State Park would only be closed for up to 70 minutes, not hours. The Draft EIS does acknowledge that "while the number of individuals affected is not large, the impacts are considered significant nonetheless since access to a national park and a state park is involved" (p. 4-111, paragraph 3, line 1 of the Draft EIS).

Comment: What about jurisdiction, cooperation, and agreement between civilian agencies, such as the National Park Service, U.S. Forest Service, the BLM, and the state. (MW-0214-19; MW-0219-30; TGQ-0004; TMQ-0006; TSQ-0008; TSQ-0009; TUQ-0014)

Response: Cooperative agreements with all land owners/managers in the areas to be evacuated, whether private, state, or Federal, would have to be negotiated and/or agreed upon before the proposed action could be implemented.

Comment: The vicinity location map, figure 2.2-4 in Volume I, does not show the tribal Red Lake Ranch located in Section 19, Township 3 North and Range 7 West. (EG-0007-10; TG-0002-10)

Response: The tribal Red Lake Ranch is not located in the booster drop areas, so the probability of debris hitting the ranch is extremely remote. Appendix I in Volume II presents the results of a computer modeling analysis that determined the expected casualty and impact probability from a missile malfunction within the flight termination debris containment corridors.

Comment: All tribally owned land should be shown in the recreation region of influence, flight corridor map, figure 3.1-16 of the Draft EIS, since tribal land is used for recreational, cultural, and economic purposes. (TG-0002-12; EG-0007-12)

Response: Figure 3.1-16 provides an adequate depiction of the major recreational areas and tribal lands in the region of influence. The scale of the map limits the amount of detail that can be depicted. More detail would not change the conclusions of the analysis.

Comment: Would missile launches interfere with the astronomy observatory on tribal land that is being planned by the Pueblo of Acoma, the University of New Mexico, and others? (EG-0007-18; TG-0002-18)

Response: If the observatory is an optical facility, the missile launches would have no effect. If the observatory is a radio telescope then there is the potential for signal interference from electromagnetic radiation emitted by the tracking radars on the ground and onboard equipment housed in both the target and defensive missiles. The issues, and proposed mitigation measures, would be identical to those discussed in Section 4.1.4.4, p. 4-97, for the VLA and VLBA antennae.

Comment: FWDA should be utilized for nonmilitary and other nondefense purposes or the public should be allowed to choose the future land use. (EG-0007-20; EG-0008-3; TG-0002-20; TG-0005-3)

Response: Potential conflicts with other proposed uses of FWDA would be resolved through the Army's Base Realignment and Closure process. As part of this process, the BMDO has identified a potential use for sufficient property to conduct launch activities, establish safety zones, and ensure access. Lands not needed for missile testing activities would be returned to the public domain. Lands retained for missile testing activities could potentially accommodate compatible additional uses. Lands returned to the Department of the Interior would be subject to that agency's procedures and priorities in identifying potential uses.

Comment: Few prospective tenants for the developed area of FWDA will be able to withstand the evacuation requirements, and this clearly justifies a finding of "significant impact" relative to FWDA land use. Simply move the proposed launch site to the former Pershing missile launch site near McFerren Lake in the extreme southeast corner of the FWDA property. Similarly, the proposed testing would greatly inhibit the possible development and re-use of the former Depot property for nonmilitary uses. (MW-0014-7; MW-0014-8; MW-0070-4; TGQ-0009; TGQ-0010; TGQ-0013; TGQ-0019)

Response: While sufficient control of this property is needed to provide security for launch and radar facilities, to ensure site access, and to provide clear hazard areas during launches, much of the

property could be used for compatible activities for a substantial portion of each year. Property not retained for BMDO missions would revert to the Department of the Interior.

Comment: The clarity of maps in the Draft EIS is poor, particularly with regard to the location of wilderness study areas, conservation areas, and wildlife habitat program areas. (MW-0057-7; MW-0107-2; TG-0011-1; TSQ-0004)

Response: The Draft EIS and Supplement to the Draft EIS show the location of wilderness study areas, conservation areas, and wildlife habitat program areas surrounding the booster drop areas under consideration.

Comment: We are concerned that wilderness, and wilderness study areas, are being considered for booster drop areas in Booster Drop Zone B or that any wilderness areas would be considered at all. (MW-0003-1; MW-0012-1; MW-0035-21; TG-0015-4; TG-0018-6; TR-0023-2)

Response: The new locations of the booster drop zones have been analyzed in the Supplement to the Draft EIS.

Comment: Maps in the document are inadequate to determine the exact boundaries of the booster drop zone and its potential to impact on El Morro or to tell what lies under the debris containment corridor. (MW-0057-1)

Response: El Morro National Monument lies outside Booster Drop Zone A. The figures in the Draft EIS are meant to be general representations only.

Comment: The rough and rugged topography of the Canyonlands area means that some rocket debris simply won't be retrieved and remote pristine canyon areas will become littered with remains of missile parts. (TU-0008-3; TU-0008-4)

Response: Booster debris will be recovered in accordance with the procedures outlined in the Booster Recovery Plan. In the event of a flight termination, WSMR would assume primary responsibility for investigation of the impact site and recovery of missile debris (Draft EIS, p. 2-53, paragraph 1, line 1).

Comment: We are concerned about disturbance and disruptions to the recreational experience in national parks, particularly turning them from places of retreat and renewal to places of risk and danger. (MW-0065-2; MW-0079-1)

Response: Potential disturbance to the recreational experience, particularly in adjacent or nearby national parks and wilderness areas, from noise is discussed in the Draft EIS (p. 4-109, paragraph 2). Canyonlands National Park lies outside the booster drop area.

Comment: We are concerned about littering the area with missile debris and the actual recovery of debris from national parks, primitive areas, and wilderness areas. (EM-0005-7; EM-0010-3; MW-0081-5; MW-0188-3)

Response: Canyonlands National Park lies outside the booster drop areas; consequently, no debris is expected to fall in the park, and no booster or debris-recovery efforts are anticipated that could lead to recreational disturbance in Canyonlands National Park. Booster debris falling within the booster drop area north of Canyonlands National Park will be recovered in accordance with the procedures

outlined in the Booster Recovery Plan included as Appendix D in the Supplement to the Draft EIS. In the event of a flight termination, WSMR would assume primary responsibility for investigation of the impact site and recovery of missile debris (Draft EIS, p. 2-53, paragraph 1, line 1).

Comment: Why wasn't the evacuation of residents addressed as a land use impact? (TU-0009-7; TUQ-0012)

Response: The Draft EIS acknowledges that prohibiting access to the LHAs and the booster drop zones for up to 12 hours would impact recreational use of the areas affected, in some cases significantly. However, impacts on any residents of the affected areas were not addressed since land use itself would not change and, as discussed in the Draft EIS (p. 2-52, paragraph 1, line 7), the Army would enter into evacuation agreements with private land owners and affected Government agencies before the proposed action would be implemented.

Comment: We are opposed to wide corridors of off-range land and air being appropriated for military testing. (EU-0013-6; TU-0014-6)

Response: Other than the proposed additions to the R-6413 Restricted Airspace above the GRLC (Section 4.1.2.2 of the Draft EIS, p. 4-54) and a proposed new restricted area above FWDA (Section 4.1.3.2 of the Draft EIS, p. 4-73), no off-range land or air would be appropriated for the TMD Extended Test Range program. Land in the LHAs and under the booster drop areas would not be appropriated. Residents and recreational visitors would only be asked to evacuate these areas for up to 12 hours for each launch to ensure their safety and well-being. The Army would enter into evacuation agreements with private land owners and affected Government agencies before the proposed action would be implemented. When not activated, the public has full access to the LHAs and the booster drop areas. Even the new joint-use restricted airspace, when not needed, would be released by the using agency, Deputy for Air Force, WSMR, to the FAA controlling agency (Draft EIS, p. 4-74, paragraph 3).

Comment: We already have too much land in New Mexico locked up for military use. The Army should work within the existing allotted military lands. (ER-0006-5; EU-0015-2; MW-0055-1)

Response: Thank you for your comment.

Comment: The designation of drop zones in essence means that these recreation areas regularly will turn into military test ranges, and the impact on the tourism and recreational proposals would be dramatically negative. (MW-0001-15; TU-0018-1; TUQ-0007)

Response: The significance of the recreational impacts is acknowledged in Section 4.1.4.8 of the Draft EIS. However, the LHAs and the booster drop areas would be activated a maximum of four times a month, not permanently, and recreational use of these areas would be able to resume.

Comment: We are concerned about the impact (potentially literal) on the National Park System. (EM-00003-5; MW-0012-3; TM-0009-11)

Response: Section 4.1.4.8 of the Draft EIS does acknowledge the significance of curtailed access to the Island in the Sky District of Canyonlands National Park, but no literal impact of booster debris on the National Park System is expected.

Comment: No amount of warning or evacuation messages can be adequate to effectively clear the area, and the lands that are essentially part of the booster landing zones Canyonlands National Park and Arches National Park are irreplaceable national monuments. (EM-0011-3; MW-0213-2)

Response: Thank you for your comment. Both Canyonlands and Arches national parks are outside the proposed booster drop areas.

Comment: I am concerned about the importance of Old Pueblo, commonly known as Sky City. (EG-0007-6).

Response: Sky City lies well outside Booster Drop Zone B and far east of the Booster Drop Zone A.

Comment: Cottonwood Gulch Foundation operates a Base Camp at 6588659 State Road 612, Thoreau, New Mexico, McKinley County, and the Foundation owns Range 13N Township 34 Sections 34, NE, SE, SW, 26 SW 1/4. Programs out of this camp are operated in the Four Corners, and we utilize Zuni Mountain Cibola Forest section and the El Malpais National Monument in these areas. (EG-0011-1)

Response: Thank you for your comment.

Comment: As the operator of Cottonwood Gulch Foundation, I am concerned that the parents of participating children would demand that our property be evacuated for each and every launch and that such a series of evacuations would be extremely disruptive to the program, as well as costly. (MW-0116-5)

Response: The FWDA Booster Drop Zone A does not include the Cottonwood Gulch Foundation property; it lies approximately 2.4 km (1.5 mi) to the north. Consequently, there would be no safety reason to evacuate individuals from the property.

Comment: We do hate to see your misleading maps which have the Navajo Indian sections around Ramah included in a reservation, which they are not. This land is checkerboard area, some being Navajo allotted land they are proud to control, some forest, some state, some belonging to Anglo ranchers. (MW-0005-3)

Response: Thank you for your comment.

Comment: The Canyonlands area is increasingly being visited by people from all over the world. Tourism to both Federal and state recreation areas is skyrocketing. Visitation to the Needles District of Canyonlands National Park went up 16 percent in one year and continues to rise. In the EIS, there was mention that visitation to the area dropped off dramatically between October and February. This is becoming no longer true, and more use of the area extends on either side of the winter months. (MW-0007-2)

Response: The visitation data presented in the Draft EIS are the latest data available from Canyonlands National Park, Dead Horse State Park, and both El Malpais and El Morro national monuments. Conversations with hotel and motel operators also confirmed the pronounced seasonal nature of local tourism.

Comment: No mention in the Draft EIS was made of the well over 25 families located within the designated LHA with homes accessed from Sundance Road and Shadow Farm Road. These families would be required to evacuate their homes, perhaps as often as four times a month, for the next 6 years, yet the Draft EIS finds no significant land use impact? (MW-0014-4)

Response: Although the exact number of families is not identified, the Draft EIS does state that "the Army would enter into agreements with private landowners and affected Government agencies within both the LHAs and booster drop areas" (p. 2-52, paragraph 1, line 7).

Comment: The proposal violates the land use plan for BLM lands within the drop zones, while p. 4-278 of the Draft EIS says that all TMD activities will comply with land use plans. (MW-0035-27).

Response: The U.S. Army will enter into agreements with the BLM before the proposed action is implemented.

Comment: The closure of booster drop areas, such as Booster Drop Zone B, may affect off-site areas as recreational users seek out other nearby areas to recreate, sometimes off-site areas that are already over-used, such as the Indian Creek Canyon. (MW-0039-8)

Response: While potentially an impact on the off-site areas, it is nonetheless considered a not significant impact.

Comment: We support the program; the Draft EIS addressed our major concerns, and any problems are very short-term and temporary or support multiple use. (TM-0002-3; TM-0005-3; TM-0005-5; TU-0003; TU-0021-1)

Response: Thank you for your comment.

Comment: While southeastern Utah may look somewhat uninhabited, it does receive a great number of recreationalists; although the area of Four Corners appears to be "uninhabited," in fact the opposite is true. (MW-0045-2; MW-0121-2)

Response: This is recognized in Section 3.1.4.8 of the Draft EIS.

Comment: What about the difficulty of locating and notifying off-road vehicle and mountain bike recreationalists in the evacuation areas? (EU-0002-1; EU-0002-3)

Response: The safety planning portion of Section 2.2.1.2 (pp. 2-47 through 2-52) describes the road closure and evacuation process. Additional information is contained in Appendix B of the Supplement to the Draft EIS.

Comment: The Green River (and its commensurate level of recreational use) is not included in the booster drop zone, yet p. 4-107 says that variances in booster drop accuracy are "on the order of a kilometer." It is obvious that the Army has placed the western edge of the proposed booster drop zone almost exactly a kilometer away from the Green River to conveniently avoid addressing the adverse impacts on the commercial boating community. (MW-0056-19)

Response: Figure 3.1-14, p. 3-100 of the Draft EIS does in fact indicate that the Green River passes through the GRLC LHA. Moreover, the GRLC LHA subsection of Section 4.1.4.8 on p. 4-109 does specifically address the impacts on river runners.

Comment: Booster Drop Zone A is well used by four-wheel drive vehicles, bicyclists, backpackers, and hikers. It is also an access area for river runners. You people need to come out here and look at this area before you propose dumping debris on it. (MW-0057-5)

Response: Section 3.1.4.8, p. 3-99, paragraph 2 of the Draft EIS does recognize the wide range of recreational uses of Booster Drop Zone A, and the impacts on the users and river runners are addressed in Section 4.1.4.8.

Comment: The positioning of ground-based sensors will cause impacts, including the disruption of the aesthetic experience sought by recreational users in the impacted area by the presence of artificial devices. (MW-0106-6)

Response: Section 2.1.1.3, p. 2-15, paragraph 5, line 4 of the Draft EIS states that most of the data-collection systems are existing fixed or mobile range assets and would not be constructed specifically to support the TMD program. None of the mobile assets would be placed in national parks, national monuments, state parks, or wilderness areas, so any disruption of the aesthetic experience would be minimal.

Comment: Missile testing will destroy the efforts so many have put forth promoting tourism in the area, including efforts of the New Mexico Highway Department in reconstructing Highway 53 with additional bicycle lanes for bicycle touring. (MW-0113-6)

Response: Many visitors will probably not realize that missile testing takes place in the area. Some visitors, while cognizant of the test activities, will be undeterred; witness the popularity of county beaches on and adjacent to Vandenberg AFB in California. Other visitors may be concerned and may schedule their visits to avoid launch times. Only a very small number of visitors are likely to be dissuaded from visiting an area due to the fact that missile tests are conducted nearby. It is also expected that a small number of visitors would be attracted to an area just to watch missile launches. Overall, the impact from test activities at the GRLC on tourism, recreation, and economic development in the area is considered to be not significant.

Comment: New Mexicans consider the grassland areas south of State Road 506 and the mountain transition area north of State Road 506 to be of ecological, historic, and economic importance. (MW-0117-6; MW-0214-7)

Response: Thank you for your comment.

Comment: El Malpais National Monument is one of the drop zones. What will be the permanent visual effect in this National Monument and all other drop zones ? (MW-0204-11)

Response: There should be no permanent visual effect in any booster drop area. Booster recovery would occur almost immediately. The booster would be located with radar track information and an onboard locator. The booster would be pinpointed by helicopter and sling-loaded out to the nearest road where vehicles would be available for ground transport. There will be no off-road use of wheeled or tracked vehicles. If the use of a helicopter is impossible, boosters would be cut up and packed out by horses. Road construction in the booster impact areas would not be required. In the event of a flight termination, WSMR would assume primary responsibility for investigation of the impact site and recovery of missile debris (Draft EIS, p. 2-53, paragraph 1, line 1).

Comment: McGregor Range should not be considered as part of TMD. Ground activities and facilities are not compatible with present uses and would have significant environmental impacts. (MW-0214-12; MW-0238-3)

Response: Thank you for your comment.

Comment: Paragraph 1, Section 4.1.1.8, p. 4-41 of the Draft EIS is misleading. Otera Mesa, McGregor Range, was used as a scatter zone for Hercules missiles long ago. It is not contaminated and has not been used for defensive missile launches. This paragraph should accurately reflect the facts. (MW-0214-40; MW-0238-6; MW-0238-7; MW-0238-10; MW-0238-12)

Response: The statement that McGregor Range has been similarly used has been changed to read, "The proposed launch site at the southern end of the Fort Bliss McGregor Range (shown in figure 2.2-8, p. 2-46) has been used for Pershing missiles in the past."

Comment: No specific references are made to the Jornada Experimental Range and the San Andres Wildlife Refuge in Section 4.1.1.3 as indicated in Section 4.1.1.8. (MW-0214-41)

Response: Section 4.1.1.8 has been adjusted in the Final EIS since neither area will be affected by planned test activities.

Comment: The Draft EIS does not adequately disclose impacts on national monuments. (MW-0219-38)

Response: The area's national monuments would not be affected by the proposed TMD test flights.

Comment: I am providing information on the various big game seasons for the Zuni Mountains illustrating the year-round nature of hunting in the area. (MW-0217-16)

Response: Thank you for your comment.

Comment: The closure of New Mexico Highway 53 will impact hunters in Game Management Unit 12, south of Highway 53. Also, fishermen that use Bluewater Lake, McGaffey Lake, Ramah Lake, and the Nutria Lakes will be bothered by road closures because they switch from lake to lake. (MW-0217-17)

Response: Thank you for your comment.

Comment: Cattle ranchers are active in the Booster Drop Zone A from early spring to late fall. (MW-0217-20)

Response: Thank you for your comment.

Comment: The land use descriptions are wrong for the FWDA-WSMR flight corridor. Figure 3.1-16 of the Draft EIS does not show land ownership or land use accurately, including some subdivisions, and it is impossible to tell exactly where the booster drop zones are located. Please describe the drop zones in terms of township and range, as this is considered the legal description. (MW-0220-32; MW-0220-33; MW-0220-34)

Response: The figures in the Draft EIS are meant to be general representations only. Details such as subdivisions are not shown. Legal descriptions of booster drop zones will not be determined until agreements with appropriate land owners have been developed.

Comment: Little Water Canyon Natural Research Area in Cibola National Forest, the oldest Douglas firs in New Mexico (located in Booster Drop Zone B), and Highway 53 South (designated by the state of New Mexico as a scenic by-way, the Masau Trail) have not been identified in either Section 3.1.4.8 or in figure 3.1-16. (MW-0220-35)

Response: The figures in the Draft EIS are meant to be general representations only. Little Water Canyon Natural Research Area, Douglas fir tree stands, and Highway 53 are generally not considered recreation locations such as are shown in figure 3.1-16.

3.1.11 NOISE

Comment: The adverse impacts of noise on the ecosystem were not discussed in the Draft EIS. (MW-0001-13; MW-0166-2)

Response: As discussed in Section 3.1.1.9, pp. 3-44 and 3-46 of the Draft EIS, previous studies have found no data to indicate a noise impact on the bighorn sheep due to the existing noise and sonic boom environment, and the proposed activities will result in negligible changes in the number or magnitude of sonic booms; therefore, no significant impacts are expected. See Section 4.1.1.3, p. 4-21 of the Draft EIS for a further description of noise impacts on wildlife.

Comment: There is no adequate explanation of the impacts of sonic booms on cities, national parks, and archeological sites. (MW-0035-14; MW-0204-18; MW-0204-21; TU-0001-7)

Response: See Section 4.1.4.9, pp. 4-118 and 4-119 of the Draft EIS for discussions on potential impacts resulting from sonic booms.

Comment: National parks are treasures where people go to get away from noise and disruptions of their lives, and they do not want the Army practicing in the area. (EM-0003-3; MW-0051-2; MW-0071-4; MW-0099-2; MW-0240-5)

Response: Noise levels from proposed Green River missile launches are expected to be inaudible in Canyonlands National Park and in Arches National Park. Ground-level noise resulting from the use of helicopters to confirm evacuations of booster drop zones should not significantly affect people or wildlife in the test areas. The use of helicopters to recover spent boosters or other debris would be of short duration and would occur infrequently. Also, helicopters would not necessarily be used for all recovery operations.

Comment: The use of helicopters to retrieve the boosters would create even more noise pollution than the missiles themselves; the EIS fails to address noise impacts caused by aircraft operations. (ER-0019-8; MW-0007-5; MW-0035-22; MW-0057-8; MW-0081-2; MW-0099-11; MW-103-16; MW-0106-5; TM-0014-4; TM-0016-6; TR-0013-8; TU-0001-5)

Response: Proposed helicopter usage is not planned to occur within local park areas or over local communities, such as Green River and Moab. No significant impacts are expected. Ground-level noise resulting from the use of helicopters to confirm evacuations of booster drop zones should not significantly affect people or wildlife in the test areas. The use of helicopters to recover spent boosters or other debris would be of short duration and would occur infrequently. Also, helicopters would not necessarily be used for all recovery operations.

Comment: It is disturbing that the Army would conduct missile tests in an area where the public lives and visits to enjoy the peace and quiet of the forest, and we are concerned with the disruptive noise impacts of test activities. (EM-0005-5; EU-0007-2; MW-0038-2; MW-0056-12; MW-0112-5; MW-0135-1; TM-0009-9; TU-0007-5)

Response: See Section 4.1.1.9, pp. 4-42 through 4-47 of the Draft EIS for discussions on potential impacts from noise and sonic booms.

Comment: The minimal noise level as discussed in the EIS that is compared to a gas-powered lawn mower at 3 feet sounds like more than a minor inconvenience. (EG-0009-8; MW-0052-8)

Response: Thank you for your comment.

Comment: I am concerned about the noise (85 decibels) during the launch around the GRLC and Fort Wingate and how people would be disturbed. (MW-0056-22; MW-0133-2; TM-0013-3)

Response: See the Draft EIS sections 4.1.2.9 and 4.1.3.9, pp. 4-64 and 4-84 respectively, for discussions of noise impacts at these sites.

Comment: I am concerned about the side effects of the so-called "civilization and progress." People have chosen to live here to age in peace and health. (MW-0222-7; TR-0025-5)

Response: Thank you for your comment.

Comment: How will noise affect the caves and volcanoes at the Ice Caves. (EG-0006-6; TG-0010-7)

Response: Noise levels from proposed TMD missile launches are expected to be inaudible at the Ice Caves, and no sonic booms are expected to reach the ground at this location.

Comment: We are concerned about the noise on the reservations in New Mexico, Utah, and Arizona. (MW-0138-3; MW-0174-2)

Response: Noise levels from proposed TMD missile launches are expected to be inaudible on the reservations in New Mexico, Utah, and Arizona.

Comment: I am concerned about the noise impacts and other impacts from aircraft operations on parks resulting from rerouting civilian and commercial air traffic due to the missile test. (MW-0235-13)

Response: Noise levels resulting from rerouted aircraft would be well below the FAA and U.S. Army guidelines for these types of land uses.

Comment: The noise section of the Draft EIS is unintelligible. It must be rewritten so that a person with no more than a high school education can understand it. (MW-0204-17)

Response: Thank you for your comment.

3.1.12 SOCIOECONOMICS

Comment: The Draft EIS fails to address the issue of economic effects on local communities (including human, plant, animal, and the entire ecosystem). (EU-0005-2; MW-0001-10; MW-0026-4; MW-0056-9; MW-0056-10; MW-0088-3; MW-0103-6; MW-0106-3; MW-0217-6; TG-0009-5; TR-0025-2)

Response: The Draft EIS does address the issues of human economic effects on local communities, with discussions on population and employment, transient housing, and income for each of the affected locations. The Biological Resources sections of the Draft EIS address plant, animal, and ecosystem impacts.

Comment: The adverse impacts regarding the damage to the quality of life, and general disruption of life, in the vicinity of test activities were not discussed in the Draft EIS. (MW-0001-16; TR-0009-4)

Response: The Draft EIS does address the issues of human economic effects on local communities, with discussions on population and employment, transient housing, and income for each of the affected locations. The Supplement to the Draft EIS discusses potential disruptions within the evacuation plan in Appendix B.

Comment: The impact on businesses from closing roads and highways (Highway 53, I-70, road to Canyonlands National Park, Zuni Reservation) are not addressed in the Draft EIS. (EG-0006-3; ER-0008-4; ER-0019-9; MW-0217-11; MW-0056-8; MW-0081-4; MW-0083-8; MW-0103-9; MW-0123-9; MW-0220-24; MW-0235-17; TGQ-0021: TG-0009-5; TG-0010-3; TG-0019-2; TR-0003-9; TR-0009-1; TR-0013-9; TU-0009-5)

Response: The impact on businesses from closing roads and highways is believed to be minimal. The affected roads would only be closed for up to 70 minutes for a maximum of four times per month. For those businesses that depend on the traveling public, this would mean that potential customers would be delayed, not turned away. While some travelers would undoubtedly turn around rather than wait for up to 70 minutes, not all of them would have been customers anyway, and the possibility exists that the launches themselves would attract visitors. On balance, the impacts are believed to be not significant. Moreover, the Army is currently looking at options that would not require the temporary closure of Highway 53. As for the security of evacuated property, the Army would reimburse any damage to property as a result of vandalism. The same agreement has been made with local ranchers who evacuate their land during firings at WSMR.

Comment: What will be the loss of productivity of Federal, state, and county agencies and the cost of that nonproductivity to taxpayers? (ER-0019-17)

Response: The only possible effect that the TMD Extended Test Range program could have on the productivity of Federal, state, and county agencies would be associated with any agency employees who might be delayed by a road block from reaching their place of employment or particular work site, for example, Forest Service personnel traveling to a work site in the booster drop area. Since all Federal, state, and county agencies would be made aware of the missile launch schedules well in advance, as would the public, such impacts would be minimized, and the resultant loss to their productivity minimized.

Comment: The Zuni Mountains area has a much larger population than the Draft EIS acknowledges. How did the military determine the population in the area, and exactly how many people would be affected? (MW-0011-3; MW-0022-3; TR-0003-1)

Response: Although the exact number of people residing in the booster drop areas was not identified, the figures used in the Draft EIS were obtained from 1990 census figures.

Comment: Southeastern Utah was proposed because of the incorrect and uninformed view that it is largely uninhabited by humans and thus unimportant. (MW-0240-9; TM-0083-1; TU-0007-9)

Response: Southeastern Utah is not being considered just because of its low population density. The existence of the Green River launch site, the fact that it has been used in the past for missile flight tests, and the fact that its distance from WSMR meets the medium-range distance test requirements are the primary reasons the area is being considered. In addition, the area's recreational importance is recognized in Section 3.1.4.8 of the Draft EIS.

Comment: The designated drop zones constitute a "taking" without compensation and change the quality of life of the whole area. (MW-0048-3)

Response: The Draft EIS states that the Army would enter into agreements with private landowners and affected Government agencies within both the LHAs and booster drop areas (p. 2-52, paragraph 1, line 7).

Comment: We are concerned about being displaced from our land and the length of time it will take to settle compensation claims. (TR-0013-17)

Response: The Draft EIS states that the Army would enter into agreements with private landowners and affected Government agencies within both the LHAs and booster drop areas (p. 2-52, paragraph 1, line 7). These agreements would be negotiated before the proposed action is implemented and before any LHAs or booster drop areas are activated.

Comment: There is no way that the military will be able to compensate the public for the losses provoked by the effects of the launches. Will the Government reimburse those who are evacuated, are self-employed, and work out of their homes? (EG-0009-3; MW-0043-2; MW-0052-3; MW-0083-2; MW-0083-6; MW-0103-24; MW-103-25; MW-0104-3; MW-0113-4; MW-0114-2; MW-0122-5; MW-0232-1; TUQ-0009)

Response: Where the Army anticipates the need to ask citizens to temporarily leave their property as a safety precaution, these citizens would be asked to enter into an agreement that would arrange/provide compensation for this temporary evacuation.

Comment: The economy of the area under the proposed test area from the GRLC to WSMR is recreation-based, and the use of the area as proposed would be contradictory to that type of economy. (MW-0042-2; MW-0207-8)

Response: Most visitors will probably not realize that missile testing takes place above the corridor from the GRLC to WSMR. Some visitors, while cognizant of the test activities, will be undeterred; witness the popularity of county beaches on and adjacent to Vandenberg AFB in California. Other visitors may be concerned and may schedule their visits to avoid launch times. Only a very small number of visitors are likely to be dissuaded from visiting an area due to the fact that missile tests are conducted hundreds of miles above. It is also expected that a small number of visitors would be attracted to a launch site just to watch missile launches. Overall the impact on the recreation-based economy under the GRLC-to-WSMR corridor is considered to be not significant.

Comment: Test activities, including road closures, from the GRLC will significantly impact tourism, recreation, and economic development in the area; they will also create the reputation that the area is a missile dump site. (MW-0016-3; MW-0035-24; MW-0052-9; MW-0084-1; MW-0099-5; MW-0114-3; MW-0118-2; MW-0207-5)

Response: Many visitors will probably not realize that missile testing takes place in the area. Some visitors, while cognizant of the test activities, will be undeterred; witness the popularity of county beaches on and adjacent to Vandenberg AFB in California. Other visitors may be concerned and may schedule their visits to avoid launch times. Only a very small number of visitors are likely to be dissuaded from visiting an area due to the fact that missile tests are conducted nearby. It is also expected that a small number of visitors would be attracted to an area just to watch missile launches. Overall, the impact from test activities at the GRLC on tourism, recreation, and economic development in the area is considered to be not significant.

Comment: We are concerned about the project negating the millions of dollars spent developing tourism in the area over the years. (EU-0005-4; MW-0113-5; TU-0009-13)

Response: Many visitors will probably not realize that missile testing takes place in the area. Some visitors, while cognizant of the test activities, will be undeterred; witness the popularity of county beaches on and adjacent to Vandenberg AFB in California. Other visitors may be concerned and may schedule their visits to avoid launch times. Only a very small number of visitors are likely to be dissuaded from visiting an area due to the fact that missile tests are conducted nearby. It is also expected that a small number of visitors would be attracted to an area just to watch missile launches. Overall, the impact from test activities on tourism in the area is considered to be not significant.

Comment: The impact on tourism and recreational proposals would be dramatically negative. Closure or limited access to lands will erode the growth of tourism on which much of the local economy is based. (EG-0009-9; EM-0003-2; EM-0005-4; ER-0006-2; MW-0009-4; MW-0056-13; MW-0114-4; MW-0125-2; MW-0154-4; MW-0155-3; MW-0166-3; MW-0193-3; MW-0197-3; MW-0203-2; TM-0009-8; TM-0013-6; TM-0016-9; TU-0018-2)

Response: Many visitors will probably not realize that missile testing takes place in the area. Some visitors, while cognizant of the test activities, will be undeterred; witness the popularity of county beaches on and adjacent to Vandenberg AFB in California. Other visitors may be concerned and may schedule their visits to avoid launch times. Only a very small number of visitors are likely to be dissuaded from visiting an area due to the fact that missile tests are conducted nearby. It is also expected that a small number of visitors would be attracted to an area just to watch missile launches. Overall, the impact from test activities on tourism, recreation, and economic development in the area is considered to be not significant.

Comment: What about the conflict, confusion, and disruption to the vacation plans and schedules of visitors? (EM-0008-2; MW-0080-2; MW-0193-2; TU-0018-3; TU-0020-6)

Response: While some disruption to vacation plans and schedules of visitors is acknowledged, the Safety Planning discussion in Section 2.2.1.2 of the Draft EIS states, "Advertisements including specific road and public recreation areas to be closed would be placed in local newspapers 3 days prior to the scheduled launch. Additional notification would include: providing the launch schedule to state visitor centers; announcements on local radio and television stations; posting signs with launch schedules along affected highways; and providing chambers of commerce and agency information centers with launch schedules" (p. 2-52, paragraph 1).

Comment: TMD test activities would have positive economic impacts or may bring some much-needed funds into the communities around the test activities. (MW-0005-2; MW-0014-2; MW-0085-2; MW-0113-7; TU-0002-3; TU-0003-1; TU-0003-6; TU-0004-6; TU-0016-3)

Response: Thank you for your comment.

Comment: The proposed buffer zones and impact zones might impact, undermine, or in some way impair the ability of the city of Gallup in its efforts to attract potential users for the reuse plans at FWDA. (MW-0020-1)

Response: Potential conflicts with other proposed uses of FWDA would be resolved through the Army's Base Realignment and Closure process. As part of this process, the BMDO has identified a potential use for sufficient property to conduct launch activities, establish safety zones, and ensure access. Lands not needed for missile testing activities would be returned to the public domain. Lands retained for missile testing activities could potentially accommodate compatible additional uses. Lands returned to the Department of the Interior would be subject to that agency's procedures and priorities in identifying potential uses.

Comment: The value of property in the drop zones would be diminished because no one would be interested in purchasing property in a booster drop zone; banks would either call-in collateral loans or refuse to extend loans. (ER-0006-6; MW-0036-2; MW-0083-1; MW-0083-3; MW-0083-4; MW-0104-2; MW-0194-2; MW-0217-10; MW-0234-2; TG-0019-1; TR-0003-2; TR-0003-4; TR-0003-5; TR-0003-10; TR-0007-1)

Response: Where the Army anticipates the need to ask citizens to temporarily leave their property as a safety precaution, these citizens would be asked to enter into an agreement that would arrange/provide compensation for this temporary evacuation. The Army will take full compensatory responsibility for any and all damages sustained because of this proposed action.

Comment: What about the cancellation and loss of homeowners insurance, or an extended insurance claim process, as a result of the proposed action? (MW-0083-5; TR-0003-3; TR-0003-7)

Response: The Draft EIS states that the Army would enter into agreements with private landowners and affected Government agencies within both the LHAs and booster drop areas (p. 2-52, paragraph 1, line 7). These agreements would be negotiated before the proposed action is implemented and before any LHAs or booster drop areas are activated. Concerns about the possible cancellation and loss of homeowners insurance, or an extended insurance claim process, as a result of the proposed action would be part of the negotiated agreement process.

Comment: Who would pay compensation for the risk assumed by the public in the event of missile harm or compensation to those who will experience damage, costs, or inconvenience due to the area evacuation requirements. (EG-0003-2; EG-0007-17; ER-0003-3; ER-0008-3; EU-0001-6; EU-0014-12; MW-0096-4; MW-099-7; MW-0103-12; MW-0122-6; MW-0134-1; MW-0144-3; MW-0206-7; MW-0222-2; TG-0002-17; TGQ-0029; TGQ-0031; TGQ-0042; TR-0006-11)

Response: Where the Army anticipates the need to ask citizens to temporarily leave their property as a safety precaution, these citizens would be asked to enter into an agreement that would arrange/provide compensation for this temporary evacuation and inconvenience. Only the LHAs and booster drop zones would require evacuations. It is highly unlikely that residents would need to be concerned about having to leave their homes. All people asked to leave their homes would be compensated by the Army for their inconvenience.

Comment: Who will secure property which could be vandalized or damaged during evacuations, and how will the claims of property owners be addressed? (ER-0019-16; MW-0103-8; MW-0155-2; MW-0173-3; TG-0010-4; TR-0013-16; TRQ-0003)

Response: The Draft EIS states that the Army would enter into agreements with private landowners and affected Government agencies within both the LHAs and booster drop areas (p. 2-52, paragraph 1, line 7). These agreements would be negotiated before the proposed action is implemented and before any LHAs or booster drop areas are activated. Concerns about the security of property and how claims of property owners would be addressed would be part of the negotiated agreement process.

Comment: I would be in favor of the proposed test activities at the FWDA because of the economic benefits that can be realized from the program. (MW-0018-1)

Response: Thank you for your comment.

Comment: Any jobs created by the program would be the wrong kind of jobs, that is, jobs created at the expense of a delicate, fragile desert ecosystem. (EU-0010-2; TU-0012-2)

Response: Thank you for your comment.

Comment: We dispute the expectation of some Green River residents of the job creation potential of the proposal. (EM-0010-5; TU-0021-3; TM-0013-5)

Response: The Draft EIS states that for both the GRLC and FWDA options, the total personnel involved in construction would likely not exceed 40, and that construction time would be approximately 6 months. Target flight preparation and testing at both the GRLC and FWDA locations would require up to approximately 70 temporary contractor and military personnel for each launch. These personnel would be at the site for up to 2 weeks. Defensive missile flight preparation at FWDA would require up to 140 temporary contractor and military personnel for each launch (pp. 2-40 to 2-43). The numbers of indirect and induced jobs that could be created by the multiplier effect is identified in the Final EIS.

Comment: Tourism would be positively, not adversely, affected by the program, particularly by people who would come to see the missile launches. (TU-0022-8)

Response: Thank you for your comment.

Comment: The analysis fails to consider the adverse economic impact on Moab as motel rooms are used for military personnel rather than tourists, who would take tours and utilize additional facilities, during those seasons when all motel space is filled. (MW-0035-26)

Response: Moab is expected to only act as a backup transient housing market for those contractor and military personnel, up to 70 individuals, who cannot find accommodations in Green River, the community closest to the launch site. As discussed in Section 4.1.2.11 of the Draft EIS, Green River currently has 448 motel rooms and 3 private campgrounds with 207 recreational vehicle trailer sites. Assuming an average occupancy of 1.5 individuals per room and recreational vehicle site, Green River's lodging industry can accommodate some 982 visitors at one time. The demand of the 70 program-related personnel would represent just over 7 percent of the local lodging industry's capacity, well within the industry's typical fluctuation in occupancy rates. Consequently, relatively few of the 70 program-related personnel are expected to have to seek lodging in Moab, which itself can accommodate 2,569 visitors in its 998 motel/hotel rooms, 45 bed and breakfast rooms, 69 guest house/apartment accommodations, and 601 recreational vehicle trailer sites at any one time. Even assuming that half of the program-related personnel seek lodging in Moab, their demand would only represent 1.4 percent of Moab's capacity. Such a small impact is unlikely to be noticeable or even measurable on the demand for additional facilities and services in Moab. Moreover, these same program-related personnel would patronize the same restaurants and after-hours facilities as the regular tourists that they "replace," and they may even be tempted to take tours on the weekend.

Comment: What about the impact of road closures on the number of visitors and the indirect impacts of the loss in tourist revenues, including the fee-collection program at national parks, loss of productivity, and loss of goodwill and good public relations. (MW-0202-3; MW-0076-6; TR-0009-2; TR-0010-5; TR-0013-18)

Response: The impact on the number of visitors, loss of tourist revenues, and loss of productivity from closing roads and highways is believed to be minimal. The affected roads would only be closed for up to 70 minutes for a maximum of four times per month. Traffic would be delayed at the road blocks but not shut off entirely. Since sufficient advance notice would be given (see p. 2-52 of the Draft EIS), most visitors would be able to schedule their itineraries around the road closures, and national park fee collections would most likely not be noticeably affected. It is estimated that

closure of Highway 313 for up to 70 minutes before and during each launch would nominally delay up to 140 individuals entering the Island in the Sky District of Canyonlands National Park during the peak month of June (p. 4-111 of the Draft EIS). Assuming the maximum of four launches a month, some 560 individuals would be affected, or 1.7 percent of the 33,579 individuals who visited this part of the park in 1993.

For those tourist businesses that depend on the traveling public, road closures would mean that potential customers would be delayed, not turned away. While some travelers would undoubtedly turn around rather than wait for up to 70 minutes, not all of them would have been customers anyway, and the possibility exists that the launches themselves would attract visitors. Lost productivity is even more difficult to assess. Assuming the same individual gets delayed at the up to four road blocks per month that are possible and has to wait the full 70 minutes, this would nominally represent 2.7 percent of that individual's typical work month of 173 hours. Again, ample notice would be given of the road closures, and those individuals concerned with their productivity could schedule their travel times to avoid the announced road blocks. On balance, the impacts, while they are acknowledged, are believed to be not significant.

Comment: A lack of available motel rooms due to test personnel in the area of test activities will translate into a lack of revenues for motel operators and probably for other businesses in Green River and Moab that depend on the tourist trade. (MW-0039-10)

Response: It is assumed that motel operators in Green River and Moab would be indifferent as to who actually occupied their rooms, whether it was tourists or program-related personnel. In terms of other businesses in Green River and Moab, the program-related personnel would patronize the same restaurants and after-hours facilities as the regular tourists that they "replace," and they may even be tempted to take tours on the weekend.

Comment: The population size and growth of Grand County is incorrectly stated in the document. (MW-0057-16; TM-0013-10)

Response: Thank you for bringing this to our attention. If any calculations are found to be in error, they will be adjusted and incorporated into the Final EIS.

Comment: The life-blood of the area and the recreation potential of the area are threatened by the program, and it is absolutely unacceptable to the local citizens. If any action is taken, it must be over the seas with booster landing zones over water. (EM-0011-4; MW-0065-3; MW-0223-3)

Response: As stated in Section 2.2 of the Draft EIS, to validate the effectiveness of interceptors and surface-to-surface missile systems, it is desirable to use overland test ranges for some, but not all, tests to allow for the recovery and analysis of missile debris following an actual intercept or ground-target impact. Many visitors will probably not realize that missile testing takes place in the area. Some visitors, while cognizant of the test activities, will be undeterred; witness the popularity of county beaches on and adjacent to Vandenberg AFB in California. Other visitors may be concerned and may schedule their visits to avoid launch times. Only a very small number of visitors are likely to be dissuaded from visiting an area due to the fact that missile tests are conducted nearby. It is also expected that a small number of visitors would be attracted to an area just to watch missile launches. Overall, the impact from test activities at the GRLC on tourism, recreation, and economic development in the area is considered to be not significant.

Comment: The rocket booster would damage agricultural land. (MW-0196-2; MW-0205-3; MW-0208-2)

Response: In the extremely unlikely event that the rocket booster would actually damage agricultural land, the U.S. Army would be responsible for any physical property damage.

Comment: The BLM and New Mexico State Department of Game and Fish will suffer significant economic impacts if this program continues as described. (MW-0214-10)

Response: The Draft EIS states that the Army would enter into agreements with private landowners and affected Government agencies within both the LHAs and booster drop areas (p. 2-52, paragraph 1, line 7). These agreements would be negotiated before the proposed action is implemented and before any LHAs or booster drop areas are activated. Any agency concerns about impacts, economic or otherwise, as a result of the proposed action would be part of the negotiated agreement process.

Comment: Socioeconomic impacts on southern New Mexico may be severe from the implementation of this program. The cumulative effects of Roving Sands mock wars in conjunction with offensive and defensive missile firings leaves the impression people would be living in a war zone. (MW-0214-42

Response: As discussed in the Draft EIS, Section 4.1.1.10, any socioeconomic impacts on southern New Mexico are expected to be very small and not significant. TMD extended-range testing is expected to fall within the current level of testing at WSMR and is not likely to occur concurrently with the Roving Sands Exercise.

Comment: There is a logging operation going on presently on private land in Booster Drop Zone A. Costs for delays of the loggers will have to be paid for. (MW-0217-19)

Response: The Draft EIS states that the Army would enter into agreements with private landowners and affected Government agencies within both the LHAs and booster drop areas (p. 2-52, paragraph 1, line 7). These agreements would be negotiated before the proposed action is implemented and before any LHAs or booster drop areas are activated. Any logging operation concerns about impacts, economic or otherwise, as a result of the proposed action would be part of the negotiated agreement process.

Comment: What sort of military units would be at Fort Wingate on a year-round basis? (TGQ-0011)

Response: There would be no military units stationed at Fort Wingate on a year-round basis as part of the TMD Extended Test Range program.

Comment: These types of tests were done in the 1960s, and tourists at that time checked the bulletin boards at tourist centers. The same should occur now, and they can work their vacations around the launch schedules. (MW-0072-3)

Response: Thank you for your comment.

Comment: If the citizens of Green River want jobs in the missile testing industry, they can move to where these missiles are most appropriately tested, i.e., island or coastal bases. (MW-0078-4)

Response: Thank you for your comment.

Comment: The Draft EIS does not address how the launches will affect Cibola and McKinley counties, the Ramah Navajo Chapter, and neighboring communities either financially or otherwise inconvenienced. (MW-0107-11; MW-0107-13)

Response: The Draft EIS addressed effects of TMD Extended Test Range activities on resources for a specific region of influence (ROI) surrounding a test facility. For FWDA this ROI encompassed McKinley County in New Mexico and Apache County in Arizona.

Comment: Why is there so little information on negative impacts in the socioeconomic section of the Draft EIS? (MW-0107-22)

Response: Socioeconomic impacts were analyzed in the Draft EIS and were found to be not significant.

Comment: The local schools in Ramah need personnel who will live and work in this area; however, a mass exodus could occur due to the proposed missile testing. (MW-0110-3; TRQ-0006)

Response: No mass exodus was experienced from Green River, Utah, during the Advanced Ballistic Re-Entry System (ABRES) testing during the 1960s, and no mass exodus has been experienced in the areas surrounding either Vandenberg AFB, California, or WSMR, New Mexico, both of which are involved in extensive missile testing. Consequently, no mass exodus of population is expected from the area around FWDA. As discussed in sections 4.1.3.7 and 4.1.4.7 of the Draft EIS, the risks to individuals outside the LHAs and booster drop areas are extremely low, much lower than the risks typically faced in everyday living.

Comment: A lot of towns could be damaged and cost a lot of money to rebuild; will the Army pay for the rebuilding? (MW-0169-3)

Response: In the extremely unlikely event that the rocket booster or flight termination debris would actually damage any town buildings, facilities, or infrastructure, the U.S. Army would be responsible for any physical property damage.

Comment: No mention is made of the impacts on the residences or businesses of the town of Fort Wingate nor the high school. (MW-0220-31)

Response: Figure 2.2-12 on p. 2-51 of the Draft EIS shows that the community of Fort Wingate and its high school lie outside the LHA for the proposed launch site at FWDA. Moreover, the access road, Highway 400, from I-40 to the north is also well outside the LHA. Consequently, there would be no impacts on either the community of Fort Wingate or its high school, and thus no mention is made in the Draft EIS. The Safety Planning subsection of Section 2.2.1.2 of the Draft EIS explains that in order to exclude the town of Fort Wingate from the LHA, flight safety procedures were modified to provide for early termination of the missile flight if it deviated from its planned trajectory and flew in the direction of Fort Wingate (pp. 2-47 to p. 2-52).

Comment: How can the economic impact on the area be assessed when there is no mention that Highway 53 south has been designated by the state of New Mexico as a scenic by-way, the Masau Trail, with many small businesses. (MW-0220-36)

Response: The Army acknowledges that Highway 53 South has been designated by the state of New Mexico as a scenic by-way, the Masau Trail, and that it has many small businesses.

Comment: In the Draft EIS the information on hotel/motel rooms totally ignores the fact that both Grants and Gallup are located on Interstate 40, and that it is a very common economic development tactic of small communities to attract tourists off of the interstate. (MW-0220-37)

Response: Thank you for your comment.

Comment: The Draft EIS provides a comparison of sightseeing tour operators out of Gallup. What is the purpose of this information, to pit one community against another? Just because tourism is low-impact, it doesn't mean that it is not important. (MW-0220-38)

Response: The only purpose of citing the number of tour operators operating out of Gallup versus Moab is to provide the reader and decision makers with an understanding of the relative importance of organized tourism in the two areas.

3.1.13 INFRASTRUCTURE AND TRANSPORTATION

Comment: The planned closure of Highway 53 was treated in such a cavalier manner; access to Gallup and Grants from the Ramah area will be difficult. We are concerned about those that have to commute to work using this highway and access for supply trucks and emergency vehicles. (EG-0009-4; ER-0019-10; MW-0021-2; MW-0026-2; MW-0052-4; MW-0123-4; TG-0003-1; TG-0003-3; TR-0003-8; TR-0009-3; TR-0013-10; TRQ-0111)

Response: The Army is currently looking at options that would not require the temporary closure of Highway 53. Since the tests are expected to be infrequent and the expected delay no more than 70 minutes for each test event, the impact is expected to be not significant.

Comment: The program would be very disruptive to ordinary transportation flow on the interstate and other local roads, and people don't want to be delayed for 70 minutes when going about their lives. (MW-0071-3; MW-0099-3; MW-0204-20).

Response: Thank you for your comment.

Comment: The suggestion that launch personnel or tourists who cannot obtain a motel room would be just as happy in a campground is misleading if not inaccurate. People would be forced to leave the area for lodging elsewhere. Longer commutes could affect scheduling and safety. (MW-0039-9)

Response: The Final EIS corrects this assumption.

Comment: There are a school and health clinic in Pine Hill that are open year-round that could be affected by the planned periodic closure of Highway 53. (MW-0022-4)

Response: If Booster Drop Zone A or B is used, then Highway 53 would be closed for up to 70 minutes for a maximum of four times per month. However, the preferred alternative of using Booster Drop Zone C would not require the temporary closure of Highway 53.

Comment: It would be impossible for the Army to close roads, visitation, recreational use, commerce, etc., during launch. (MW-0030-4)

Response: Thank you for your comment.

Comment: I am concerned about the town of Green River being evacuated and want to know which highways would be closed every time a meteorological rocket was launched. (MW-0035-9)

Response: As discussed in Section 2.2.1.2, only roads in the LHA would be affected. As shown in revised figure 2.2-11, the town of Green River lies outside both LHAs, and thus residents would not need to be evacuated. The preferred alternative of using Booster Drop Zone C1 or C2 would not require the temporary closure of Interstate 70.

Comment: The EIS fails to explain how road closures would proceed for the drop zones or how evacuations would be conducted, including the elderly and infirm and livestock. (ER-0006-3; MW-0035-28)

Response: The safety planning portion of Section 2.2.1.2, pp. 2-47 -2-52, describes the road closure and evacuation process. Additional information is contained in Appendix B of the Supplement to the Draft EIS which includes the evacuation plan.

Comment: One of the mitigation measures for the GRLC mentioned in the EIS was to launch in the early morning hours when traffic on Interstate Highway 70 is lighter. Does this mean that the Army agrees to launch in the early morning? The interstate is a major east-west route and closure of the route would significantly impact businesses, travelers, and residents. (MW-0039-11)

Response: The TMD Extended Test Range program has made a commitment to avoid the heaviest traffic hours whenever possible. The Draft EIS does acknowledge that even short-duration closure of I-70 would have a significant impact on road traffic on this important interstate highway. However, the preferred alternative of using Booster Drop Zone C1 or C2 would not require the temporary closure of I-70.

Comment: Radioactive waste being trucked to Yucca Mountain in Nevada would be stopped due to the closure of I-70, creating an unacceptable public health hazard. (TS-0003-4)

Response: The Draft EIS states that I-70 would be closed for a typical launch period wait of 70 minutes, so the probability of a nuclear waste carrier being affected by the road closure on any given day is low. Moreover, the nuclear waste is safely carried in DOT- and Nuclear Regulatory Commission-approved containers. The probability of an accident while the truck is standing still is much less than the already extremely low probability of the truck being in an accident while moving.

Comment: It is inappropriate and unacceptable to close I-70 and other local roads, and it will cause negative impacts. (EU-0006-2; EU-0013-2; MW-0042-3; MW-0057-13; MW-0067-4; MW-0069-2; MW-0076-4; MW-0077-3; MW-0082-2; MW-0103-2; MW-0206-4; MW-0235-19; MW-0237-4; TM-0002-2; TM-0012-2; TM-0013-7; TM-0016-4; TU-0001-4; TU-0003-3; TU-0009-4; TU-0014-2; TU-0021-2)

Response: Section 4.1.2.11 of the Draft EIS does acknowledge that even short-duration closure of I-70 would have a significant impact on road traffic on this important interstate highway. However, the preferred alternative of using Booster Drop Zone C1 or C2 would not require the temporary closure of I-70.

Comment: There is an error in the number of motel rooms in Green River. (TM-0005-1)

Response: Section 4.1.2.11, paragraph 3, line 8 states that " . . . Green River has 448 motel rooms . . ." However, p. 3-65, paragraph 3, line 3, stating, "There are a total of 148 motel rooms . . . ," is in error and has been corrected in the Final EIS.

Comment: ORVs used to recover debris would not increase travel into relatively untouched areas. (TM-0013-11)

Response: The boosters would be located with radar track information and an onboard locator. The booster would be pinpointed by helicopter and sling-loaded to the nearest road where vehicles would be available for ground transport. There would be no off-road use of wheeled or tracked vehicles. If helicopter use proved impossible, the boosters would be cut up and packed out using horses.

Comment: It is inappropriate to close highways to the Canyonlands National Park and Dead Horse State Park. (EU-0015-1; TSQ-0003; TU-0007-2; TU-0014-2; MW-0240-2)

Response: Thank you for your comment.

Comment: Highway delays of more than 70 minutes are not unheard of, so people shouldn't complain. (TU-0013-3)

Response: Thank you for your comment.

Comment: Alternative access should be provided for users of closed roads, particularly Highway 53, and access for emergency vehicles. (ER-0002-4)

Response: The Draft EIS acknowledges that whenever Booster Drop Zone A is activated, evaluated at up to four times per month, Highway 53 would be closed for up to 70 minutes. Traffic would be delayed at the road blocks, approximately 8 km (5 mi) west of El Morro National Monument, but not shut off entirely. Emergency vehicles would be allowed through the temporary road blocks, and any launch would be delayed, postponed, or rescheduled if required to accommodate the emergency vehicle.

Comment: The drop zone should be repositioned 1 mile to the northeast to remove Highway 53 from the drop zone and totally eliminate the need to close the road. (MW-0083-7)

Response: Thank you for your comment.

Comment: I cannot tell the exact boundaries of the debris containment corridor or which highways lie under the corridor. (MW-0057-2)

Response: Identifying the transportation infrastructure which underlies the debris containment corridor was not attempted. The flight termination debris containment corridors depicted in Appendix I of the Draft EIS illustrate the maximum geographical extent of debris with a kinetic energy at impact of 11-feet pounds (the critical threshold of injury requiring medical attention). They do not represent the area that would be swept over by aircraft looking for debris, nor do they represent evacuation areas or areas where road closures would be enforced to prevent traffic from passing through, since the probability of injury or death is so low. Appendix I contains a discussion of debris fragment size, a hazard analysis, and a risk analysis to individuals in the debris containment corridor. The analysis concluded that the probability of a vehicle malfunction that would require a flight termination reduces the total expected casualty for a single launch to less than 2×10^{-8}.

Unpublished casualty expectation thresholds of less than 10^{-5} on range and less than 10^{-6} off range are used within the WSMR Safety Office.

Comment: While the mitigation notes are designed to allay fears, the writing is pocked with "mays" and "coulds." In other words, the Army finds it impossible to give complete assurance of safety, safety to roads, and the total environment. (MW-0066-4)

Response: Wherever the safety of individuals, property, or vehicular traffic was of concern, the program identified LHAs and booster drop areas where traffic would be prohibited from entering or transitting during each missile launch. These were identified in the Draft EIS. The mitigation measures identified are designed to minimize the inconvenience of road travelers, not to compromise safety considerations. The risks to travelers on roads outside the LHAs but inside the debris containment corridors are discussed fully in Section 4.1.4.7 of the Draft EIS.

Comment: There will be public pressure to create a roadway into the Book Cliffs, a proposed wilderness area, to skirt the I-70 closure and launch area. (MW-0081-3)

Response: The EIS addresses only those environmental impacts that are reasonably foreseeable. Public pressure to create a roadway to avoid any closures of I-70, and its precise alignment if approved, is speculative at this time and would be based on pure conjecture. Therefore, the impacts of such a roadway are not addressed in this EIS.

Comment: Highway 191 goes right through the town of Green River and has as much traffic on it as I-70. (MW-0087-6)

Response: Thank you for your comment.

Comment: Will the tests involve road closures, and how long would any road closures last? (MW-0103-20; MW-0103-23)

Response: The proposed road closures, the roads affected, and the duration of closure (up to 70 minutes, for as many as four times a month over the life of the program) are identified and discussed in sections 4.1.2.11, 4.1.3.11, and 4.1.4.8 of the Draft EIS.

Comment: Launch personnel would generate additional sewage waste in Green River and Moab, and the Draft EIS did not adequately address these in-city problems. (MW-0106-8)

Response: As discussed in Section 4.1.2.11, p. 4-68 of the Draft EIS, Green River's current estimated population of 900 is much lower than the community's peak population of about 1,200 during the late 1960s and 1970s. The critical infrastructure that supported the larger population is still in place, including a relatively new wastewater treatment plant. Green River currently has 448 motel rooms and 3 private campgrounds with 207 recreational vehicle trailer sites. Assuming an average occupancy of 1.5 individuals per room and recreational vehicle site, the community's lodging industry can accommodate some 982 visitors at one time and, presumably, provide the infrastructure (including wastewater treatment) to support such a number of visitors. The TMD Extended Test Range program's up to 70 transient personnel would represent about 7 percent of the lodging industry's capacity, and thus it was concluded that the program would not have any adverse direct or indirect impacts on the city's infrastructure. Moab, which could act as an overflow destination for overnight lodging, has even more capacity (p. 4-69).

Comment: There are not many roads or trails into most of the back country, and if the Army plans to find the boosters after impact, it will have a very difficult time getting to them and removing any

part of them since neither helicopters or existing roads will facilitate booster rocket retrieval. Address the impacts of people and large equipment used to retrieve boosters. (EM-0012-5; MW-0108-3; MW-0220-26; TM-0014-7)

Response: Booster recovery would occur almost immediately after launch. The boosters would be located with radar track information and an onboard locator. The booster would be pinpointed by helicopter and sling-loaded out to the nearest road where vehicles would be available for ground transport. There would be no off-road use of wheeled or tracked vehicles. If helicopter use proved impossible, the boosters would be cut up and packed out by horses.

Comment: New Mexico State Road 506 which crosses McGregor Range was not mentioned, and the fact that Highway 70 and Highway 54 are now major transportation corridors for commerce and commuters was not mentioned. (MW-0214-13)

Response: Section 4.1.1.11 of the Draft EIS does address the impact on both highways 70 and 54, p. 4-50. Section 3.1.1.11 acknowledges that Highway 70 is a primary route connecting Las Cruces and Alamogordo, with an average annual daily traffic count of 8,741 vehicles. Highway 54, with only a 2,407 average annual daily traffic count (p. 3-52), has only 27 percent of the traffic volume of Highway 70. New Mexico State Road 506, which crosses the northern portion of the Fort Bliss McGregor Range, would not be affected by the proposed defensive missile launches from the Pershing site in the southern part of the McGregor Range (shown in figure 2.2-8, p. 2-46) and thus was not mentioned in the Draft EIS.

Comment: In the summary table no significant impacts were identified for FWDA, and no mention was made of the closing of New Mexico Highway 53, yet there would be significant impacts on transportation. (MW-0217-7; MW-0217-9; MW-0217-12)

Response: The EIS concluded that the impacts of the up to 70-minute road closures for the local roads lying within the LHA, while undoubtedly inconvenient, would not represent significant impacts on road traffic since the volume of traffic is low (average annual daily traffic counts are unavailable but are assumed to be low). Neither table ES-1 or the text in the Executive Summary specifically mentions the closing of Highway 53 since it was considered a not significant impact.

Comment: A proposal for the reconstruction of Forest Road 50, which traverses the Zuni Mountains from east to west, was not mentioned in the EIS. Moreover, the contractor's cost for delays due to firings will have to paid for. (MW-0217-18)

Response: No specific mention was made of any particular non-paved, forest roads in the proposed booster drop areas. Before the proposed action is implemented individual agreements would be negotiated between all land owners and managers on the exact terms of the evacuation agreements.

3.1.14 WATER RESOURCES

Comment: The water table would be threatened by test activities and the resultant destruction and contamination. (ER-0019-6; MW-0043-4; MW-0106-7; MW-0115-2; MW-0125-4; MW-0144-6; MW-0145-5; MW-0155-5; MW-0194-5; MW-0195-3; MW-0222-5; TR-0013-6; TR-0025-4)

Response: The potential for impacting the water table (groundwater) is extremely remote. The propellant used in the target missiles is solid propellant. The rubber-like solid propellant is not easily absorbed into the area's sandy soils and therefore would have a low probability of reaching the

water table. In surface water, solid propellant dissolves very slowly, resulting in only small amounts of toxic release that is dispersed to a nontoxic level within a few meters.

Comment: Recovery activities could also violate the Zuni River Watershed Act of 1992. (TG-0016-4)

Response: All Federal, state, Department of Defense, and Department of the Army laws and regulations are being complied with during the environmental impact analysis process for TMD activities.

Comment: The loss of one aquifer due to rocket fuel spills could and would affect the lives and livelihoods of New Mexicans for many generations to come. (ER-0019-14; TR-0013-14)

Response: The potential for impacting an aquifer is extremely remote. The propellant used in the target missiles is solid propellant. The rubber-like solid propellant is not easily absorbed into the area's sandy soils as would be the case from liquid fuel spills. Therefore, solid propellent would have a low probability of reaching any aquifers. In surface water, solid propellant dissolves very slowly resulting in only small amounts of toxic release that are dispersed to a nontoxic level within a few meters.

Comment: Hazardous material will not exceed environmental limits because the water is so pure in southeast Utah. If testing were to take place in Salt Lake City where the water is polluted, then the additional amount of hazardous material from TMD testing could exceed environmental limits. (TM-0013-14)

Response: TMD Extended Test Range tests should not result in the release of hazardous material into the waters of southeast Utah. The water quality standards that must be met have been established by the Federal government and individual states for the protection and improvement of water quality. These standards relate to the natural environment as well as public water systems.

Comment: The groundwater is much closer to the surface on El Malpais than in the surrounding area (p. 3-110 Draft EIS). (MW-0220-39)

Response: Thank you for your comment.

Comment: How will the change in the pH of the water in McGaffey Lake affect the fish (p. 4-79 Draft EIS)? (MW-0220-58)

Response: The referenced section of the EIS discusses pH of soil relative to launch emissions of Al_2O_3 and HCl. Page 4-89 of the Draft EIS describes the degree of alkalinity of surface waters as being a measure of how well HCl deposited in water from missile exhaust emissions can be buffered. The pH of the water would not be expected to change, and there would be no effect on the fish.

Comment: The Draft EIS reaches a "No Significant Impact" conclusion in its analysis of surface water contamination from unused booster fuel, but the analysis does not analyze the possible health hazard to stock and wildlife if this fuel gets into watering tanks. (MW-0056-32; MW-0181-4; TGQ-0033; TGQ-0034)

Response: In the unlikely event of a target missile failure, there is a remote possibility of health hazards to stock and wildlife from solid propellant entering watering tanks. However, the probability of propellant impacting in a watering tank is extremely remote as depicted in Appendix I. In water,

solid propellant dissolves very slowly, resulting in only small amounts of toxic release that are dispersed to a nontoxic level within a few meters. However, if the propellant is not removed from a small watering tank, then accumulation of the toxic release could result in the water being contaminated. A possible mitigation measure would be to remove the water from the tank and refill it with fresh water.

Comment: Almost the entire northeast quarter of Booster Drop Zone A constitutes a watershed for the ground and surface water resources (essentially the Rice Park Reservoir) providing the only source of drinking water for the area. (MW-0116-6)

Response: The potential for impacting the watershed is extremely remote. The spent booster should not have any propellant and will be recovered. If small quantities of propellant remain in the booster at impact, the rubber-like solid propellant would not be expected to be absorbed into soils and therefore would not reach groundwater. In surface water, solid propellant dissolves very slowly, resulting in only small amounts of toxic release that are dispersed to a nontoxic level within a few meters. Recovery of the booster will remove any potential for contamination.

Comment: All of the materials (triethyl phosphate, perchlorate, and ammoniated polybutadienes), if released into the environment, pose risks to wildlife, surface water, and groundwater. (MW-0191-8)

Response: There are no planned releases of perchlorate or ammoniated polybutadienes. Triethyl phosphate would be used as a simulant in the target system reentry vehicle. The energy generated during intercept above WSMR would vaporize most of the triethyl phosphate resulting in extremely small concentrations of less than 200 mg/L reaching the ground.

Comment: The Draft EIS does not recognize the water distribution system for grazing operations and wildlife on McGregor Range that may be impacted. (MW-0214-15)

Response: As shown on p. 2-46, figure 2.2-8 of the Draft EIS, the only activity locations on McGregor Range are located in the southwest corner of the range. The water distribution system for grazing and wildlife discussed in the Bureau of Land Management Resource Management Plan Amendment (1990) is located in the northern two-thirds of McGregor Range and will not be affected by the proposed action.

3.1.15 EIS PROCESS

Comment: The Draft EIS for the TMD program fails to comply with the NEPA and Federal environmental laws and regulations because it segments the proposal as described in the EIS Volume II, Appendix C (Federal Laws and Regulations). The failure to include all possible impacts and foreseeable actions related to the program in the Draft EIS is a significant violation of the NEPA. Since the EIS for the entire TMD program was only completed in January 1994, adequate time was not allowed to evaluate that EIS nor allow appeal of that document; thus, tiering the TMD Extended Test Range EIS to such a recently completed document is unacceptable and insufficient. Additionally, the Draft EIS failed to disclose the economic and environmental impacts of the proposed action for every alternative. A new, complete document needs to be prepared that fully complies with CEQ regulations for cumulative effects and disclosure. (MW-0001-1; MW-0001-2; MW-0001-3; MW-0001-4; MW-0001-5; MW-0001-18; MW-0106-10; WM-0106-11; MW-0106-12; MW-0106-13; MW-0220-3; TU-0011-2)

Response: Developing and implementing the TMD program involves multiple decisions taking place incrementally over a long period of time. The challenge for most complex programs such as TMD is determining the appropriate type and timing of environmental documents, as well as the scope of proposed actions that they will address. One answer, provided by the CEQ guidelines that implement the NEPA, is the concept of "tiering." Tiering is an approach in which more general documents can be prepared early in a program's development when many of the program's details have not yet been developed. Then as a program matures, lower-tier documents are prepared to address specific components of the program as sufficient details become available to allow an adequate assessment of their potential environmental impacts. In the case of the TMD program, a first-tier document named the TMD Programmatic Life-Cycle EIS and the lower-tier TMD Extended Test Range EIS took advantage of this tiering concept. These documents were prepared in the proper sequence, with the Draft Extended Test Range EIS being prepared and released after publication of the Draft Programmatic EIS. As far as time for review and "appeal" of documents is concerned, the NEPA does not stipulate any requirements for a final decision on a higher-tier document before the analysis in it can be incorporated by reference into a lower-tier document. The fact that the Final Programmatic Life-Cycle EIS was available at the time that the TMD Extended Test Range Draft EIS was under public review is sufficient to satisfy the NEPA.

As far as the TMD Extended Test Range EIS including all foreseeable actions and impacts, again, the dynamic nature of the program provides continuing challenges. When the Draft EIS was published, all foreseeable actions were in fact included. Ongoing technical program analyses, however, produced the potential for additional booster drop zones associated with the WSMR alternative. Because these additional booster drop zones represent a change in the proposed action and alternatives as well as their potential impacts, the Ballistic Missile Defense Organization decided to prepare a Supplement to the Draft EIS to address any additions to the foreseeable actions associated with the extended test range proposal. This Supplement addresses concerns about potential segmentation.

Comment: The Army has inadvertently or intentionally inverted the tiering process by issuing the Draft EIS for the Extended Test Range before the TMD Programmatic Life-Cycle EIS (the Record of Decision has not been issued) and WSMR Programmatic EIS have been completed. The Army cannot tier the Extended Test Range EIS to documents which do not exist yet. (MW-0219-18; MW-0219-19; MW-0219-20)

Response: As mentioned in the response above, the sequencing of the Programmatic Life-Cycle EIS and Extended Test Range EIS is correct. The purpose of tiering is to eliminate repetitive discussions of the same issues and to focus on the actual issues ripe for decision. Consequently, a lower-tier document may be tiered to an existing document, even if a final decision has not been made. The TMD Extended Test Range EIS is not tiered to the WSMR EIS.

Comment: If the extended-range tests are based on the use of HERA missiles, the Army must analyze them in the EIS, not in a separate HERA Target Systems Environmental Assessment. (MW-0219-21)

Response: The HERA target missile is representative of the types of missiles that may be used for the extended-range tests. In the EIS, the HERA is used for analysis purposes, but the proposed action is not limited to its use. The issue that is ripe for decision in the TMD Extended Test Range EIS is the launching and interception of several types of missiles over new ranges, not specifically the development of the HERA missile. In fact, extended test ranges could be used without use of the HERA missile, and the HERA missile could be used without the availability of the extended test ranges. They are therefore independent decisions.

Comment: People in the areas affected by the TMD Extended Test Range proposal should have the opportunity to comment on the TMD Programmatic EIS prior to the TMD Extended Test Range EIS being tiered from it. The Extended Test Range proposal should also be included in the WSMR programmatic EIS. (ER-0014-7; ER-0014-8; TR-0011-7; TR-0011-8)

Response: The TMD Programmatic Life-Cycle EIS was available for review prior to release of the Extended Test Range EIS. The portions of the TMD program that are of primary interest to people potentially affected by the Extended Test Range proposal are adequately discussed in the Extended Test Range EIS and ample opportunity has been provided for public comment. Depending on the exact region of influence determined for the WSMR EIS, appropriate portions of the extended-range tests will be included under cumulative impact analyses.

Comment: The TMD program is too much of a moving target; because the proposed action keeps changing, the Draft EIS is invalid. Will the Army issue a new Draft EIS? At the least, a supplement to the EIS will need to be prepared to cover new booster drop zones and flight trajectories. Everyone on the EIS distribution list should have the opportunity to review the analysis of any new booster drop zones, not just the people living in or near them. (MW-0056-4; MW-0219-29; TG-0009-1; TG-0009-2; TGQ-0007; TR-0019-3; TSQ-0017; TU-0011-3; TU-0011-6)

Response: The TMD program is and will continue to be dynamic. Remember that the extended range is intended to serve multiple programs that are in a variety of stages of development. When the EIS process started, the Army made certain assumptions about the boosters that would be used for target missiles based on the information available at that time. After that time, two factors acted together to expand our analysis: (1) awareness of the availability and expanded capabilities of a different type of booster, the SR19-AJ-1, and (2) awareness of the potential environmental impacts from using the booster drop zones identified and analyzed in the Draft EIS (for the original booster). This process was so dynamic that the potential for identifying additional booster drop zones did not become apparent until after the Draft EIS was published. In response, the Ballistic Missile Defense Organization decided to prepare a Supplement to the Draft EIS. This Supplement was sent to everyone on the EIS distribution list for review.

Comment: When the Army holds meetings on the new booster drop zones in the affected areas, as promised, will they be public hearings or some other type of meeting? (TSQ-0018)

Response: The Army held public hearings in association with the Supplement to the Draft EIS which addressed booster drop zones identified after publication of the Draft EIS.

Comment: Will the new information on downsizing the impact zones be examined in detail in the Final EIS? (TMQ-0008)

Response: The new impact zones were analyzed in the Supplement to the Draft EIS.

Comment: Will there be public hearings on the Final EIS? (TSQ-0001)

Response: Public hearings have been held on the new information presented in the Supplement to the Draft EIS. Public hearings are not required for the Final EIS.

Comment: How will people be given the opportunity to comment on the new booster drop zones? (TSQ-0005)

Response: The opportunity to comment was provided by the public comment period on the Supplement to the Draft EIS. This process included mailing the Supplement to everyone on the EIS distribution list and holding public hearings near the affected areas.

Comment: The Zuni Mountain Coalition would like to be given notice of any additional hearings being held on new booster drop zones. (MW-0220-6)

Response: Such notice was provided.

Comment: The Government has done a good job of analyzing potential impacts and addressing significant concerns in the Draft EIS. (MW-0066-1; TM-0002-1)

Response: Thank you for your comment.

Comment: The EIS does not provide a reasonable range of alternatives to the proposed action. A discussion of alternatives also fails to identify which missile test objectives would not be met if any one alternative were to be selected. (MW-0039-1; MW-0039-2)

Response: At the beginning of the process, an analysis was performed of possible locations for establishing an extended range, including seven overland and over-water alternatives besides the four alternative carried forward for analysis in the Draft EIS. The seven alternatives that were not carried forward were eliminated from further consideration for a variety of reasons, including severe adverse weather, scheduling conflicts with existing programs, and the absence of adequate range instrumentation. During the scoping process and public comment period on the Draft EIS, other alternatives were suggested including Nevada; Washington, DC; Iraq; and Saudi Arabia. All of these alternatives were considered and eliminated using the same criteria applied to the original 11. The Army is unaware of any other reasonable alternatives.

The decision under consideration in the Draft EIS is not an "either/or" one. In fact, the Army has stated all along that more than one launch site and possibly more than one range alternative would be necessary to meet all testing objectives. The Record of Decision will clarify which alternative(s) were selected and the reasons for selecting them, including any objectives that could not be met.

Comment: The U.S. Army must address in the EIS its past record of accidents, hazardous waste releases, safety violations, environmental noncompliance, etc. The failure to identify these past problems (regardless of location in the country), identify the mitigation measures that were taken, and disclose how this project would be any different points to the serious deficiency of the Draft EIS. (MW-0001-9)

Response: The region of influence does not include facilities unconnected to the proposed action. At relevant facilities, the EIS does examine the adequacy of procedures in place for hazardous materials and waste handling, spill response, and missile launch safety. If these procedures were found lacking, additional mitigations would have been suggested.

Comment: Under the NEPA, the EIS must cover issues pertaining to the loss of money to other critical Governmental programs, the high financial costs to the American public, and the waste of public money to support a very questionable and unnecessary program with high environmental risks. (MW-0001-17)

Response: These issues are beyond the scope of this EIS and the NEPA process.

Comment: The fact that Congress passed the Missile Defense Act of 1991 does not excuse the Army from identifying and analyzing other means of defending forward deployed troops. One of the main purposes of an EIS is to provide Congress with the information it needs to update its law-making on national security issues. (MW-0219-11)

Response: The U.S. Government does have other programs for protecting forward deployed troops from theater missile attacks. For example, various countermeasures are under development to prevent the identification of our troops and facilities as targets. These measures are intended to supplement an active means to destroy hostile theater missiles, however, not completely replace them. On the issue of providing information to the Congress to aid its lawmaking on national security issues, that is one of the benefits of the extended-range tests, not the purpose of the EIS.

Comment: The EIS lacks a cumulative impact analysis for the resource areas, and during discussions with military staff after the Moab hearing, the Army acknowledged that it did not have time to perform a cumulative impact analysis before releasing the Draft EIS. (MW-0035-20)

Response: Cumulative impacts are addressed in Appendix A of the Final EIS.

Comment: The Draft EIS does not satisfy NEPA requirements for cumulative impact analysis because it analyzes the impacts of missile launches as discrete events rather than as an entire program and because it does not analyze the synergistic impacts of actions outside the Army's control. (MW-0219-53; MW-0219-56; MW-0219-57; MW-0219-58)

Response: Cumulative impacts are addressed in Appendix A of the Final EIS.

Comment: Additional analyses on multiple flights should not be "performed at a later date" as indicated by the Draft EIS. The entire program and its cumulative impacts must be analyzed in the Final EIS. (MW-0204-9; MW-0214-3)

Response: Multiple engagement scenarios are not part of the proposed action. If TMD testing should require multiple flights at a later date, additional environmental documentation will be required for these testing activities.

Comment: When the Draft EIS states on p. 2-10 that additional analysis would be completed before biological simulants would be used, does the Army mean more public meetings, another EIS, or an Environmental Assessment? (MW-0220-15)

Response: If it were anticipated that the environmental impacts of using proposed biological simulants would be not significant, it is likely that an environmental assessment (EA) would be prepared. Public meetings typically are not held as part of preparing an EA.

Comment: The EIS is deficient in its description of the proposed action and impacts, particularly in terms of how evacuations would take place, how boosters and missile debris would be located and removed, and how much and when helicopters would be used. (EM-0006-4; EM-0010-2; MW-0106-2; TM-0006-1; TM-0006-2; TM-0006-3)

Response: Specific deficiencies identified in the Draft EIS are addressed in the Supplement to the Draft EIS. Significant detail was provided in the Supplement to the Draft EIS regarding the evacuation procedures, including maximum durations, frequencies, and areal extent. The Supplement to the Draft EIS also contained detailed information on the notification procedures, including numerous methods for notification suggested by the public in addition to standard procedures. The EIS stated that helicopters would be used to search for and warn people in booster

drop zones but would not be used to transport them. Debris-recovery operations and the associated use of helicopters were discussed in a similar level of detail.

Comment: The Draft EIS is inadequate, incomplete, inaccurate, and/or too general to allow proper evaluation of the potential environmental impacts. (EG-004-2; ER-0014-9; ER-0018-1; ES-0001-1; MW-0056-1; MW-0070-3; MW-0214-5; MW-0219-1; MW-0220-2; MW-0235-23; TG-0009-3; TR-0011-9; TR-0022-4; TS-0002-1)

Response: The Draft EIS is just that, a draft. The document presents the information to the level of detail which is available at the time it is prepared. As more detailed information becomes available, continued analysis is conducted and results included in the developing document. Through continued coordination with the public and affected agencies, more detailed information has been gathered which was incorporated in the Supplement to the Draft EIS and the Final EIS.

Comment: The Draft EIS is so inadequate in terms of its explanation of the purpose of and need for the proposal, its description of the proposed action, and its analysis of the impacts from off-range missile debris that it does not provide a meaningful opportunity for public participation in the environmental review process. The document must be issued again as a Draft EIS after its deficiencies have been rectified. (MW-0219-4; MW-0219-33; MW-0219-34; MW-0219-35; MW-0220-65)

Response: The EIS is a summary document and only one means of informing and involving the public. The public participation program has been extensive, including over 20 meetings and hearings with the public. Detailed information has been provided at these meetings and literally hundreds of questions have been answered. In between scoping and the Draft EIS, the Army sent out a special mailing to the distribution list to answer questions about the purpose and need and other details of the proposed action. The Army also provided and publicized a toll-free information line that was used by citizens throughout the country to obtain information on the EIS and the proposed action throughout the EIS process. The Army believes it has done more than an adequate job of providing a meaningful opportunity for public participation in the environmental review process.

Comment: The Draft EIS is out of touch with reality as evidenced by its determination that the destruction of irreplaceable natural resources is trivial. The military does not value these resources properly and its conclusions of "no significant impact" are unfounded. (MW-0109-1; MW-0191-4)

Response: The Army does not consider the destruction of natural resources trivial. What the Draft EIS does consider is the potential for negative impacts on resources, including how extensive and how permanent an impact is likely to be. In the case of a natural resource which cannot be replaced, such as a geologic formation, the EIS also analyzes the probability that an impact would occur. Based on this analysis, the Army has identified in the EIS potential mitigations to lessen or avoid potential negative impacts. Where the Army has identified measures to avoid impacts or has determined the potential for negative impact on be extremely remote, it has good foundation for its conclusions of no significant impact. Even so, the EIS does not represent a decision to incur these impacts, however remote. It simply describes the potential for impacts so that the decision maker can make an informed choice.

Comment: The Draft EIS must be reissued because its analysis of impacts for the overland testing routes ignores many issues and impacts, many of which were raised during scoping. (MW-0235-2; MW-0235-10)

Response: The Army is unaware of any substantive issues raised during scoping that were ignored. The appropriate response to comments on the Draft EIS is to expand and refine the Army's analysis in the Final EIS, not to reissue the Draft. However, because certain elements of the proposed action were modified, the Army did prepare a Supplement to the Draft EIS. Between the Supplement and the Final EIS, the Army believes all substantive issues have been addressed.

Comment: The Draft EIS is woefully deficient, ignores public concerns raised by organizations and individuals, is padded with irrelevant information, and consists of information taken from other military documents. The Army is requested to reissue a new Draft EIS once it has done more background work. (MW-0035-1; MW-0035-2)

Response: The Draft EIS presented information at the level of detail that was available at the time it was prepared. Based on comments on the Draft EIS and agency consultations, additional analyses have been performed and included in the Supplement to the Draft EIS and the Final EIS. The NEPA encourages the use of information and analyses from prior documents to avoid duplication of effort. The Final EIS is the appropriate response to any deficiencies identified in the Draft.

Comment: The Draft EIS is deeply flawed because it does not address potential harm to citizens of the Zuni Reservation. (MW-0123-10)

Response: Based on an analysis of the proposed action, including proposed launch locations and missile flight trajectories, the Zuni Reservation is not within the region of influence. In particular, residents on the Zuni Reservation are not at risk for injury from the proposed flights from FWDA.

Comment: The Army is just going through the motions by holding the public hearings; the input will be ignored. Hasn't the government already made up its mind? (MW-0081-7; MW-0111-4; TC-0008-3; TR-0028-1; TS-0008-5; TUQ-0019)

Response: The purpose of the NEPA is to ensure that the public is informed about decisions on major Federal actions with the potential to affect the environment and to ensure that potential environmental effects are considered prior to a final decision on whether or not to proceed with a proposed action. At the time of the public hearings, no decisions had been made, and public input was solicited to help shape the proposal and otherwise minimize any potential adverse effects. Identification of additional potential booster drop zones and the preparation of a Supplement to the EIS are further evidence that the Government was still looking for reasonable alternatives, rather than having already "made up its mind."

Comment: Is the Army the author of the EIS as well as the final decision maker? Doesn't anyone outside the Department of Defense have a say in the decision? (TGQ-0015; TGQ-0016; TGQ-0017)

Response: The U.S. Army is the primary author of the TMD Extended Test Range EIS. It is preparing the EIS on behalf of the Ballistic Missile Defense Organization. Because of the need for consultations with agencies on matters related to historic, cultural, and biological resources, however, several other entities outside the Department of Defense exercise considerable influence over the proposed action and potential mitigations as outlined in the EIS. The final decision is made by the Department of Defense, taking into account many factors besides environmental considerations. Nonetheless, numerous laws and other agencies provide direction and constraints on the choices the military can make, particularly in terms of potential impacts on legally protected resources.

Comment: The EIS process for TMD is flawed because the EIS is prepared and paid for by its proponents and because too little time was available for the public to review it. (ER-0019-15; TR-0013-15; TS-0010-1)

Response: The CEQ regulations implementing the NEPA require that the Federal agency responsible for the proposed action prepare the EIS by use of a systematic interdisciplinary approach to ensure integration of environmental considerations into the planning and decision-making process. The NEPA process requires the responsible agency to coordinate with all potentially affected agencies and provide the public with an opportunity to comment on the proposed action. The Draft EIS was provided for public review 15 days in advance of the public hearings, as required by CEQ regulations. The total comment period lasted for 55 days after distribution of the document to the public.

Comment: The time to review the Draft EIS was inadequate. Three months should be provided for the public to review the Final EIS. (MW-0204-2)

Response: The Draft EIS was provided for public review 15 days in advance of the public hearings. The total comment period lasted for 55 days after distribution of the document to the public, exceeding CEQ requirements. The CEQ requirement for a minimum 30-day waiting period following release of the Final EIS before a Record of Decision can be issued will also be observed.

Comment: It is undemocratic for the Department of Defense to have sole responsibility for preparing the EIS and making the decision. (TR-0005-10)

Response: The purpose of the NEPA is to ensure that the public as well as affected agencies are informed about decisions on major Federal actions with the potential to affect the environment and to ensure that potential environmental effects are considered prior to a final decision on whether or not to proceed with the proposed actions. At this point in the process, however, it is important to understand that no decisions have been made, and public as well as agency input is being solicited to help shape the proposal and otherwise minimize any potential adverse effects.

Comment: What recourse does the public have to stop the Army if it decides to launch from Fort Wingate? (MW-0111-5; TRQ-0005)

Response: The public may appeal to its Congressional representatives or file a legal suit if appropriate grounds can be found.

Comment: A complete analysis of cumulative impacts should include the environmental threats from decades of hazardous waste storage and radioactive contamination without cleanup, from poor access to health facilities and health care, and from racism and poverty. (TG-0008-1)

Response: Thank you for your comment, but these issues are not within the scope of this EIS.

Comment: The Government ignored the Ramah Navajo Tribe, the Acoma, the Laguna Tribe, and the Zunis during the preparation of the EIS. (MW-0022-8; TR-0020-1)

Response: Federal, state, and local agencies, along with the Navajo Nation, were contacted during preparation of the Draft EIS. Agencies and individuals along the flight path not directly affected by a booster drop zone were not contacted. Because of their participation in scoping, representatives of the Acoma and Zuni pueblos were on the distribution list for the Draft EIS. Based on the interest expressed at the Gallup public hearing, an additional hearing was scheduled and held at the Ramah Navajo Chapter House on March 16, 1994, during the public comment period on the Draft EIS.

Comment: The Ramah Navajo Chapter expresses the community's appreciation for the Department of Defense caring enough to hold a hearing for them at the Chapter House. (TR-0002-1; TR-0002-2)

Response: The purpose of the NEPA is to ensure that the public is informed about decisions on major Federal actions with the potential to affect the environment and to ensure that potential environmental effects are considered prior to a final decision on whether or not to proceed with the proposed actions. Public hearings are held to present the findings contained in the Draft EIS to the public and to accept oral as well as written comments. The Department of Defense was pleased to provide this opportunity for the Ramah Navajo to express their concerns in person.

Comment: Advertising for the Ramah hearing should have included the Gallup Independent and the Grants Beacon, not just the Navajo Times. It should not have been left to the Ramah Chapter and the Zuni Mountain Coalition to get the word out. (TR-0008-1; TR-0008-2)

Response: The public hearing held at the Ramah Chapter House was advertised through paid advertisements in the Gallup Independent and Navajo Times and paid announcements on radio stations in Gallup (KKOR, KYVA, KGLX), Grants (KMIN), and Window Rock (KTNN). Copies of the advertisements also were sent to the El Morro and El Malpais national monuments along with 200 copies to the Ramah Chapter House for their distribution. Additional press releases were sent to area newspapers, radio stations, and television stations.

Comment: Why were the availability sessions prior to the Ramah public hearing held during working hours? (TRQ-0002)

Response: The public hearing at the Ramah Navajo Chapter House began at 6:30 p.m. The hours open to hold availability sessions prior to the hearing naturally fell in the morning and afternoon. Holding the sessions and hearing concurrently in the evening would have been prohibitive from a scheduling perspective.

Comment: The fact that the Pueblo of Acoma was not consulted in the preparation of the Draft EIS nor was it sent a copy was a significant oversight of the EIS process. (EG-0007-15; TG-0002-15)

Response: Federal, state, and local agencies, along with the Navajo Nation, were contacted during preparation of the Draft EIS. Agencies and individuals along the flight path not directly affected by a booster drop zone were not contacted. Because of his participation in scoping, Gilbert Paduch of the Acoma Land Office was on the distribution list for the Draft EIS.

Comment: Had the Army consulted with the U.S. Forest Service about fires in the Cibola prior to publishing the EIS? (TG-0016-10)

Response: Consultation with affected Federal, state, and local agencies is an important part of the NEPA process and will continue throughout development of the EIS. Plans for emergency response and debris recovery were provided in the Supplement to the Draft EIS.

Comment: There is no evidence in the Draft EIS that the Army consulted with the state of New Mexico, Bureau of Land Management, U.S. Park Service, or U.S. Forest Service about their programs in the Zuni Mountains. (MW-0107-1)

Response: Every effort has been made to consult with appropriate state and Federal agencies. Consultation was conducted with the agencies mentioned during the preparation of the Supplement to the Draft EIS, if appropriate.

Comment: The National Park Service was not consulted about the El Malpais National Monument prior to the Draft EIS being published. Public Law 100-225 which established the national monument and the national conservation area was not listed as having been considered in developing the proposed action or the EIS. (TG-0018-3, TG-0018-4)

Response: Consultation with the National Park Service was conducted in support of the Supplement to the Draft EIS, and continuing consultation will be conducted as required. Public Law 100-225 has been considered in the preparation of the Final EIS.

Comment: The Army should have consulted with the El Malpais and BLM officials prior to preparing the Draft EIS. (TR-0020-2)

Response: Consultation with the El Malpais National Monument and the BLM was conducted for the Final EIS.

Comment: The Superintendent of the El Morro National Monument stated that the Draft EIS was inadequate because the affected environments are not accurately defined, environmental impacts are not completely identified, proposed mitigation measures are insufficient, and the EIS did not address all of the National Park Service's scoping comments. (TR-0010-1)

Response: Input from agency consultation was used in developing the Supplement to the Draft EIS and the Final EIS. The Final EIS provides additional analysis of the El Morro National Monument.

Comment: The Draft EIS fails to identify sufficient mitigation measures for many impacts on units of the national park system. (MW-0235-18)

Response: Impacts and mitigation measures are addressed in the Final EIS.

Comment: At a minimum, the Army should consult with affected Federal agencies, U.S. Fish and Wildlife in New Mexico, the New Mexico State Historical Preservation Office, the New Mexico Environment Department, and the New Mexico Attorney General. (ER-0014-10; TR-0011-10)

Response: Consultation with the agencies listed in the comment were conducted during the preparation of the Supplement to the Draft EIS.

Comment: The Army cannot legally issue a Final EIS until all analyses and consultations are completed as required by the Endangered Species Act, the National Historic Preservation Act, and the National Forest Management Act. (MW-0219-2; MW-0219-3; MW-0219-24; MW-0219-25; MW-0219-59)

Response: Every effort has been made to consult with appropriate state and Federal agencies. Consultation was conducted with the agencies listed in the comment during the preparation of the Supplement to the Draft EIS, if appropriate.

Comment: Why were the Utah Department of Wildlife Resources and U.S. Fish and Wildlife Service not cooperating agencies for the EIS? (MW-0056-15)

Response: These agencies did not request to be cooperating agencies for the EIS.

Comment: Agency consultation for the Draft EIS was too narrowly focused at the state and tribal level. The Army should have also contacted McKinley and Cibola county agencies as well as the Ramah Navajo Chapter. (MW-0107-10)

Response: Every effort has been made to consult with appropriate state and Federal agencies. Consultation was conducted with the agencies listed in the comment during the preparation of the Supplement to the Draft EIS, if appropriate.

Comment: In regard to impacts on McGregor Range and WSMR, it appears that the Army neglected to consult with the Bureau of Land Management (Caballo Resource Area), U.S. Forest Service, U.S. Department of Agriculture Jornada Experimental Ranch, the New Mexico Departments of Game and Fish and the Environment, the New Mexico Highway Department and State Historic Preservation Office, and responsible agencies in Texas, which is adjacent, downwind, and downstream. Any permits, memoranda of understanding, or cooperative agreements that need to be signed between these agencies and WSMR or Fort Bliss must be included in the Final EIS. (MW-0117-1; MW-0117-2; MW-0214-16; MW-0214-17; MW-0214-44)

Response: Every effort has been made to consult with appropriate state and Federal agencies. Consultation was conducted with the agencies listed in the comment during the preparation of the Supplement to the Draft EIS, if appropriate.

Comment: The Draft EIS fails to list or consider the Federal Land Policy Management Act of 1976 and Public Law 99-606 which withdrew areas of the McGregor Range for public use and management by the Bureau of Land Management. (MW-0214-11)

Response: The areas which have been withdrawn are not impacted by TMD Extended Test Range activities.

Comment: Statements in sections 4.8 through 4.10 of the Draft EIS regarding adverse environmental effects, the relationship between short-term uses and long-term productivity, and the commitment of resources are invalid because the impacts on Public Access Areas of the McGregor Range have not been properly evaluated. (MW-0214-47; MW-0214-48; MW-0214-49)

Response: The areas which have been withdrawn are not impacted by TMD Extended Test Range activities.

Comment: Full disclosure and review of potential impacts on Public Access Areas of the McGregor Range require that the EIS include maps of the flight corridors for the defensive missiles. (MW-0117-4)

Response: The areas which have been withdrawn are not impacted by TMD Extended Test Range activities.

Comment: Full disclosure is needed of cumulative impacts from all existing facilities and programs at WSMR and Fort Bliss. (MW-0117-5)

Response: An expanded discussion of cumulative impacts is included in the Final EIS as Appendix A.

Comment: The Southern Utah Wilderness Alliance (SUWA) has been participating as a citizen reviewer in the Army's planning process for the EIS. SUWA is ending its participation as of the public hearing in Moab because it believes the Draft EIS ignores public concerns raised by people at previous meetings and because it does not want to legitimize a process in which the Army has already made up its mind to go forward with the Green River launch site. SUWA does not intend to encourage its members to submit any further comments to the Army but will redirect its efforts in stopping the program through other channels, such as the BLM permit process and the legislative

process. (MW-0037-1; MW-0037-2; MW-0037-3; MW-0037-4; MW-0037-5; TM-0006-7; TM-0006-8)

Response: Although there were no plans to continue the citizen reviewer function beyond the Draft EIS, the Army still regrets SUWA's decision to end its participation, particularly since it appeared to be based in part on a belief that the Army had already made up its mind by the time the Draft EIS was published. At that point in time, the decision regarding which range or ranges would be used, if any, was still an open one. This fact is reflected in the development of other alternatives for booster drop zones based on the availability of the SR19-AJ-1 booster and comments on the Draft EIS, which resulted in the preparation of a supplement to the EIS. The Army appreciates the participation of a SUWA representative as a citizen reviewer during the development of the Draft EIS, as well as that of other citizen reviewers who contributed to its development.

Comment: I am an Acoma citizen who commented at the Gallup scoping meeting, and I was not included in the Draft EIS distribution. (EG-0007-16; TG-0002-16)

Response: We can find no record in the transcript for the Gallup scoping meeting that an Acoma citizen spoke. However, Gilbert Paduch of the Acoma Land Office who attended the meeting was included on the distribution list.

Comment: Even though the EIS process is time-consuming and expensive, the Army's thorough evaluation of impacts for the GRLC alternative is a better way to make decisions than how the decision to use Green River was made 30 years ago. (TM-0001-2)

Response: The Army concurs in the value of following the NEPA process.

Comment: Mitigation measures need to be treated as contractual agreements and not suggestions or options as the EIS does. Otherwise, the consequences of implementing an alternative, which must be considered with its mitigation measures in place, cannot be evaluated. (MW-0039-12)

Response: Which mitigation measures are committed to is a choice that generally is reserved for the Record of Decision after taking all appropriate factors into account. In some cases, mitigation measures are incorporated into the proposed action as it is described in the EIS, in which case they are no longer considered an optional part of the proposal. Where mitigation measures are necessary to achieve a determination of no significant impact, the EIS states so. Beyond that, mitigation measures are often included as options for the decision maker to consider in rendering a final decision.

Comment: Given the population of McKinley County, New Mexico, two hearings were not enough; the hearings also were not publicized as early or broadly as they should have been. (MW-0068-3; MW-0068-4)

Response: The two hearing sites in McKinley County were located strategically within the county so that all interested individuals had a reasonable opportunity to participate. The hearing in Gallup was located in the western portion of the county where Interstate 40 and highways 666 and 602 converge. Crownpoint, on the other hand, is located in the eastern portion of the county near the intersection of highways 371 and 9. Display advertisements were run in the Navajo Times and the Gallup Independent twice, 1 week and 2 weeks ahead of time. In addition, in the weeks prior to the hearings in McKinley County, at least four articles appeared in the Gallup Independent that mentioned the hearings. The first article appeared on February 3, 1994, almost 3 weeks before the hearings, based on press releases sent to the media in McKinley County by the Army.

Comment: The newspaper advertisements for the Gallup and Mountain View hearings were not early or sufficiently detailed enough to provide adequate notice to the public. (MW-0217-1)

Response: The amount of detail that can be placed in an advertisement is limited. The purpose is to provide enough detail so that the public will be sufficiently interested to participate if they have comments and concerns. Considering the excellent turnout at these hearings, it would appear the advertisements were effective. As far as timing is concerned, the Army has found that running these advertisements approximately 1 and 2 weeks before the scheduled hearing provides sufficient notice while not being so far in advance that they are forgotten. Because the Mountain View hearing was added to the schedule after the public comment period began, it was difficult to provide this same advertising approach. As a result, the Army also paid for announcements on radio stations in Gallup (KKOR, KYVA, KGLX), Grants (KMIN), and Window Rock (KTNN). Copies of the newspaper advertisements also were sent to the El Morro and El Malpais national monuments along with 200 copies to the Ramah Chapter House for their distribution. Additional press releases were sent to area newspapers, radio stations, and television stations. The Army also enlisted the assistance of local interest groups in spreading the word. As a result, the participation of the public was as extensive at the Mountain View hearing as it was at hearings in much larger communities.

Comment: Why were public hearings held in Gallup, Crownpoint, and Shiprock since these areas are not in a LHA or booster drop zone and are quite a distance from the people who are most affected? We are disturbed that hearings to comment on the Draft EIS originally were not scheduled at the Mountain View Chapter House (near Ramah) or in Grants, New Mexico, and that copies of the EIS were not available in Ramah, even though that community is the most directly impacted by the proposed missile testing. We request a hearing in the Ramah/Mountain View area. (EG-0005-1; EG-0006-8; EG-0009-11; EG-0010-6; ER-0001-5; MW-0021-1; MW-0022-7; MW-0026-7; MW-0052-11; TG-0007-1; TG-0010-9; TG-0014-1; TG-0015-6; TGQ-0014; TR-0001-5)

Response: After the comments received at the Gallup hearing and numerous phone calls to the Army's toll-free information line requesting a hearing in the Ramah area, the Army scheduled a hearing at the Ramah Navajo Chapter House. Originally, the Army thought that the Gallup hearing would be sufficiently close, but based on the poor weather and road conditions on the night of the Gallup hearing, the Army agreed that access was restricted by unforeseen circumstances. Hearing locations in Shiprock and Crownpoint were selected after consultation with Navajo Nation representatives in Window Rock. Those locations were intended to serve people living in the Eastern Navajo Agency portion of the reservation who had expressed concerns regarding the flight corridor from the GRLC as well as the use of the FWDA as a potential launch site.

Comment: We appreciate the Army's holding a hearing and public availability sessions in Mountain View. (ER-0005-2; MW-0120-1)

Response: The Army was pleased to make those meetings available to the public residing in the Ramah/Mountain View area.

Comment: We are concerned that the Army originally did not schedule a public hearing in Salt Lake City, Utah. (EU-0008-4; MW-0025-1)

Response: The scoping meeting held in Salt Lake City was sparsely attended. Based on the interest expressed, the Army made decisions about where the most cost-effective locations would be for public hearings. However, the Army was open to listening to other significant expressions of interest after the Draft EIS was published, and subsequently scheduled two more hearings, including the one in Salt Lake City.

Comment: We appreciate the Army's holding of a hearing in Salt Lake City. (EU-0013-1; TU-0010-3; TU-0014-1)

Response: Thank you for your comment.

Comment: The Army should not have held a hearing in Salt Lake City; the only people who should have a say in the decision are the ones who live in the affected area. (TU-0016-1)

Response: The rationale provided in requests for a hearing in Salt Lake City was that a significant number of citizens in the Salt Lake City area were legitimately affected by the proposed action because of its potential impacts on their recreational use. The Army agreed with this rationale enough to schedule a Salt Lake City hearing.

Comment: The Army should have held a hearing in Green River. (TU-0011-1)

Response: The Army must make the most effective use that it can of funds spent to support public participation. The Army concluded that it would be likely to obtain the most comments on the Draft EIS regarding the GRLC by holding a hearing in Moab. It also concluded that Moab was close enough to Green River for residents of that area to attend. Based on the large number of Green River residents that attended the hearing in Moab, that conclusion appears to have been properly founded.

Comment: I am concerned that the Army did not schedule a public hearing in Albuquerque, New Mexico. (MW-0027-1)

Response: Although a scoping meeting was held in Albuquerque, by the time of the Draft EIS it appeared that other hearing locations in New Mexico would be more relevant to the proposed action and its potential impacts.

Comment: A hearing should be held in Thoreau. (EC-0001-1; TC-0002-6; TC-0002-10; TC-0006-3)

Response: The Army believes that the hearing in Crownpoint was sufficiently close to Thoreau to provide an adequate opportunity for participation.

Comment: The Navajo Utah Commission requests a public hearing for the 8,000 Navajo living on the reservation in southeastern Utah. (MW-0239-6)

Response: Consultation with the Navajo Utah commission was conducted during the preparation of the Supplement to the Draft EIS.

Comment: Hearings on the Final EIS should be held in the major population centers of Salt Lake City and Albuquerque or Santa Fe. (MW-0204-1)

Response: Under the NEPA, hearings are not held on the Final EIS.

Comment: Public hearings should be held in Albuquerque, Las Cruces, and near WSMR because of the importance of the Zuni Mountains as a recreational destination for people living in those areas. (MW-0220-5)

Response: The Army did not receive enough interest from these areas to justify holding additional public hearings. On the other hand, based on the hearings the Army did hold in Gallup and Mountain

View, it believes it has been made aware about the importance of the Zuni Mountains as a recreational destination.

Comment: The EIS fails to explain how implementation of Alternative 1 (WSMR) would meet the intent of the basic national charter to protect, restore, and enhance the environment as cited in 40 CFR 1500.1(a) and (c). (MW-0039-5)

Response: An EIS is intended to analyze potential impacts from major Federal actions. The action under review in this EIS is a proposal to establish extended test ranges. Consequently, the responsibility of this EIS is to analyze the proposed action's potential to interfere with such things as the charter cited in the comment. The EIS does that.

Comment: Information in the document is internally inconsistent. For example, the executive summary states there will be up to 100 total launches, the health and safety appendix states that there would be a maximum of 48 flights per year (288 over 6 years), yet the socioeconomics appendix states that there would be a maximum of 15 launches per year at Green River. (EM-0008-1; MW-0035-29)

Response: An EIS is not a statement of what will happen, but a statement of what could happen. The various programs that might make use of an extended test range are at a variety of stages of development. Consequently, the Army does not know precisely how often or how much these ranges might be used. Instead, the preparers of the EIS must make certain reasonable assumptions about what the upper limits of such usage might be in order to analyze a bounding case. Depending on the resource being analyzed and the potential impacts based on frequency, slightly different assumptions may be made. Because they are assumptions for analytical purposes, however, they do not constitute "contradictions." For example, when the EIS analyzes the potential impacts of 48 launches per year, it does not assume that number would occur every year for 6 years, only that launches could occur that frequently in a given year. The 100 launches over the life of the program would still apply. Similarly, while the EIS may assume up to 48 launches in a year to evaluate the upper bounds of potential impacts on a particular resource, it would be practically impossible and highly unlikely that more than 15 launches could actually be conducted from a single launch location in any given year.

Comment: The analysis of "significant" impacts in the Draft EIS understates the actual impacts in a biased fashion, allowing the Army to proceed with the WSMR alternative. (MW-0107-9; MW-0219-36)

Response: There has been no attempt whatsoever to systematically bias the EIS in favor of understating the impacts. If anything, the EIS makes assumptions that tend to overstate the potential impacts, as discussed in the above response.

Comment: When the government makes its decision regarding the proposed action, it should make it based on technical, functional, scientific criteria, not emotion. (TM-0001-6; TU-0005-1)

Response: Thank you for your comment.

Comment: The Draft EIS is full of conclusions that there will be no significant impacts. Does that mean no significant impacts on the military or no significant impacts on the people living nearby. (TM-0003-2)

Response: The EIS analyzes potential impacts on the human environment, including people living nearby. Conclusions in the EIS about significant or not significant impacts related to the military are

concerned with potential effects on mission-related personnel as well as nonessential personnel that may be in the vicinity of proposed operations.

Comment: A representative of the Utah Division of Wildlife was concerned that the level of evaluation in the Draft EIS is inadequate. (TM-0004-1)

Response: The amount of detail presented in Section 4.0 of the Draft EIS, Environmental Consequences and Mitigations, was intended to be proportional to the potential for impacts. The purpose of preparing a draft, however, is so that possible inadequacies can be pointed out. In some cases it may be simply that the analysis was performed but considered too detailed for inclusion in the EIS. In other cases, more analysis may be required. Where specific inadequacies have been identified, the Final EIS has addressed them.

Comment: The cumulative impacts of helicopter use have not been addressed. (TM-0006-6)

Response: The potential for cumulative impacts from helicopters is addressed in the Final EIS.

Comment: The EIS did not tell the public how to judge whether a potential impact was significant enough to worry about. (TM-0014-8)

Response: The EIS does detail the criteria that were used for each resource area to determine whether or not a potential impact is considered significant. Whether or not an impact is worthy of concern to an individual, however, is up to that individual based on his or her own values.

Comment: The region of influence for the two off-range launch sites should include the entire flight corridor. (EG-0007-8; TG-0002-8)

Response: The flight corridors associated with the two proposed WSMR off-range launch sites are described and analyzed in the Draft EIS in sections 3.1.4 and 4.1.4, indicating that they were included in the region of influence.

Comment: I live and own a tourist attraction in a booster drop zone and am upset that I was not consulted prior to publication of the Draft EIS and that the attraction was not shown on the maps in the EIS. (EG-0006-2; TG-0010-2)

Response: Private landowners were not specifically contacted as part of the Draft EIS preparation process, although they were welcome to participate in scoping. The tourist attraction in question, the Bandera Crater and Ice Caves, is acknowledged in the Draft EIS on p. 3-106 as part of the affected environment. The maps in the EIS were not intended to show individual landholdings or tourist attractions.

Comment: My prior input on the proximity of Cottonwood Gulch Foundation camping and outing programs to the Army's proposed activities was not reflected in the tables and figures of the Draft EIS. (MW-0116-1)

Response: As the letter received from the Cottonwood Gulch Foundation during scoping indicates, the foundation's programs are conducted throughout the Southwest, although its main base of operations is located approximately 20 miles downrange from the proposed FWDA launch site. The primary comments noted by the Army in the letter indicated the Foundation's need to be given adequate notice of the launch schedule, trajectories, and any associated road closures so that the Foundation could plan accordingly. The Army believes that the EIS adequately addresses concerns

about sufficient notification, although if Fort Wingate were to be selected, the Foundation might want to establish closer communication ties with WSMR for advance planning purposes.

Comment: Answers to the public's question at the Gallup hearing by the Army's representatives were indirect, giving the impression they were covering up something. (TG-0012-4)

Response: The answers given were not intentionally indirect or evasive. However, the majority of the questions were complex and could not be answered with simple "yes" or "no" responses. The Army representatives attempted to give accurate answers that still reflected the tentative nature of much of the program's details. In its attempt to not oversimplify the issues raised in the questions, the Army representatives may have inadvertently provided indirect answers. The Army will endeavor to provide clear and concise information to the public within the constraints posed by the complexity of a given question.

Comment: The people living near Booster Drop Zone A for Fort Wingate need more time and the same accessibility to information accorded the people of southern Utah by the Citizen Reviewer process to be able to adequately evaluate the Draft EIS. (EG-0010-7; MW-0220-9; TG-0015-7)

Response: The primary function of citizen reviewers in Utah was to provide information to the Army prior to release of the Draft EIS, not the other way around. After release of the Draft EIS, people living near Booster Drop Zone A received the same opportunity and length of time to review the Draft EIS as any other citizens, including citizen reviewers.

Comment: The Navajo in the Shiprock area should have more time to consider the EIS before making a decision. (ES-0003-4)

Response: The comment period for the Draft EIS exceeded the requirement for a 45-day public review opportunity. In addition, because of the decision to prepare a Supplement to the Draft EIS, the Navajo in the Shiprock area, along with the rest of the public, will have a minimum of 9 months from release of the Draft EIS until a Record of Decision is issued.

Comment: The Army should make public the reason why it cannot use single-stage missiles that do not require off-range drop zones. (TG-0017-4)

Response: In order to represent a variety of potential threats, a two-stage missile system is required in the initial phase of testing. Single-stage missiles may be required for specific testing programs in the future.

Comment: The phrase used frequently in the EIS that "at this time we do not plan" indicates that the Army plans on using this proposal as a way to simply get started and then do whatever it wants. (TR-0010-6)

Response: On the contrary, the real impact of the phrase is that if an action is not planned or evaluated in the Draft EIS, it cannot be included in the decision reached on the basis of that EIS. In several places the EIS indicates that activities that are not planned at this time would have to be covered by additional environmental documentation before they could be implemented. The main reason for using the referenced phrase is because some activities are not intended or anticipated currently within the Government but the Government does not want to mislead the public into thinking that these options have been permanently foreclosed. However, the NEPA process ensures that the Army cannot "do whatever it wants" simply because a decision has been made to proceed with a particular action because the Record of Decision and the supporting environmental analysis places limits on the scope of activities that are authorized.

Comment: I plead with the Army to listen to the public and public agencies regarding their local environment. (TR-0020-3)

Response: Public hearings and agency consultation have provided the Army with substantial public input.

Comment: The Army will use public input to amend its proposed action rather than listening to the message that the people do not want the Army to proceed at all. (TR-0026-2)

Response: The Army is well aware of the opinions of people who have spoken both in favor of and against various alternatives presented in the EIS. One of the primary benefits of the NEPA process, however, is to learn more about the potential impacts so that a proposed action can be modified and mitigations developed to make the action more environmentally sensitive.

Comment: Was the Department of Interior notified to give comment regarding possible damage if a booster falls in a national park or monument? (EU-0014-10)

Response: All required consultations with agencies of the U.S. Department of Interior were completed.

Comment: The language in the Draft EIS is "government double-talk." It needs to be written in clearer, simpler terms. (EM-0008-5)

Response: The Government has tried to make the discussions in the main text of the EIS as understandable as possible while reserving more technical information to the appendices. Some of the environmental issues within various resource categories, however, are complex by their nature. Where specific comments on the Draft EIS indicated the need to clarify a discussion within the document, the Final EIS includes a clarifying response to the comment and/or a modification or addition to the language of the Draft.

Comment: Why is there so little time between the Draft EIS and making a decision? (TUQ-0020)

Response: The original schedule anticipated when the Draft EIS was released was that a decision would not be made sooner than 5 months from its release. Because of the decision to prepare a supplement, that time span was virtually doubled.

Comment: During the presentation on the Draft EIS during the public hearings, why weren't all of the resources areas on the overhead charts covered by the presenter? (TSQ-0013)

Response: As explained by the presenter, to prevent the presentation from being overly long, he highlighted orally those resources that were probably of most interest to the audience but displayed the chart long enough for anyone to read the whole chart.

Comment: Why did the Army not distribute the Draft EIS at the public hearings? (TSQ-0016)

Response: The Army distributed over 1,200 copies of the Draft EIS by mail to anyone who had previously expressed an interest in the proposed action, including anyone who had commented orally or in writing during scoping. The Army also had extra copies of the Draft EIS available at the hearings that were handed out to anyone who requested one.

Comment: When and where were the scoping meetings held and how were they publicized? (TRQ-0004)

Response: Scoping meetings were held in Green River, Salt Lake City, and Moab, Utah; Fort Walton Beach and Port Saint Joe, Florida; Oxnard and Lompoc, California; and Albuquerque and Gallup, New Mexico, from April 13 to May 13, 1993. Notification letters were mailed to 770 elected officials, government agencies, organizations, and interested individuals. Press releases were sent to 221 media outlets, consisting of newspapers, radio, and television stations. Advertisements were placed in newspapers in and around each scoping meeting location. In addition, public service announcements were sent to radio stations in and around each meeting location.

Comment: The maps in the Draft EIS and the newspaper advertisements for the hearings made it extremely difficult to determine the precise boundaries of the booster drop zones for Fort Wingate. The Final EIS should contain much more detailed maps of the booster drop zones so that people can determine who and what is at risk. (MW-0107-18; MW-0116-9; TGQ-0001)

Response: Detailed maps depicting land ownership will be developed if the WSMR Candidate Test Area is selected in the ROD. The WSMR real estate office will provide information and detailed maps to affected owners.

Comment: Was the order of the speaker registration cards arranged by the Army at the Gallup meeting in a biased fashion? (TGQ-0008)

Response: The speaker cards were placed in the order in which people had signed up to speak except that representatives of Native American groups in the area were accorded the courtesy of speaking first.

Comment: The Draft EIS largely ignored Cibola County in its analysis of environmental and economic impacts. The EIS is deficient without this analysis. (MW-0107-21; MW-0114-1)

Response: The Draft EIS dealt with environmental and economic impacts in the area surrounding booster drop zones A and B that are located in Cibola County.

Comment: Even if full compliance with the NEPA is achieved, I hope that the Army does not forget the spirit of the law. (MW-0206-9)

Response: The Army has attempted to comply with both the spirit and letter of the NEPA.

Comment: The Draft EIS provides no justification and contradicts itself when it states on p. 1-4 that it will not discuss morality or general societal issues, while p. 4-1 states that the purpose of the environmental process is to look at how society is affected as a whole. (MW-0220-7)

Response: The statement on p. 1-4 indicates what types of issues are generally considered outside the scope of an EIS. The statement on p. 4-1 is not a statement on the purpose of preparing an EIS; it is part of the criteria used within the EIS for determining significance. As the statement indicates in its entirety, it may or may not be appropriate to consider impacts on the nation as a whole, particularly when the setting for the proposed action is localized or site-specific. The statement in no way implies that moral issues are appropriate for discussion in an EIS.

Comment: The Draft EIS does not reflect an understanding by the Army of its fundamental obligations under the NEPA or the Clinton Administration's intent to manage the Department of Defense with a higher sensitivity to environmental concerns. (MW-0235-1; MW-0235-3)

Response: The Army has endeavored throughout the environmental impact assessment process to live up to the NEPA and demonstrate environmental sensitivity. The Army conducted an extensive scoping process that resulted in over 50 pages of summarized comments and concerns that were considered in the preparation of the Draft EIS. When it became apparent after publication of the Notice of Intent to prepare the EIS that individuals in the communities of Moab, Utah, and Port St. Joe, Florida, had significant environmental concerns and comments to provide, the Army scheduled scoping meetings in those locations in addition to the seven originally planned. During the scoping process, the Army identified special environmental concerns related to the booster drop zones for the GRLC. As a result, the Army sought additional input from citizen reviewers in Utah which proved to be invaluable in developing mitigations related to transportation, recreation, and socioeconomics. Despite these mitigations, the Army's environmental sensitivity led it to conclude that certain impacts were still significant and unavoidable. This in turn led the Army to identify alternative booster drop zones and to prepare a Supplement to the EIS in the hopes that significant impacts could be avoided. While this record may not satisfy everyone, the Army believes it has made a good-faith effort to satisfy the NEPA and demonstrate a higher sensitivity to environmental concerns.

3.1.16 AMERICAN INDIAN ISSUES

Comment: The proposed reuse of Fort Wingate to launch missiles is a violation of treaties with the Navajo that promised its return; Fort Wingate should be returned to the Navajo. (EG-0008-1; ER-0013-2; ER-0018-5; ES-0001-5; TC-0006-2; TG-0004-8; TG-0005-1; TR-0002-5; TR-0014-1; TR-0022-8; TR-0024-2; TS-0002-5)

Response: Treaty issues are outside the scope of the environmental impact analysis process; the EIS addresses environmental issues.

Comment: The U.S. Army's proposal and EIS demonstrate a lack of understanding and respect for the traditional Navajo way of life and its ties to the land; the Army should demonstrate respect through its actions. (ER-0001-2; ER-0013-4; ER-0018-6; ES-0001-6; ES-0005-4; MW-0163-4; MW-0112-4; TC-0003-1; TG-0002-3; TR-0001-2; TR-0002-7; TR-0022-9; TR-0024-4; TS-0002-6; TS-0007-4; TS-0007-5; TS-0007-6; TS-0008-3; TS-0011-3; TS-0012-2; TS-0015-1; TS-0016-1)

Response: Your comment is acknowledged.

Comment: The U.S. Army and Government threaten the Navajo people and their harmonious relationship with the environment by introducing harmful foreign objects such as missile weapons. (ER-0001-3, ER-0013-3; ER-0018-7; ES-0001-7; TG-0004-9; TR-0001-3; TR-0022-10; TR-0024-3; TS-0002-7; TS-0006-3)

Response: One of the primary goals of the NEPA is to "assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings." These goals are achieved through an active and open consultation process among agencies and all concerned parties.

Comment: Missile launches, evacuations, and contamination have the potential to disrupt religious activities, disturb the spiritual balance, and render sacred ceremonies and healing ineffective, whether or not the missiles themselves are ever seen or heard. (ER-0018-8; ES-0001-8; MW-0090-3; MW-0093-6; MW-0096-5; MW-0171-3; MW-0197-2; TC-0003-8; TC-0005-8; TG-0002-7; TG-0004-11; TS-0002-8; TS-0015-4)

Response: Potential disturbance of or interference with American Indian religious activities will be addressed during consultation with each affected American Indian group.

Comment: The EIS does not adequately identify the existence of or address damage to sacred sites, sacred springs, traditional ceremonial herb gathering sites, and religious pilgrimage trails in the LHAs, the booster drop zones, or along the flight corridors. It also does not address impacts on the ability of Indian Americans to exercise their rights to these sites as guaranteed by the Native American Religious Freedom Act. (EG-0004-1; EG-0007-7; ER-0018-12; ES-0001-12; ES-0005-2; MW-0088-2; MW-0093-2; MW-0094-2; MW-0095-2; MW-0115-4; MW-0118-3; MW-0121-3; MW-0125-3; MW-0163-2; MW-0205-2; MW-0208-4; TG-0004-5; TG-0004-10; TR-0022-11; TR-0024-8; TS-0002-12; TS-0002-13)

Response: As with prehistoric and historic archaeological sites, traditional resource sites such as sacred and ceremonial springs, trails, and herb gathering areas are protected by the National Historic Preservation Act. However, because of the large area encompassed by TMD activities, potential effects on specific sites cannot be anticipated at this time. If WSMR is selected for extended-range testing, program specifics will be finalized and mitigation measures developed in consultation with the New Mexico and Utah State Historic Preservation officers, the Advisory Council on Historic Preservation (as required), and all affected American Indian groups. Concerns regarding access to sacred and ceremonial areas (protected under the American Indian Religious Freedom Act) will be addressed during consultation with each affected American Indian group.

Comment: There is no way to compensate Native Americans for damage to sacred sites. (MW-0122-8)

Response: Your comment is acknowledged.

Comment: The Zuni Mountains are considered sacred by American Indians, and using them for a booster drop zone is dangerous and disrespectful. (MW-0089-2; MW-0090-2; MW-0091-2; MW-0092-2; MW-0096-3; MW-0113-2; MW-0119-3; MW-0195-2; TRQ-0013)

Response: Your concern is acknowledged.

Comment: The sovereignty of all American Indians along the flight path is challenged by the TMD proposal. (ER-0013-7; MW-0074-2; TG-0004-2; TR-0024-7; TS-0014-2)

Response: The TMD Extended Test Range EIS addresses environmental issues; the question of sovereignty is outside the scope of the environmental impact analysis process.

Comment: The community planner for the Ramah Chapter offers to assist the Army in preparing an EIS that is more sensitive to Navajo cultural and religious concerns. (TR-0002-4)

Response: Thank you for your comment.

Comment: It is not just the TMD proposal but its contribution to the cumulative negative impacts on Navajo culture and society that is a concern. (MW-0075-4; MW-0154-2; TC-0010-2; TR-0002-6)

Response: Your concern is acknowledged.

Comment: There are sacred plants that grow only in an area south of the Ice Caves that could be wiped out completely by a fire. (TR-0014-4)

Response: Your concern is recognized.

Comment: The EIS does not consider timing missile flights to avoid conflicts with Native American religious ceremonies as a potential mitigation. (TR-0024-10)

Response: Once the decision for extended-range testing is made and specifics related to TMD activities, including launch timing, have been finalized, mitigation measures will be developed in consultation with potentially affected American Indian groups.

Comment: Native Americans living a traditional lifestyle in remote areas will be completely unaware of risks from the tests and any warnings related to evacuations. (MW-0043-6; MW-0222-9; TC-0002-2; TC-0008-6; TR-0025-6)

Response: Evacuations will be required only within the LHAs and booster drop zones; once these specific locations have been finalized, surveys will be undertaken to identify individuals who could be affected. Launch notifications will be made in accordance with the Evacuation Plan, Appendix B of the Supplement to the Draft EIS.

Comment: There is a concern for the safety of American Indians engaged in hunting, gathering, and religious pilgrimages on aboriginal lands that fall within the booster drop zones. (EG-0007-3; TG-0001-3)

Response: All persons potentially affected by a launch operation will be notified in accordance with the WSMR TMD Extended Test Range Evacuation Plan (1994). WSMR Range Control will implement surveillance sweeps of evacuation areas to ensure that all unauthorized persons have been properly evacuated.

Comment: The Ramah Navajo Chapter officials request a public hearing be held at the Ramah Chapter House. (TG-0001-1)

Response: A public hearing was held at the Ramah Chapter House on March 16, 1994.

Comment: The missiles will intrude on the Navajo and other Indian nations' airspace, e.g., Ute, Laguna, and Acoma. (MW-0074-4; TC-0008-2; TG-0004-3)

Response: Thank you for your comment.

Comment: The Navajo are tired of their land always being used as a dumping ground. (TC-0001-2)

Response: Your concern is acknowledged.

Comment: The Army chose its flight paths over Navajo and other American Indian lands because it believes the population density is very low and the Indians are too powerless to object, but neither is true. It is unacceptable to have the only land alternative under evaluation be one that impacts Navajo lands. (TC-0003-4; TGQ-0024)

Response: The proposed launch corridor from Fort Wingate to WSMR was one of 11 flight corridors evaluated during the site narrowing process. Due to technical requirements of the program, this corridor was one of only two options suitable for overland testing.

Comment: We are worried about what we will tell our grandchildren when they ask us why we did not stop the Army from launching missiles over our land. (TC-0005-2)

Response: Thank you for your comment.

Comment: The proposed launches are part of a longstanding pattern of disregard, mistreatment, and killing of Navajo by the U.S. Government. (TC-0005-3; TC-0005-6; TC-0007-2; TS-0010-3)

Response: Your comment is acknowledged.

Comment: The proposed launches violate treaties in which the U.S. Government and the Navajo agreed not to take up arms against each other. (TC-0005-5; TG-0004-12)

Response: The TMD Extended Test Range EIS addresses environmental issues; treaty issues are outside the scope of the environmental impact analysis process.

Comment: The Navajo have only a small part of the land and beauty that once was theirs, and they must protect it against any encroachments. (TC-0003-9; TC-0006-5)

Response: Thank you for your comment.

Comment: Missile launches will have a great psychological impact on traditional American Indians because modern technologies cause great fear. (TC-0007-3)

Response: Your concern is acknowledged.

Comment: There is a concern that if this proposal is approved, it will provide an opening for further encroachments on Navajo land. (TC-0005-9)

Response: Your concern is acknowledged.

Comment: It is imperative for meetings on the Navajo Reservation to be translated into Navajo. (TC-0002-5)

Response: The Navajo interpreter scheduled to assist with the public hearing in Crownpoint was unable to attend because of a death in the family; however, a volunteer translator was able to assist with the program.

Comment: The Navajo live off the land and cannot permit any more assaults on the environment, or it will cause increased sickness. (MW-0142-2; TC-0002-9)

Response: Your comment is acknowledged.

Comment: The Navajo Utah Commission is concerned over the potential disturbance of Canyonlands which is considered an ancestral homeland to the Navajo. (MW-0239-3)

Response: Your comment is acknowledged.

Comment: The Navajo Utah Commission is concerned about the intrusion of sovereign airspace as the Navajo have an intergovernmental relationship with the Federal government as established by treaty. (MW-0239-4)

Response: The TMD Extended Test Range EIS addresses environmental issues; treaty issues are outside the scope of the environmental impact analysis process.

Comment: The Navajo people resent their role as guinea pigs for the military's testing programs. (MW-0239-5; TS-0007-1; TS-0013-4)

Response: Your comment is acknowledged.

3.1.17 OTHER

Comment: I have read a newspaper article pertaining to the PATRIOT missile's performance during Desert Storm, particularly the discrepancy between early claims of success and the later critical analysis of the PATRIOT's shortcomings. (MW-0004-1)

Response: The PATRIOT missile used in Desert Storm was originally designed to be used against aircraft, not ballistic missiles. It was adapted to this use by system software, missile fuse, and warhead modifications that made the PATRIOT useful but not entirely effective against the relatively slow-moving Scuds. The awareness that the modified PATRIOT missiles were only partially effective is one of the reasons that the United States is seeking a better Theater Missile Defense system. With theater ballistic missile threats becoming more sophisticated than the Iraqi Scuds and proliferating rapidly, much more sophisticated defensive systems are needed.

Comment: Was the area around FWDA used as a test site approximately 15 years ago? If so, were the residents given an option as to whether test activities took place? What types of missiles were used? (MW-0006-3)

Response: The last testing around FWDA that the Army is aware of was the firing of Pershing missiles that ended 20 years ago. This testing program was begun in the 1960s after discussions with local officials. The program was carried out with the knowledge and cooperation of local residents who were invited to, and often present at, the launches.

Comment: The Army is lying when it says that there will be no plutonium in the test missiles. (MW-0017-2)

Response: Plutonium will not be used in TMD Extended Test Range missiles. The purpose of the extended-range tests is to simulate as realistically as possible potential defensive engagements of theater missiles. While it is true that actual missiles that the U.S. may be called upon to protect against could contain nuclear warheads, it is not necessary to use nuclear materials such as plutonium in the tests. Other materials that are non-nuclear can be used to simulate the physical characteristics, such as weight and shape, of a nuclear warhead.

Comment: More environmental damage has been done to the Canyonlands in the last 20 years than before the military was there. (TU-0002-1)

Response: The Army recognizes that increasingly intensive public use of the Canyonlands area has led to more impacts on the environment over the last 20 years than has been contributed by the military. Even so, the Army is required in the EIS to analyze the direct, indirect, and cumulative impacts from the proposed action based on the existing environment. On that basis, the Army has concluded that the potential impacts on recreational use are significant because of the restricted access to Canyonlands that would occur if Booster Drop Zone A for the GRLC were activated. However, Canyonlands National Park is not in any booster drop zone, and no significant impacts on the park itself are anticipated.

Comment: I hope that some mechanism can be formulated that would not permit civil disobedience in the form of individuals deliberately entering the booster drop zone and refusing to leave. Civil disobedience is proper, and I plan to participate. How will persons refusing to leave the booster drop zone be handled? (TM-0006-9; TM-0020-3; TU-0005-2; TUQ-0003)

Response: The U.S. Army assumes that the vast majority of people will be law-abiding and cooperative since any closures would be short-lived, infrequent, well publicized, and, whenever possible, scheduled at non-peak times. The Army respects the beliefs of U.S. citizens who feel compelled to engage in forms of protest that may constitute civil disobedience. However, the only areas that the Army would evacuate are areas for which the Army has obtained prior written permission from the legal landholder. As such, the mechanism for ensuring evacuation under these conditions would be trespass provisions as enforced by the appropriate local law enforcement authority.

Comment: I was in Utah in the 1960s when boosters impacted south of Blanding; the damage to the environment was nil, and people that came out to inspect the environment after the impact created more damage to the environment than the booster itself. (TU-0006-1)

Response: Although the proposed boosters for the extended-range tests are larger than those generally used in the 1960s, the actual impact area is still expected to be extremely localized. The Army recognizes the potential for environmental impacts from debris-recovery operations. Consequently, the EIS not only analyzes these potential impacts but discusses potential mitigations for conducting debris-recovery operations in as environmentally sensitive a manner as possible. The Supplement to the Draft EIS includes a booster recovery plan that discusses these operations.

Comment: There is a psychological impact of this type of testing. It imposes a war ambiance on living and vacationing territory. Are we expected to live in "air raid" type circumstances for 6 years? Has our fear become the problem? (EU-0004-1)

Response: Air raids are an unpredictable event of war. The negative psychological impact of never knowing when one's life may be put at risk by an enemy overhead is easy to understand. However, the proposed tests bear no similarity to an air-raid situation. The tests will be scheduled at least a month ahead of time and publicly announced well in advance through a wide variety of channels. In addition, no one in the public needs to feel that his or her life will be put at risk because the public will be kept out of the areas where such risk could occur, i.e., the LHAs and booster drop zones. Furthermore, such testing has regularly occurred around WSMR for decades, requiring temporary evacuation and road closures on countless occasions. During that time, a war-like atmosphere has not resulted.

Comment: Individuals involved in missile testing would not be living in the test area. They will not have to experience what the people living in the area will have to experience. (TR-0015-5)

Response: As to the substance of this comment, there are hundreds of test-related personnel and their families at WSMR that do in fact live or work in close proximity to similar tests that are already being conducted. The intent of the comment, however, is to suggest that the Army and other personnel associated with the proposal do not appreciate the risks to the public because they will not be subjected to them. What WSMR's unparalleled safety record attests to, however, is that worker/public safety is its number-one priority. In addition, the risk analysis performed for the EIS suggests that the remote possibility of injury or death from the proposed tests would be the least of a test personnel's worries compared to the other risks associated with everyday life.

Comment: I would like the Army to do something positive for the community. (TR-0031-1)

Response: It is understandable that a citizen might appeal to the Army for some form of assistance as a representative of the Federal government, and in those cases where the Army's activities may have a negative impact on a community, there are various means available to compensate a community for those impacts. However, the Army is not designated as a branch of the Federal government for the purpose of assisting local communities. The Army's mission is defined for it by the Congress and the President and, in this case, involves securing the use of an extended range to fulfill its duty to develop a better Theater Missile Defense capability. As such, the Army is already doing the most positive thing it can do for communities such as Ramah: holding a public hearing at the community's request and considering carefully the community's input in its decision-making process.

Comment: The Government can do anything it wants and shoot missiles anywhere it wants and not take responsibility. (TC-0003-2)

Response: This is not true. The Government is seriously constrained as to where it can conduct such tests, which is precisely why the creation of extended ranges is necessary. Further, the Government cannot even consider making such a decision without going through a lengthy, complex process of analyzing the potential impacts on the human environment and consulting with relevant Federal, state, and local agencies. These potential impacts, identified in the EIS, will serve as a further constraint on which alternatives it would be prudent for the Government to select. As far as the Government's responsibility is concerned, the EIS affirms the proactive measures that the Government would take to protect the public and the environment, both as a part of the proposed action and in terms of potential mitigation measures. On the other hand, should any inadvertent property damage or loss occur, the Government's responsibility for compensation is clearly outlined in the Military Claims Act and the Federal Tort Claims Act.

Comment: The Federal government has long been deceitful when asked about the risks involving nuclear, biological, and chemical experimentation in the WSMR test area. (ER-0019-19; TM-0013-2))

Response: Sometimes for national security purposes, WSMR is not always able to release precise details to the public regarding its tests. While some members of the public may perceive the risks from these tests to be greater than that acknowledged by the Government, the policy of WSMR is to keep risks to the public and to WSMR personnel to an absolute minimum. The fact that not one single individual has ever lost his or her life as a result of missile launching at WSMR attests to its commitment to aggressively manage potential risks.

Comment: I am submitting this flyer asking for people to write letters against the proposed TMD test activities. (EM-0013-1)

Response: Thank you for your comment.

Comment: There are mixed feelings in the community that range from people feeling angry to unsure to scared. (TS-0013-1)

Response: The Army believes that information and disclosure are the best means to prevent undue concerns. One of the primary purposes of preparing an EIS is to make sure that the public has an adequate opportunity to understand the actual nature of a proposed action and its potential environmental impacts. While the Army believes the analysis in the EIS indicates that there is no reason for alarm in the Shiprock community regarding the WSMR alternative, it is still up to each individual to determine what aspects of the proposal are a source of concern. The EIS process then provides an opportunity for the public to share those concerns in writing or in public hearings such

as that held in Shiprock. The Army would like to reassure the commenter that these concerns have been listened to and will be considered in the decision-making process.

Comment: The Army and the missile base have been around Green River for a very long time, and they have shown themselves to be very environmentally responsible. (TM-0005-4)

Response: Thank you for your comment.

Comment: The spirituality of the area is fragile just like the actual ecosystem. (TM-0018-1)

Response: The Army has heard expressions from both Anglo and American Indian perspectives regarding the spiritual nature of many areas along the proposed overland flight corridors. While the environmental impact assessment process is not equipped to address this issue, the Army is not unmindful of the beauty and tranquility of resources such as national parks and the need to protect them. The proposed action and proposed mitigations outlined in the EIS are designed to avoid or prevent significant impacts on resources such as air, water, geology, landscape, and noise level that contribute to the feeling of spirituality that individuals experience in these areas.

Comment: How can the public trust the Army to live within their commitment to compensate landowners adequately and abide by their 10-year schedule of launches? (TGQ-0022)

Response: Compensation for landowners who are asked to evacuate their homes would be negotiated ahead of time in written agreements that are enforceable by law. If the compensation is deemed not adequate, the landowner is under no obligation to sign an agreement. Trust is more of an issue when discussing compensation for inadvertent or unplanned damage because it would involve filing a claim. The Army believes it is in its own best interests to operate the proposed program in a safe, fair, and equitable manner.

With regard to the anticipated 6-year schedule for the extended-range tests, the need for an improved theater missile defense capability is urgent. The Army's interest is in seeing these tests conducted as quickly as they can safely be accomplished, not in dragging them out. The incentive is to do them in less than 6 years, not more. While it may be difficult for some to trust the Army's intentions, the primary motivation is not to conduct tests for their own sake but to complete them as soon as is possible so that a field-ready system can be available for deployment to protect our troops, as well as our friends and allies.

Comment: The Army cannot alter the fact that launching missiles over Canyonlands National Park and clearing out the park will result in a loss of freedom for U.S. citizens and visitors to this country. Removing our freedom cannot be tolerated by the citizenry. (MW-0081-8)

Response: The proposed action does not require people to leave the Canyonlands National Park. The primary impact on Canyonlands National Park is the potential for infrequent, well-publicized road closures that would temporarily restrict access to portions of the park. As a proposed mitigation, the Army would try to schedule launches during non-peak use periods so the fewest possible number of individuals would be affected. Even so, the Army does not take these impacts lightly and concluded in the EIS that potential restrictions on access to Canyonlands National Park constitute a significant impact.

Comment: The Army cannot afford the negative public relations impact of this proposal; kill the project while there is still time. (MW-0098-4)

Response: The Army wishes to maintain as positive a relationship with the public as it can, particularly in the communities where it operates. However, when the Army is charged with fulfilling a Congressional mandate such as the one that led to the proposed extended-range tests, it cannot choose its actions purely on the basis of perceived public acceptability.

Comment: What is The Earth Technology Corporation that received so many oral communications in this paper? (EU-0014-3; MW-0107-23)

Response: The Earth Technology Corporation is an environmental services firm under contract to the USASSDC to assist in the preparation of the EIS.

Comment: Have you asked yourself what it is that you are here for? Is this God's plan or yours? (MW-0112-8)

Response: Everyone must answer this question for him or herself as an individual. With respect to the proposed action, we have not addressed this specific issue.

Comment: The people that spoke at the Ramah public hearing did not represent everyone who lives in the Candy Kitchen Ranch. (MW-0120-3)

Response: Thank you for your comment.

Comment: The displacement of people from their homes could be considered a Fifth Amendment "taking." The Draft EIS says that agreements are in place. Are there agreements on the possibility of the damage to the property of the displaced residents? (MW-0206-6)

Response: Evacuations would be accomplished voluntarily through land use agreements that provide compensation. The agreements that are already in place, referred to in the EIS, are for people living around WSMR. These agreements are not in place for proposed evacuation areas outside of the WSMR area. Compensation for damage, should it occur, is handled through a claims process that evaluates the loss on a case-by-case basis.

Comment: As a consequence of the Gulf War, missile shots evoke harmful visions and fear in the minds of the public. This fear of harm and environmental impacts is exacerbated by the proposed use of off-range sites for test activities. The fact that these missiles are perceived to be inaccurate also concerns the public. (MW-0214-1; MW-0214-2)

Response: The Army believes that information and disclosure are the best means to prevent undue concerns. One of the primary purposes of preparing an EIS is to make sure that the decision maker and the public have an adequate opportunity to understand the actual nature of a proposed action and its potential environmental impacts. While the Army believes the analysis in the EIS indicates that injury or death from the proposed action is an extremely unlikely occurrence, it is still up to each individual to determine whether the proposed action is a source of concern or not. The Army can only hope that the information and analysis presented in the EIS will serve to dispel some of the fearful images that may have been created.

Comment: On p. 2-55, the diagram shows missiles aimed directly at the city of Alamogordo. At the onset of missile testing at WSMR, a "stray" missile landed in a school room in Alamogordo and in Juarez, Mexico. This Draft EIS gives the impression of insensitivity to local history. (MW-0214-4)

Response: The maps in the written document are two-dimensional. Therefore, if one assumes that the missiles are flying in a horizontal line, it would appear that the target missile is "aimed" at Alamogordo. The text of the EIS explains, however, that the target missile would enter the WSMR at a fairly steep trajectory, meaning it is pointed at WSMR and nothing else. If in fact a target missile were not intercepted, its momentum would carry it onto WSMR.

Comment: New Mexico proper, WSMR, and the part of Fort Bliss in New Mexico are no longer remote locations. Housing developments exist where none did before. Roads and highways are more heavily used than ever before. (MW-0214-6)

Response: Analysis of the potential impacts on human safety and transportation are based on recent information that takes into account up-to-date census data. While these areas are not as remote as they used to be on an absolute scale, they are still sparsely populated relative to other areas of the country.

Comment: Not enough data is provided on p. 4-278, Section 4.6, to be able to assess the veracity of this statement. (MW-0214-45)

Response: Thank you for your comment.

Comment: There is great potential for conservation of natural resources (p. 4-278, Section 4.7) if range expansions and off-range sites are not used. (MW-0214-46)

Response: Thank you for your comment.

3.2 EGLIN AIR FORCE BASE CANDIDATE TEST AREA (DRAFT EIS)

3.2.1 POLICY

Comment: It has been suggested that the PATRIOT missiles used in Desert Storm were a dismal failure but that the TMD Extended Test Range program, which includes PATRIOT missiles, is now deemed safe; this assumption is based on a study done over 20 years ago. (TW-0018-1; TW-0018-2; TW-0020-2; EW-0002-1; EW-0002-2)

Response: Your comment on the failure of an older version of the PATRIOT missile used in Operation Desert Storm has been noted; however, the intercept accuracy of the older system during battlefield conditions and the potential for an environmental impact from hazardous materials in the proposed missile systems during research and development flight testing are independent considerations. The NASA Environmental Assessment completed in 1973 was cited because the missile systems analyzed in that document are very similar in size and type of material to the proposed systems and because the analysis included launches from Eglin AFB. More recent environmental evaluations of missile system components such as the Strategic Target System and the Space Shuttle were also reviewed and have been cited in the Draft EIS. Both of these missiles systems are significantly larger than the interceptor missiles proposed for launch from Eglin AFB; therefore, the potential impacts associated with these larger systems cannot be appropriately correlated to the proposed action for many resource areas.

Comment: I would like to have peace in the world and not attempts to destroy it. (TW-0012-1)

Response: Thank you for your comment.

Comment: The TMD program is not economically feasible for the country when the U.S. budget is so unbalanced that a tax on food stamps is being considered to bring in revenue. (TW-0018-4; EW-0002-4)

Response: The U.S. budget is a matter of national policy and is therefore beyond the scope of this document.

Comment: There is little doubt the U.S. Government must continue development of the TMD program. (TW-0017-2)

Response: Thank you for your comment.

3.2.2 PROGRAM

Comment: The TMD Extended Test Range program will aid and enhance the use of the facilities at Eglin AFB and the surrounding area, and we support TMD Extended Test Range activities at Eglin AFB; we believe that there would be minimal environmental impact from TMD Extended Test Range activities. (TW-0001-1; TW-0002-1; TW-0003-1; TW-0004-2; TW-0005-1; TW-0005-2; TW-0006-1; TW-0006-2; TW-0007-1; TW-0008-1; TW-0009-1; TW-0014-1; TW-0015-1; TW-0015-2; TW-0015-3; TW-0016-1; TW-0017-1; TW-0017-3; TW-0019-2; TW-0019-4; TW-0022-1; TW-0022-4; TW-0024-1; TJ-0003-2; TJ-0006; EW-0003-1; EW-0004-1; EW-0005-1; EW-0006-1; EW-0007-1; EW-0008-1; EW-0011-1; EW-0012-1; EW-0013-1; EW-0015-1; EW-0016-1; EW-0017-1; EW-0018-1; EW-0019-1; EW-0020-1; EW-0021-1; MF-0001-1; MF-0001-2; MF-0003-1; MF-0004-1; MF-0005-1; MF-0006-1; MF-0007-1; MF-0009-1; MF-0010-1; MF-0011-1; MF-0011-2; MF-0012-1; MF-0013-1; MF-0018-1; MF-0019-1; MF-0020-1; MF-0021-1; MF-0022-1; MF-0023-1; MF-0024-1; MF-0025-1; MF-0026-1; MF-0027-1; MF-0028-1; MF-0029-1; MF-0030-1; MF-0031-1; MF-0032-1; MF-0033-1; MF-0034-1; MF-0035-1; MF-0036-1; MF-0037-1; MF-0038-1; MF-0039-1; MF-0040-1; MF-0041-1; MF-0042-1; MF-0043-1; MF-0044-1; MF-0045-1; MF-0046-1; MF-0047-1; MF-0048-1; MF-0049-1; MF-0050-1; MF-0051-1; MF-0052-1; MF-0053-1; MF-0054-1; MF-0055-1; MF-0056-1; MF-0057-1; MF-0058-1; MF-0059-1; MF-0060-1; MF-0061-1; MF-0062-1; MF-0063-1; MF-0064-1; MF-0065-1; MF-0067-1; MF-0068-1; MF-0069-1, MF-0070-1; MF-0072-1; MF-0073-1; MF-0075-1; MF-0075-2; MF-0075-3; MF-0076-1; MF-0077-1; MF-0078-1; MF-0079-1; MF-0080-1)

Response: Thank you for your comment.

Comment: Locating TMD Extended Test Range activities at Eglin AFB would greatly enhance logistics and communications through close proximity to the program office in Huntsville, Alabama. (MF-0005-2)

Response: Thank you for your comment.

Comment: What type of seekers will be used on the offensive missiles? (TJQ-0003)

Response: The types of "seekers" that will be used on each of the missile systems have not been determined. Several types, including those that look for metal reflection, radar cross section, and infrared light from heat-emitting sources are being considered. Any of these types, or a combination of more than one type, may be used.

Comment: Locating the TMD Extended Test Range program at Eglin AFB would enable the Army to better utilize the assets dedicated to defense while with complementing the TMD Extended Test Range program at White Sands Missile Range. (MF-0005-4)

Response: Thank you for your comment.

Comment: Eglin AFB has a strong existing infrastructure in place that can only strengthen its support to the military, commercial, and civil users. (EW-0008-2)

Response: Thank you for your comment.

Comment: Which sea test ranges would be used for test activities and how long they might be closed. (TJ-0001-3)

Response: Any or all of Eglin's water test ranges as shown on p. 2-64 in the Draft EIS could be scheduled during a specific TMD Extended Test Range mission. Total closure times for over-water test areas would not likely exceed 4 hours. Additionally, it is not expected that all of the scheduled water test areas would require complete evacuation. Some boat traffic could be allowed while satisfying all safety requirements.

Comment: The TMD Extended Test Range program would require that a launch schedule be a part of the budget activities; why is a schedule not available now? (TJ-0001-4)

Response: The upcoming Record of Decision will identify which, if any, of the candidate ranges can be used for TMD Extended Test Range testing. Until that time, meaningful site-specific schedules cannot be developed.

Comment: There are other launch sites available to the Department of Defense where missile launches can be conducted with no threat to the population. These sites include WSMR, Vandenberg AFB, and China Lake Missile Range. (MF-0016-3)

Response: Initially, 11 candidate test ranges were considered for TMD Extended Test Range testing. A brief synopsis of the criteria used to evaluate test ranges is contained in Section 2.5 of the Draft EIS. There are four candidate test area alternatives still under consideration:

- WSMR, New Mexico
- Eglin AFB, Florida
- Kwajalein Missile Test Range, U.S. Army Kwajalein Atoll (USAKA), Republic of the Marshall Islands
- Western Range, California (including Vandenberg AFB)

No single test area is expected to satisfy all test objectives, in which case some combination of test range areas would likely be required. As individual TMD systems mature to the point of defining specific flight/intercept requirements, the most appropriate test range area(s) capable of meeting test requirements can then be identified.

Comment: Eglin AFB has two of the finest facilities in the country that conduct non-destructive laboratory testing of missile and weapon systems without the necessity for flight tests. (TW-0023-1; TW-0023-2)

Response: At some point before deployment of a system intended to intercept missiles, flight testing is essential.

Comment: The extensive over-water test range that is part of Eglin AFB would be ideal for the TMD Extended Test Range program because of Eglin AFB's complete array of test capabilities and long and distinguished history of handling complex weapons tests in the Gulf of Mexico. (TW-0004-3; EW-0013-2)

Response: Thank you for your comment.

Comment: The military has been cooperative with area fishermen in order to do its job with the least amount of inconvenience to the fishermen. The military has always given advance notice and has been courteous and professional. (TW-0013-1; EW-0009-1)

Response: Thank you for your comment.

Comment: We are against the TMD Extended Test Range program and suggest that the no-action alternative be chosen as the correct alternative. (TW-0011-1; TJ-0001-9; EW-0010-1; MF-0014-1; MF-0015-1)

Response: The purpose of the EIS process is to identify environmental issues, analyze impacts, inform the public, and solicit participation from the public and agencies. All foreseeable environmental impacts, as well as agency and public input, will be considered in the decision whether or not to proceed with TMD Extended Test Range testing.

Comment: Since the military is totally dependent on various private contractors of various multinational affiliations, safety cannot be guaranteed or expected. Graft and corruption by the U.S. military contractors must be corrected by formulating and adopting clear guidelines for the meaningful oversight of military contractors. (TW-0011-2; EW-0010-2)

Response: U.S. laws and the DOD regulations governing the contracting and oversight of private contractors are not part of the NEPA process for which this EIS has been prepared.

Comment: The Kwajalein Missile Range alternative would be more suitable for test activities than the Eglin AFB alternative. (TW-0021-4)

Response: No single test area is expected to satisfy all test objectives, in which case some combination of test range areas would likely be required. As individual TMD systems mature to the point of defining specific flight/intercept requirements, the most appropriate test range area(s) capable of meeting test requirements can then be identified.

Comment: The TMD Extended Test Range program requires an all-weather test capability, and the weather in the Eglin AFB area is more conducive to test activities than weather to be expected in the areas of the other test ranges. (TW-0003-2)

Response: Weather was one of the factors already taken into consideration in narrowing down to the four alternatives evaluated in the EIS.

Comment: Where would ships be based that are used for the sea-based launch platform for any Eglin AFB-related launch? (TWQ-0002)

Response: Only one Missile Launch Ship would be required for the proposed action. It has not been determined where this ship would be ported or loaded for any of the candidate sea-launched target sites. Supplemental environmental documentation, if necessary, will be completed for the Missile Launch Ship if sea launches are part of the Record of Decision.

Comment: How are the site locations determined for the TMD Extended Test Range activities? Are losses due to the cutback in military strength a factor in the decision to consider Eglin AFB and other locations for potential test sites? (TWQ-0012)

Response: As discussed on pages 2-95 and 2-96 of the Draft EIS, 11 candidate test range areas were initially considered for TMD Extended Test Range activities. Eglin AFB and the other three alternative candidate test ranges were retained for further consideration because of their better overall ability to meet the TMD test requirements. DOD cutbacks were not a site-selection criterion in the evaluation of potential extended test ranges.

Comment: What are the TMD Extended Test Range plans after the year 2000? (TJQ-0007)

Response: Reasonably foreseeable TMD Extended Test Range activities would decline after the year 2000.

Comment: Would you characterize the negative effects of the TMD Extended Test Range program as minimal or substantial or in some other manner? (TJQ-0010)

Response: The environmental effects of Federal actions are typically not evaluated in terms of minimal or substantial. The CEQ regulations (40 CFR 1508.27) for implementing the procedural provisions of the NEPA use the term "significantly" in determining the degree to which Federal actions may adversely affect the environment. Table ES-1 on page S-4 in the Executive Summary of the Draft EIS lists the significance of environmental consequences by resource area for all of the potential alternatives considered in the proposed action.

Comment: When will construction and preparation of the Cape San Blas site begin? (TJQ-0011)

Response: The Record of Decision will determine which sites, if any, will be used for TMD Extended Test Range activities. Until this decision is made, no construction or site preparation at Cape San Blas or any of the other sites evaluated exclusively in the TMD Extended Test Range Draft EIS would be initiated.

Comment: What is the target date for moving personnel into the area for test activities? (TJQ-0012)

Response: For planning purposes, the initial TMD Extended Test Range intercept tests are expected to take place in fiscal year 1995; however, no decision has been made at this time. In addition, personnel brought in for the tests would not move into the area permanently. They would be brought in periodically and stay only for the duration of the test activities.

Comment: What is the extent of evacuation plans for the St. Joseph Peninsula? (TJQ-0013)

Response: No evacuation of the St. Joseph Peninsula would be required for TMD Extended Test Range interceptor launches from Cape San Blas.

Comment: How does the Army propose to notify an estimated 94,346 visitors of the closure of SR 30 during one of its test periods? (TJQ-0015)

Response: Closure of SR 30E would be conducted by Eglin AFB using local law enforcement authorities for TMD Extended Test Range launches from Cape San Blas. Eglin AFB currently has procedures in place and routinely conducts road closures on its test ranges. A public notification

plan specifically for the closure of SR 30E will not be developed until a determination is made to use this site for TMD Extended Test Range test activities.

3.2.3 AIR QUALITY

Comment: Aluminum oxide and hydrogen chloride might be distributed over the water and land. (Attached material indicates a concern about stratospheric ozone depletion.) (MF-0014-2)

Response: As discussed in Section 4.1.1.1 (and documents referenced therein), it is well established that aluminum oxide is essentially nontoxic, and thus its only potential for environmental impact, in terms of air quality, is as dust. The analysis described in Section 4.1.1.1 finds that the expected ambient air concentrations of aluminum oxide predicted to result from potential TMD Extended Test Range activities are well below the health-based guidance levels for dust. Consequently, as discussed in sections 4.2.1.1, 4.2.2.1, 4.2.3.1, and 4.2.4.1 of the Draft EIS, impacts expected from proposed TMD Extended Test Range missile launches at the Eglin AFB Candidate Test Area are not significant.

As discussed in sections 4.1.1.1, 4.2.1.1, 4.2.2.1, 4.2.3.1, and 4.2.4.1 of the Draft EIS, ambient air concentrations of hydrogen chloride from proposed TMD Extended Test Range activities at the Eglin AFB Candidate Test Area are below health-based guidance levels and thus are expected to be not significant.

As discussed in Section 4.1.1.1 on p. 4-18 (and the document referenced therein), the effects of chemical rocket propulsion worldwide (including the release of hydrogen chloride into the stratosphere) were found to be extremely small relative to other anthropogenic impacts; therefore, the much smaller amount that would potentially be produced by proposed TMD Extended Test Range activities is expected to be not significant.

3.2.4 AIRSPACE

Comment: I intend to reactivate a 3,000-foot airstrip located on private property that abuts the proposed Cape San Blas launch site. The airstrip is a short distance from the launch site. Also on the same private property within an extremely short distance from the launch site is a 110-foot-high fire tower. (MF-0015-4)

Response: There are procedures in place at Eglin AFB to compensate property owners for any physical damage resulting from its activities, though this is highly unlikely for property outside of the LHA.

3.2.5 BIOLOGICAL RESOURCES

Comment: The TMD Extended Test Range program should provide a net positive benefit for threatened and endangered species on Santa Rosa Island because testing designates part of the island as a closed or restricted area with no access allowed to the general public. Without some new test activity in the area, Eglin AFB may have no reasonable justification for continuing to bar access to the public. (TW-0010-3; EW-0014-2; EW-0014-3)

Response: Thank you for your comment.

Comment: St. Joseph's Bay is the highest salinity bay in the entire Gulf coast and supports a unique community of sea life; this resource deserves better attention than what was given in the EIS. Have the preparers of the EIS communicated with the manager of the St. Joseph Bay Aquatic Preserve and the Department of Environmental Protection with respect to plans within the aquatic preserve? (TJ-0001-5; TJ-0001-6; TJ-0001-7; TJ-0002-3; MF-0015-8)

Response: Yes, the Florida Department of Environmental Protection and the St. Joseph Bay Aquatic Preserve have been contacted, the proposed testing has been discussed, and *St. Joseph Bay Aquatic Preserve Management Plan* has been reviewed.

Comment: The proposed Cape San Blas launch site is within 500 ft of a tidal pool within the St. Joseph Aquatic Preserve that is governed by the Department of Environmental Protection. (TJ-0002-2)

Response: Discussions with the U.S. Fish and Wildlife Service and the Florida Department of Environmental Protection have taken place. As stated in Appendix B of the Draft EIS, page B-3, as the planning for specific test programs is conducted, additional environmental analysis and documentation will be conducted. This will include consultation with the U.S. Fish and Wildlife Service and Florida Department of Environmental Protection to identify any site-specific mitigation measures required.

Comment: I own property that abuts the proposed Cape San Blas launch site, and I am familiar with a number of endangered species within the region of influence that were not addressed in the EIS. (MF-0015-9)

Response: Biological resources and endangered species on Cape San Blas are discussed in the Draft EIS on pp. 3-135 through 3-137 and pp. 4-140 through 4-142. Biological resources are also discussed in Volume II of the Draft EIS, pp. G-20 through G-27. Sensitive species are identified in tables G-9 and G-10 of Volume II. All endangered species known or expected at Cape San Blas were addressed in the Draft EIS. Federal and state regulatory agencies were contacted to review the Draft EIS, including the lists of threatened and endangered species in Appendix G. Appendix H contains a record of preliminary agency consultation. In addition, follow-on consultation with appropriate agencies will be required prior to the use of the selected extended test range(s) by any specific TMD program.

Comment: Is there any correlation between the marked increase in dolphin deaths this past year and Eglin AFB tests already being conducted in the Gulf of Mexico? (TW-0018-3)

Response: There is no known correlation between dolphin deaths in the Gulf of Mexico and the test activities at Eglin AFB.

3.2.6 CULTURAL RESOURCES

Comment: I have the largest complex of Indian mounds on the entire gulf coast on private property adjacent to the proposed Cape San Blas launch site; this was not discussed in the EIS. (MF-0015-5; MF-0015-6)

Response: The potential for artifact collection by any visitors to an area is a well-recognized fact, whether they are recreational visitors or government employees. In Section 4.2.2.4, p. 4-144, the Draft EIS simply identifies that potential and recommends as a mitigation that those persons associated with the testing be made aware of the law and possible penalties for collecting artifacts

from Government lands or trespassing on private property. The probability of falling debris constituting ground-disturbing action or a test-induced fire damaging the mounds is deemed to be extremely low.

3.2.7 GEOLOGY AND SOILS

No comments were received regarding geology and soils for this candidate test area.

3.2.8 HAZARDOUS MATERIALS AND WASTE

Comment: We are concerned with the use of depleted uranium in previous test activities at Eglin AFB and the use of it in future test activities. (TW-0020-3; TW-0020-4; TW-0021-1; TWQ-0008)

Response: There are no known sources of depleted uranium in the target or interceptor missiles. If the use of depleted uranium is proposed for later test activities, separate or supplemental environmental analysis would be required to evaluate the potential impact.

Comment: What chemicals or other debris will be left in the water from test activities? Will any be left in the air or on the ground? (TWQ-0004)

Response: Virtually no chemicals would be deposited in the ocean from successful testing of either defensive or target missiles. Missile component debris that would fall into the water includes various types of metals, plastics, and rubbers. These materials are discussed in Section 4.2.4.6 of the Draft EIS starting on p. 4-168. Rocket motor combustion products and their potential effects on ambient air quality are provided on pp. 4-9 through 4-16 in the Draft EIS. Minor amounts of aluminum oxide and hydrogen chloride may be deposited on the ground, depending on atmospheric conditions at the time of launch; however, the impact of this deposition was determined to be not significant.

3.2.9 HEALTH AND SAFETY

Comment: My family lives on the mainland directly north of the proposed TMD Extended Test Range launch site A-15 on Santa Rosa Island, and I would have no problems with missiles being launched there. (TW-0019-1)

Response: Thank you for your comment.

Comment: I object to the proposed Cape San Blas launch site because of concerns for the safety and protection of human life as well as personal and real property. (MF-0016-1)

Response: As discussed in sections 4.1.1.7, 4.2.1.7, and 4.2.2.7 of the Draft EIS, determination of potential safety hazards would be a primary portion of the approval process required for each proposed TMD Extended Test Range operation. The responsibility of health and safety for testing at Eglin Test Site D-3 at Cape San Blas lies with the Eglin Range Safety Office. This office is responsible for performing a risk assessment and hazard analysis of every test activity that is conducted on the Eglin ranges. For each missile test, the launch hazard area and cleared water areas will be designed to contain all test debris and prevent any injury to humans; the estimated maximum extent of each of these is shown in the Draft EIS.

Comment: Accidents do happen in test activities, and they will occasionally result in deaths to humans. It is inappropriate to talk about these accidents in terms of one in a million or some similar statistics, and the Draft EIS treats these dangers very lightly. (MF-0002-6; TW-0020-1)

Response: Methods for expressing accident occurrence are in terms of occurrence probability the likelihood of an event or accident to happen; however, in assessing potential safety impacts, consideration is given not only to occurrence probability but also to the magnitude of any potential effect which could be produced as a result of an event or accident. The greater the potential effect, the lower the maximum occurrence probability which would be considered acceptable. Thus, the significance of a safety hazard as presented in this EIS is not based solely upon an occurrence probability determination.

If the Eglin AFB candidate test area is identified as a site for TMD Extended Test Range test activities in the Record of Decision, further assessment of risk and a hazard analysis will be performed by the Eglin Range Safety Office to identify sources of risk, determine the probability of occurrence, and design and implement mitigation measures. This assessment will be based on the specific systems under test and the scenarios involved. Only testing that meets Eglin's rigorous safety requirements will be conducted.

Comment: Can the military guarantee that missile debris will not fall on populated areas? Can the military guarantee that it will be able to destroy the target missile or that it will fall short into the water before it impacts populated areas? What if the interceptor misses the target missile? Where would the target land? Would it come all the way onto the land? (MF-0016-2; TJQ-0001)

Response: All of the testing under study in the EIS for possible conduct at Eglin AFB is based on all missile intercepts occurring over the Gulf of Mexico within designated water test areas. The ability of safety systems, especially the flight termination system, to prevent accidental impact of missiles or missile debris onto any land areas has been evaluated. It is concluded that although the certainty that such an accident cannot occur is not absolute, it is considered remote enough that the occurrence is not considered probable. Test-specific safety analysis will address all sources of risk, including those you mentioned: missile debris, flight termination system reliability, and target missile trajectory.

Comment: Can the offensive or defensive missile possibly lock on a false target such as a fishing ship? (TJQ-0002)

Response: No. The target acquisition systems are designed such that this will not happen. Moreover, ships and aircraft will be verified clear of the flight corridor to meet other safety criteria.

Comment: I work for a contractor currently involved at the proposed Cape San Blas launch site, and the company presently at the site conducts business in a very safety-conscious manner with many safety features built into its operations. (TJ-0005-1)

Response: Thank you for your comment.

Comment: Eglin AFB is well known for its safe and environmentally acceptable operations and has operated as a missile test facility for many years without significant environmental impacts. (TW-0003-3; TW-0004-5; TW-0010-2; EW-0008-3; EW-0012-2; EW-0014-1)

Response: Thank you for your comment.

Comment: If a missile fired from Cape San Blas starts immediately to go awry and must be aborted when it is only a few hundred feet up above the launch site, how far will the debris from the exploded missile be spread across the adjacent area? (MF-0066-1)

Response: A wide variety of factors are used in the determination of LHAs and downrange safety areas, including missile trajectory and speed, type of abort/accident, mid-air termination point, and, in some cases, weather conditions. The planning LHAs analyzed in the EIS have been developed based upon the envelope of proposed flight scenarios and the performance criteria for TMD flight systems as well as site-specific safety and resource considerations and thus represent the extent of the area where debris might be allowed to impact. For each specific test mission, LHAs will be established to contain all missile debris resulting from a mishap, including the circumstance you referenced flight termination of the interceptor missile immediately after launch. Prior to and during the tests, these areas will be verified clear of all nonessential personnel in order to prevent injury to individuals.

Comment: There could be a serious safety problem if a missile crashed into one of the buildings on Eglin AFB that contains methylene chloride. (TW-0011-3)

Response: The LHA, as shown on p. 2-61 in the Draft EIS for launch site A-15 on Santa Rosa Island, is defined to contain all debris resulting from a failed/aborted missile launch. There are no buildings or storage tanks containing methylene chloride within the proposed LHAs. In the unlikely event that any hazardous materials are released, the situation will be handled in accordance with established operating procedures.

Comment: TMD Extended Test Range activities can be performed at Eglin AFB without any compromise of public safety or the environment. (TW-0004-4; TW-0022-2; EW-0013-3)

Response: Thank you for your comment.

Comment: We are confident that safety will be a primary consideration for TMD Extended Test Range activities in the Eglin AFB test area. (MF-0003-2; MF-0004-2; MF-0006-2; MF-0007-2; MF-0010-2; MF-0012-2; MF-0013-2; MF-0018-2; MF-0019-2; MF-0020-2; MF-0021-2; MF-0022-2; MF-0023-2; MF-0024-2; MF-0025-2; MF-0026-2; MF-0027-2; MF-0028-2; MF-0029-2; MF-0030-2; MF-0031-2; MF-0032-2; MF-0033-2; MF-0034-2; MF-0035-2; MF-0036-2; MF-0037-2; MF-0038-2; MF-0039-2; MF-0040-2; MF-0041-2; MF-0042-2; MF-0043-2; MF-0044-2; MF-0045-2; MF-0046-2; MF-0047-2; MF-0048-2; MF-0049-2; MF-0050-2; MF-0051-2; MF-0052-2; MF-0053-2; MF-0054-2; MF-0055-2; MF-0056-2; MF-0057-2; MF-0058-2; MF-0059-2; MF-0060-2; MF-0061-2; MF-0062-2; MF-0063-2; MF-0065-2; MF-0069-2; MF-0072-2; MF-0073-2; MF-0077-2; MF-0078-2; MF-0079-2; MF-0080-2)

Response: Thank you for your comment.

Comment: There was no risk assessment completed in the EIS specifically concerning Eglin AFB. (TW-0021-2)

Response: Computer modeling of risk associated with debris impacts was not performed for either the Eglin AFB or Western Test Range candidate test areas because all populated areas are outside the potential debris impact areas resulting from either normal or accident-case test operations. It is expected that additional risk assessments may be performed as defensive missile test programs are further developed and test locations are selected.

Comment: Has a probability risk assessment been made regarding the chances of missiles detonating on land or striking residences or other objects or the program impacting tourism in the area? Will you provide the results of any of these studies to the public? (TWQ-0005)

Response: A risk assessment of target missiles launches from the GRLC and FWDA is provided in Appendix I in the Draft EIS. These sites were analyzed because flight trajectories would be over populated areas. As shown in the risk assessment for the launch of one type of defensive missile, based on the most conservative flight-failure input parameters, there is no likelihood that defensive missile debris could fall outside of the LHA away from, or behind, the intended trajectory. Therefore, computer models were not run for this defensive missile system specifically for the Eglin AFB and Western Test Range candidate test areas because all populated areas are outside of the potential debris impact area that could result from an in-flight failure. It is expected that additional risk assessments may be conducted when other defensive missile systems are further along in design development and when launch sites have been selected.

Insufficient data exist to quantitatively evaluate the effects of missile launches on tourism; however, at launch sites such as Cape Kennedy, WSMR, Vandenberg AFB, and the Pacific Missile Range Facility, there is no known evidence of a decrease in tourism, and at some sites tourism has clearly increased when the general public is allowed to view launches.

Comment: There is a minimal amount of ship traffic and commercial air traffic within the proposed test range. (MF-0005-3)

Response: Thank you for your comment.

Comment: A great deal of concern is expressed for the birds and the plants, but a small degree of concern is expressed for people in the areas that would be affected. (MF-0002-1)

Response: To the extent that people in the region of influence might be impacted, the potential significance of all effects associated with proposed actions has been evaluated in the Draft EIS. Most of the extended-range alternatives would utilize DOD lands or open ocean areas that are not permanently populated and where transient people could be regulated with minimal impact. The location of fauna and flora, on the other hand, cannot be regulated; therefore, there is generally a greater potential for them to be affected, which is why there is substantial evaluation of the potential effects on birds and plants in the Draft EIS.

Comment: What means would be used to destroy errant missiles, if any? (TWQ-0003)

Response: As discussed in sections 2.1.1.1 and 2.1.1.3 of the Draft EIS, each target and defensive missile will be equipped with a flight termination system. Missile flight paths are constantly monitored to insure proper trajectory. Depending on the type of flight termination system used, missiles could be destroyed manually, automatically, or by either method if the missile deviates from the proper flight path.

3.2.10 LAND USE

Comment: I own property abutting the proposed Cape San Blas launch site, and a substantial portion of the property is encompassed in the nominal LHA. (MF-0015-2)

Response: Evacuation agreements with the owners of all land parcels in the proposed LHA would be negotiated before implementation of the proposed action if the Cape San Blas site is chosen for the program.

Comment: What area of the bay near Cape San Blas will be closed to boats and for how long? (TJQ-0006)

Response: Only that portion of St. Joseph Bay in the LHA as shown in figure 2.2-18 on p. 2-63 would be closed to boat traffic if TMD Extended Test Range launches are conducted at Cape San Blas. The closure period would be 1 hour.

3.2.11 NOISE

Comment: I own property that is entirely within the heavily weighted maximum noise level area, with a substantial portion in the 105-decibel designated area. (MF-0015-3)

Response: Based on the analysis presented in Section 4.2.2.9 on p. 4-150 of the Draft EIS, impacts expected on the property described are not significant. Significant land use impacts from noise are identified in areas receiving greater than L_{max} 110 dB.

Comment: There may be a concern on the part of people who arrive at Cape San Blas for a quiet vacation and then find that their peace and quiet is interrupted by helicopters and other test activity. (TJ-0001-2; TJ-0001-8)

Response: Because of the relatively infrequent occurrence of TMD Extended Test Range test activity that is expected, the impact is deemed to be not significant.

Comment: Noise factors have been treated very lightly, and the report treats the Santa Rosa Island site as if it were adjacent to the Eglin Reservation, this being far from the truth. It is surrounded by a heavily populated area which is growing at a fast rate. (MF-0002-5)

Response: Noise from missile launches on Santa Rosa Island would be audible in areas beyond the launch site; however, as discussed in Section 4.2.1.9 on p. 4-132 and as shown in figure 4.2-1 on p. 4-133 in the Draft EIS, noise levels causing significant land use impacts (greater than L_{max} 110 dB) would be restricted to a small portion of Santa Rosa Island and the Gulf of Mexico adjacent to the proposed launch site. No population growth is expected in this area.

As a comparison with the estimated launch noise, the A-weighted noise levels for common sounds are presented in figure 3.1-7 on p. 3-41 of the Draft EIS. As discussed on page 4-132, the maximum sound levels near the launch site would only last for several seconds and then taper off. As discussed on p. 4-134, the Occupational Safety and Health Administration (OSHA) has determined a daily exposure to noise that is considered acceptable to minimize the potential for damage to human hearing, and at 100 m (328 ft) from the launch site the noise exposure is estimated to be less than 0.4 percent of that allowed by the OSHA.

Comment: What are the planned mitigations for noise damage in the area surrounding the launch site? (TJQ-0005)

Response: Based on results on noise models, no impacts are anticipated that would require mitigation.

3.2.12 SOCIOECONOMICS

Comment: The Eglin area is not suitable for such testing that will extend over many years and would impact adversely a fast-growing population group. Take the test to an area with far fewer people, businesses, and commercial activities. (MF-0002-7)

Response: Other alternative candidate test area locations that are being considered include WSMR, the Western Range, and Kwajalein Missile Range, all addressed in the Draft EIS. Still other alternatives that were considered but eliminated from further consideration are discussed in Section 2.5 of the Draft EIS.

Comment: Jobs that the TMD Extended Test Range project would create would provide a needed boost to the local economy surrounding Eglin AFB; the economic benefits would outweigh the environmental impacts mentioned. (TW-0019-3; EW-0013-4; MF-0017-1; MF-0074-2)

Response: The number of direct and indirect jobs created by the TMD Extended Test Range program is expected to be minimal.

Comment: Although there may be slight inconveniences to some fishermen, matters of national defense and the local economic benefit, in addition to the cost savings to the Government, would by far outweigh any inconvenience to the fishermen. (TW-0013-2; EW-0009-2)

Response: Thank you for your comment.

Comment: I own private property abutting the proposed Cape San Blas launch site. Placing a large portion of my residentially taxed property under an area designated as hazardous substantially reduces its economic value without compensation; I will consider it a "taking" should test activities proceed. (MF-0015-7)

Response: Procedures are in place to compensate affected property owners. The Draft EIS states that "the Army would enter into agreements with private landowners and affected Government agencies within both the launch hazard areas and booster drop areas" (p. 2-52, paragraph 1, line 7). These agreements would be negotiated before the proposed action is implemented and before any launch hazard area or booster drop area is activated.

Comment: One accident, whatever the risk assessment may show, that causes missile debris to fall on a condominium or near a tourist attraction would cause more economic havoc than any economic benefit the TMD Extended Test Range program could possibly bring to the area. (TW-0021-3)

Response: In the extremely unlikely event of debris falling on a condominium or near a tourist attraction, the U.S. Army would be responsible for any physical property damage.

Comment: What arrangement, if any, has the government made to compensate individuals that are injured or suffer losses associated with this program. How would the USASSDC propose to compensate homeowners if paying visitors choose not to come to Cape San Blas because of the launches? (TWQ-0007; TJQ-0014)

Response: The U.S. Army would be responsible only for any direct physical property damage.

Comment: To assist local tourism, the launch schedule should be included in brochures and publications promoting business. In this way, visitors would know about launches and road closures. (EJ-0001-1)

Response: Your suggestion has been noted.

Comment: TMD Extended Test Range launch activities at Cape San Blas will seriously diminish efforts to achieve a larger tourism industry, better property, a stronger tax base, and increasing property values for the area. (TJ-0002-1; TJ-0002-5; TJ-0002-6; TJ-0003-1)

Response: Many visitors will probably not realize that missile testing takes place in the area. Some visitors, while cognizant of the test activities, will be undeterred; witness the popularity of county beaches on and adjacent to Vandenberg AFB in California. Other visitors may be concerned and may schedule their visits to avoid launch times. Only a very small number of visitors are likely to be dissuaded from visiting an area due to the fact that missile tests are conducted nearby. It is also expected that a small number of visitors would be attracted to an area just to watch missile launches. Overall, the impact from test activities on tourism, recreation, and economic development in the area is considered to be not significant.

Comment: There appears to be no concern shown for the impact on the commercial interests in the areas where tests are being considered. (MF-0002-2)

Response: Many visitors will probably not realize that missile testing takes place in the area. Some visitors, while cognizant of the test activities, will be undeterred; witness the popularity of county beaches on and adjacent to Vandenberg AFB in California. Other visitors may be concerned and may schedule their visits to avoid launch times. Only a very small number of visitors are likely to be dissuaded from visiting an area due to the fact that missile tests are conducted nearby. It is also expected that a small number of visitors would be attracted to an area just to watch missile launches. Overall, the impact from test activities on tourism, recreation, and economic development in the area is considered to be not significant.

Comment: Population and employment figures that have been considered in the Draft EIS are not accurate nor is the percentage of individuals that are considered employed by the Government. (MF-0002-3)

Response: The figures on population and employment and the percentage employed by the Government that are presented in the Draft EIS were based on the latest available published sources. Their accuracy has been checked for the Final EIS.

Comment: For an Eglin AFB launch, how many personnel are needed at the land site or based at Eglin AFB? (TWQ-0001)

Response: Section 2.2.2.1 of the Draft EIS states that for the proposed Santa Rosa Island launch site, flight preparation and testing would require up to 110 temporary military and contractor personnel for each launch. Thirty personnel would also be required to support the TMD ground-based radar (GBR) if an off-base site is identified (p. 2-58). At Cape San Blas, flight preparation and testing would require up to 140 additional temporary military and contractor personnel for each launch including 30 personnel to support the TMD-GBR (p. 2-62).

Comment: What is the economic impact of the project. (TWQ-0011; TJQ-0009)

Response: The Draft EIS addresses the issues of human economic effects on local communities, with discussions on population and employment, transient housing, and income for each of the affected locations.

Comment: Will Vitro Corporation benefit from TMD Extended Test Range activities at Eglin AFB. (TJQ-0008)

Response: The Vitro Corporation is Eglin AFB's current range support contractor. To the extent that the period of performance of its contract covers the proposed TMD Extended Test Range program's life span and to the extent that those range support and maintenance activities are required by TMD Extended Test Range activities, the Vitro Corporation would be involved.

3.2.13 INFRASTRUCTURE AND TRANSPORTATION

Comment: With one road access into and out of the St. Joseph Peninsula, the proposed road closures present a serious problem. If a medical emergency arises, how will a person get through a road closure (whether in an ambulance or in a private automobile) to get to the hospital in Port St. Joe? Who makes the decision as to allowing vehicle passage? What happens if volunteer firemen who live out on the peninsula need to respond to a fire and get to the firehouse at the time of a road closure? (MF-0066-2; MF-0066-3)

Response: As the analysis in Section 4.2.2.11 on p. 4-154 of the Draft EIS indicates, the expected impact on the local community from any road closures is found to be not significant; however, in the event of an emergency, Eglin AFB operating procedures provide for suspension or cancellation of testing to allow for the passage of emergency vehicles and personnel without delay. Local law enforcement personnel participate in all closures to public roads bisecting Eglin AFB property to facilitate quick response and communication.

Comment: The communities around Eglin AFB have adequate accommodations for any increase in temporary duty staff associated with TMD Extended Test Range test activities. (TW-0022-3; EW-0008-4)

Response: Thank you for your comment.

Comment: The present limited capacity of temporary housing in the area near Port St. Joe would be overwhelmed by TMD Extended Test Range program demands. (TJ-0002-4)

Response: Regarding the capacity of the city of Port St. Joe to temporarily house up to 140 transient personnel, as stated on p. 4-154 in the Draft EIS, it is expected that temporary personnel could be accommodated in several cities within 80 km (50 mi) of the Cape San Blas launch site with a not significant housing impact. Within this area 1,012 motel units have been identified. Additionally, numerous condominium units and single residences are typically available for short-term rental within the region.

Comment: Traffic on roads at Cape San Blas would not be delayed for extended periods. (MF-0068-2)

Response: Thank you for your comment.

Comment: A potential problem with the closure of Highway 30E at the proposed Cape San Blas launch site is that people will be arriving at the location for vacations and then find out the roads are closed. (TJ-0001-1)

Response: In the event of road closures, Eglin AFB procedures provide for coordination with local officials and the media well in advance in order to minimize the impact on the public. As stated in Section 4.2.2.11 on p. 4-155 of the Draft EIS, a mitigation for out-of-town visitors could be to avoid testing during high-traffic periods on State Road 30E.

Comment: If the only impact would be to close Highway C-30E for no more than 1 hour, I would support the program provided prior notice of road closure is given. (MF-0074-1)

Response: Thank you for your comment.

Comment: There may be concerns if test activities caused a delay in the movement of coal barges along the intracoastal waterway near Santa Rosa Island. Has the Coast Guard been consulted regarding the Intracoastal Waterway barge traffic safety in light of its handling the characteristics and hazardous material corridor? (TW-0011-4; TWQ-0010)

Response: Eglin AFB has been granted authority by the U.S. Coast Guard to prohibit navigation in the waters within a circular area 5 nautical miles in radius around launch pad A-15 to conduct intermittent test activities during daylight hours. Data are not kept on the number of private vessels using this area. The U.S. Army Corps of Engineers' most recent records (1992) indicate 6,938,000 tons of freight traffic along the intracoastal waterway between Panama City and Pensacola Bay; however, no data are available on the number of vessels.

The most recent year for which the number of vessels using the intracoastal waterway in this region was obtained is 1989. In that year, there were 5,067 self-propelled vessels pulling or towing about twice as many non-self-propelled vessels on the intracoastal waterway between Panama City and Pensacola Bay. Based on a 5-day work week, this represents an average of about 20 commercial vessels per day. Given that advance notice will be given to mariners on the periods of closure and that the closure periods will not exceed 1 hour, the potential impact on commercial marine traffic is believed to be not significant.

Comment: Traffic congestion is a way of life right now, and to indicate that movement of equipment such as you have described will not impact the local road system (in the Fort Walton Beach area) is simply false and misleading in your assumptions. (MF-0002-4)

Response: As described on p. 4-136 in the Draft EIS, the proposed activity would increase the population of Fort Walton Beach and, thus, nominal traffic by 0.6 percent. This figure includes the defensive missile system vehicles that would not be operating on public roads on a daily basis and project support personnel vehicles. This projected increase in traffic is expected to cause not significant adverse effects on existing or projected conditions.

Comment: What would happen if Highway C-30E is closed for 1 hour and problems develop with the launch and cannot be fixed within the allotted time? Would the launch be scheduled for a different day, and would the roads be closed for an extended period of time? (TJQ-0004)

Response: In the event that a launch could not be conducted within the 1-hour closure period for SR 30E, the road would be reopened at least temporarily to allow all waiting traffic to pass. The road might then be closed again one or more times depending on the specific maximum time period cleared through the U.S. Coast Guard and the Federal Aviation Administration. The maximum

cleared period has not been determined but is not expected to exceed 4 hours. After the cleared launch period, no further road closures would be conducted for a minimum of 48 hours.

3.2.14 WATER RESOURCES

Comment: Was the Ocean Dumping Act considered a potential problem area? (TWQ-0009)

Response: The Marine Protection, Research, and Sanctuaries Act of 1972 (Public Law 92-532, as amended) that regulates ocean dumping was reviewed for consistency with program activities. There is no "Ocean Dumping Act."

3.2.15 EIS PROCESS

Comment: U.S. citizens deserve a current, independent analysis of both environmental and economic impact before any more tax money is spent promoting this project. (EW-0002-3)

Response: The potential effects of the proposed TMD Extended Test Range program were based on the most recent and appropriate available data and were evaluated using industry standard techniques, following the accepted process outlined in the CEQ regulations for implementing the procedural provisions of the NEPA.

Comment: The EIS was produced to sell a product regardless of the cost to the public welfare; its purpose is self assurance and justification and not environmental concern. (MF-0015-10)

Response: Thank you for your comment.

Comment: I am impressed with the thoroughness and detail of the EIS and feel that the analysis was completed in an attempt to satisfy all concerns. (TW-0004-1; TW-0010-1)

Response: Thank you for your comment.

3.2.16 AMERICAN INDIAN ISSUES

No comments regarding American Indian issues were received for this candidate test area.

3.2.17 OTHER

Comment: I would like to receive a copy of each *Federal Register* notice that pertains to the Eglin range and the TMD response to each. (EW-0001-1)

Response: The *Federal Register* is readily available through your local public library. There are no plans, nor is there a requirement, to distribute *Federal Register* notices to private individuals.

Comment: Good luck! We need all the help we can get! (MF-0008-1)

Response: Thank you for your comment.

Comment: The use of Eglin AFB facilities would provide a defense for the panhandle of Florida against launches of Navy Tomahawk missiles. (MF-0071-1)

Response: Thank you for your comment.

Comment: I would like information regarding some damage from previous tests. (TWQ-0006)

Response: Only damage that has resulted from test flights at the proposed launch site or from launches of the proposed or similar missiles systems is considered appropriate for the evaluation of public health and safety risk. No damage has been identified as a result of previous launches at the proposed sites or from test flights of the proposed TMD Extended Test Range missile systems.

Comment: I am from the office of Congressman Peterson, and I did not come to the public hearing to make a statement but to get information on the concerns of the citizenry and how those concerns are being addressed. (TJ-0004-1)

Response: All comments received regarding the TMD Extended Test Range Draft EIS have been responded to in this final document.

3.3 WESTERN RANGE CANDIDATE TEST AREA (DRAFT EIS)

3.3.1 POLICY

Comment: Star Wars was a waste of time and money from the first day it was conceived. (MC-0049-2)

Response: Thank you for your comment.

Comment: I do not understand the purpose of the TMD Extended Test Range program. (TO-0003-1)

Response: As described on p. 1-2 of the Draft EIS, the purpose of the TMD Extended Test Range program is to provide realistic test situations for proposed TMD systems. To test against threat-representative target missiles requires missile flights over distances which are unattainable within the boundaries of most existing ranges.

Comment: The overall TMD program would aid in maintaining a base for future missile defense systems if needed in a time of national emergency; we support the overall policy of defense testing. (EO-0003-3; MC-0010-3; MC-0023-2; MC-0037-7)

Response: Thank you for your comment.

Comment: The overall TMD program is a defense issue and not an economic issue; continuation of the program is necessary because of the failure of previous missile systems. (TL-0024-1)

Response: Thank you for your comment.

Comment: Missiles used in the TMD Extended Test Range activities are short-range missiles with less than a 100-mile range; the military applicability, usefulness, and timely readiness of such a system presents itself as highly questionable. (MC-0012-5)

Response: As described in Section 2.1.2.1 on p. 2-20 of the Draft EIS, the defensive missile payloads may reach altitudes and ranges in excess of 100 km (62 mi). These would be flown on trajectories designed to intercept target missiles, which would have ranges of less than 500 km (310 mi), because of treaty constraints. These "short-range" missiles are considered more than sufficient for the purpose of intercepting hostile theater missiles.

Comment: The waters off the coast of California have been used for testing for nearly 50 years. (MC-0037-1)

Response: Thank you for your comment.

Comment: Current restrictions on the use of waters at San Clemente Island are resulting in more days of lost fishing/diving due to increasing military operations. (MC-0043-3)

Response: The proposed action would result in a not significant increase of such restrictions.

Comment: We members of the San Diego Urchin Producers Association are ordered by the military to move our boats at random and during non-daylight hours without prior notice. (MC-0043-4)

Response: Although the proposed action would not contribute significantly to the number of closures or restrictions, it is apparent that better coordination is needed among military schedulers, security boats and helicopters, and private fishing vessels.

Comment: Frequently, fishing vessels arrive at San Clemente Island and are not allowed to enter their planned safe anchorage due to surprise or prolonged military operations. This places boats and crews in jeopardy. (MC-0043-5)

Response: Although the proposed action would not contribute significantly to the number of closures or restrictions, it is apparent that better coordination is needed among military schedulers, security boats and helicopters, and private fishing vessels.

Comment: The defense department has a history of jeopardizing the civilian population of our country vulnerable to defense accidents during tests. (MC-0045-3)

Response: The TMD Extended Test Range proposal is not intended to put civilian populations at risk. The results of other programs are beyond the scope of this document.

Comment: The U.S. Navy is also proposing an underwater missile testing program for the Channel Island area. How many hostile activities can this biologically sensitive area withstand? (MC-0045-5)

Response: Potential adverse environmental impacts would be evaluated for their cumulative effects prior to initiating another new testing program.

Comment: The EIS must contain a full discussion and analysis of all launch activities from Vandenberg AFB through the year 2000. Additionally, there should be analysis to the additive risk generated by the ongoing and future launch situations at Vandenberg AFB during the operational life of the proposed TMD Extended Test Range program. (MC-0046-10; MC-0046-18)

Response: The EIS considers existing and reasonably foreseeable launch activities at Vandenberg AFB together with the proposed action launch activities in determining potential impacts. Most risk

from launch activities, both existing and proposed TMD launches, is effectively made null by the evacuation of all non-mission-related personnel.

Comment: Current policy involves military bombardment of ancient human habitat as well as marine and pinniped habitats. The current bombardment includes the area of Pyramid and China coves. (MC-0043-6)

Response: The potential for cumulative impacts is addressed in the Final EIS.

3.3.2 PROGRAM

Comment: How far off the coast of California are the missile intercepts going to take place, and what is the success factor of these intercepts expected to be? (TL-0024-7)

Response: Specific test options are not finalized for any proposed locations. Since these operations are intended to evaluate system performance, there is no way of determining in advance the actual success rate; however, it is intended that all intercepts be conducted successfully.

Comment: The project description must contain information on the construction and operation of the proposed project, including details on design features or features to mitigate impacts, the engineering basis and design of the project facilities, and the effects of project operations. (MC-0046-5)

Response: The Draft EIS stated that target missile launches would be from a Missile Launch Ship or other mobile sea platform. Section 2.1.2.3 details the defensive missile system launch requirements, most of which involve mobile ground support equipment. An artist's depiction of a typical defensive missile conceptual configuration is given in figure 2.1-10 of the Draft EIS (p. 2-24). As stated in the Draft EIS, maximum use of existing facilities and equipment is anticipated. If construction is required of any facilities that are not mentioned in this EIS, its potential for environmental impact will be evaluated, and if necessary, supplemental environmental documentation would be prepared before the program is implemented.

Comment: What support facilities will be required (i.e., operation support buildings, access roads, parking, fuel storage, security systems, fire protection) for the TMD Extended Test Range program. (MC-0046-8)

Response: Maximum use of existing facilities and infrastructure is anticipated for the TMD Extended Test Range program, as outlined in Section 2.2.3.1 of the Draft EIS. Once the precise defensive missile launch locations have been chosen, if the need for any facilities or infrastructure components is identified that is not addressed in this EIS, the potential for environmental impact will be evaluated, and if necessary, supplemental environmental documentation would be prepared before construction and operation.

Comment: Detail the associated off-site facilities required to support the TMD Extended Test Range program. (MC-0046-9)

Response: This EIS addresses the potential environmental impacts of the proposed missile test flights. Maximum use of existing facilities and infrastructure is anticipated. No off-site facility construction requirements have been identified. If the need is identified for any off-site facilities or infrastructure components that are not addressed in this EIS, the potential for environmental impact

will be evaluated, and, if necessary, supplemental environmental documentation would be prepared before their construction and operation.

Comment: Why couldn't existing test ranges be used (or expanded) for TMD Extended Test Range activities. (TO-0002-2; TOQ-0003)

Response: Originally, 11 candidate test areas were considered for TMD Extended Test Range activities. The four candidate test areas analyzed in this Draft EIS were determined to be the only reasonable alternatives. To some degree each of these four alternatives does represent an expansion of existing test ranges.

Comment: Test activities should take place at areas such as Bikini Island or other locations that have already been contaminated. (TO-0002-4)

Response: Other candidate alternative sites that were considered but eliminated are discussed in Section 2.5 of the Draft EIS.

Comment: More remote locations such as Kwajalein Atoll or the Aleutian Islands should be used for test activities. (TO-0004-2; MC-0055-1)

Response: The Kwajalein Atoll and Wake Island are considered as candidate test areas and are discussed at length in the Draft EIS.

Comment: What is the operating budget for the TMD Extended Test Range program for the next 6 years? (TL-0019-4)

Response: This is a Federal government consideration and outside the scope of this EIS.

Comment: The selection of Vandenberg AFB as a site for this program would greatly benefit the local economy, and the local government will cooperate with you during development. (TL-0008-6)

Response: Thank you for your comment.

Comment: The TMD Extended Test Range program will aid and enhance the use of the facilities at Vandenberg AFB and the surrounding area. We support the activities at Vandenberg AFB and believe that there would be minimal environmental impact from TMD Extended Test Range activities. (TL-0001-1; TL-0002-1; TL-0003-1; TL-0007-1; TL-0008-1; TL-0008-5; TL-0009-1; TL-0009-2; TL-0009-3; TL-0010-2; TL-0012-1; TL-0014-2; TL-0014-5; TL-0015-1; TL-0015-3; TL-0017-1; TL-0017-2; TL-0017-7; TL-0021-1; TL-0023-1; TL-0024-2; EO-0001-1; EO-0002-1; EO-0004-1; EO-0005-1; EO-0007-1; EO-0007-3; EO-0003-1; EL-0001-1; EL-0002-1; EL-0003-1; EL-0004-1; MC-0004-1; MC-0006-1; MC-0007-1; MC-0008-1; MC-0010-1; MC-0011-1; MC-0013-1; MC-0017-1; MC-0018-1; MC-0021-1; MC-0022-1; MC-0022-4; MC-0033-1; MC-0034-1; MC-0047-1; MC-0047-4; MC-0054-2)

Response: Thank you for your comment.

Comment: We are against the TMD Extended Test Range program and suggest that the no-action alternative is the correct alternative. (TL-0018-4; MC-0019-1; MC-0020-1; MC-0024-1; MC-0025-1; MC-0026-1; MC-0027-1; MC-0028-1; MC-0029-1; MC-0030-1; MC-0039-3; MC-0049-1)

Response: The purpose of the EIS process is to identify environmental issues, analyze impacts, inform the public, and solicit participation from the public and agencies. All foreseeable

environmental impacts, as well as public input, are considered in the decision whether or not to proceed with TMD Extended Test Range activities.

Comment: I would like to see the TMD Extended Test Range program conducted at Vandenberg AFB without missiles being targeted at the coastline Santa Maria, Lompoc, or Los Angeles. (TL-0024-3)

Response: No land areas on the California coast will be targeted for TMD Extended Test Range activities. All planned impacts would occur in open ocean areas or on existing non-civilian range areas.

Comment: I oppose the use of the SLC-7 site at Vandenberg AFB. (MC-0038-1)

Response: TMD Extended Test Range activities at SLC-7 are no longer included in the proposed action.

Comment: I am concerned about missiles being tested near Ventura, California, or anywhere that could be harmful. (MC-0039-1)

Response: All foreseeable environment impacts will be considered in the decision whether or not to proceed with TMD Extended Test Range activities. The proposed action is not expected to have an effect on Ventura, California.

Comment: I am concerned that the Army is harming the inhabitants of our country by testing missiles. (MC-0039-5)

Response: Extensive analysis has been conducted in order to evaluate public health and safety risks associated with TMD Extended Test Range activities and documented in the EIS. Health and safety analyses will be conducted prior to each mission. Test operation procedures will be developed which place the highest priority on public safety. TMD Extended Test Range activities will not be conducted in such a way as to jeopardize public safety.

Comment: Turning beautiful, pristine, untouched coastline into a missile range is no way to preserve the remaining natural resources of California. (MC-0040-3)

Response: It is anticipated that the TMD Extended Test Range program will be found to be consistent with the goals and objectives of California's Coastal Zone Management Program. Impacts on the environment are anticipated to be not significant at the Western Range Candidate Test Area.

Comment: If the projectile does not hit the target, an oil well could be hit, or surface detonation would disrupt normal sea life behavior patterns and possibly harm sea life. (MC-0040-9)

Response: Booster, payload, and debris impacts will be limited to open ocean areas under the Western Range alternative. Most of these impacts would occur within existing range areas. The probability of a human, an oil well, or a marine mammal being struck is extremely low. None of the target missiles under consideration for TMD Extended Test Range activities would carry high-explosive warheads.

Comment: The suggested closure time of 60 minutes results in a 3- to 4-hour evacuation procedure in Santa Barbara County. (MC-0040-12)

Response: With the exception of two small areas in the LHAs for LF07 and LF21, all LHAs are contained within Vandenberg AFB property. Evacuation agreements are in place for the small areas in LF07 off base and will be renegotiated for the owners of those parcels of land in the LF21 LHAs that are off base.

Comment: The concept of turning the outer waters off Vandenberg AFB and San Clemente and San Nicolas islands into war zones is incomprehensible. We oppose increased military operations at San Clemente Island. (MC-0040-13; MC-0043-7)

Response: Thank you for your comment. Impacts on the environment are anticipated to be not significant at the Western Range Candidate Test Area. The proposed tests are consistent with current shared-use patterns for coastal waters.

Comment: I am hopeful that one of the other three proposed test sites (other than the Western Range Candidate Test Area) would have less significant impacts on the area's biological resources. (MC-0041-6)

Response: All foreseeable environmental impacts as well as public and agency input will be considered in the decision whether or not to proceed with one or more of the alternatives for TMD Extended Test Range testing. The analysis in the EIS indicates that none of the four alternatives entails significant impacts on biological resources.

Comment: We are opposed to the missile testing off the Ventura coast as it will have a detrimental impact on the fishing industry, tourism, and the fragile ecosystem. (MC-0042-1)

Response: Scheduling of boat traffic for fishing and tourism is an ongoing activity. TMD Extended Test Range activities would be integrated into this process. Not significant impacts would occur to natural resources on or off the Ventura coast.

Comment: Does or would an evacuation process exist? How would notification take place? What would be the frequency and duration of evacuations? Would there be any additional inconveniences? (MC-0044-2; MC-0044-3; MC-0044-6)

Response: Evacuation requirements are discussed in general terms in Section 2.1.1.3 of the Draft EIS. Evacuation measures unique to the Western Range Candidate Test Area are discussed in Section 2.2.3.2 of the Draft EIS. Development of detailed notification and evacuation procedures would be accomplished when specific test configurations and scenarios are available and would be covered in subsequent environmental documentation.

Comment: The Draft EIS describes numerous negative impacts on the Vandenberg AFB area and the Channel Islands. The most serious is the potential impact on the population of the city of Lompoc and surrounding communities. (MC-0045-1)

Response: As detailed in the EIS, impacts on the environment or human health and safety are anticipated to be not significant for the Western Range Candidate Test Area.

Comment: Why is there a depiction of the Flight Termination Debris Containment Corridor for WSMR but not the Western Range alternative? (MC-0046-7)

Response: Unlike the WSMR alternative, in which there are only two viable flight paths (from FWDA to WSMR and from the GRLC to WSMR), the Western Range alternative features a greater number of potential flight paths (from launch points at Vandenberg AFB, San Clemente Island, San Nicolas

Island, and a many target launch sites at sea). It is impossible to display all potential debris containment corridors for the Western Range alternative. This level of detail may be addressed in mission-specific tiered environmental documentation.

Comment: The EIS needs to address in more detail the hazards of debris due to intentional or unintentional detonation of defensive missiles at points ranging from launch area to target intercept; theater missiles which are not intercepted, only partially intercepted, or intercepted; and booster rocket stages from either the theater or defensive missile. (MC-0046-34; MC-0048-2)

Response: This EIS addresses in broad terms the potential impacts of debris hazards during missile flight tests. Areas potentially affected by debris impacts will be cleared prior to test activities.

Comment: The final EIS needs to address the destruct systems that are aboard the target missiles which will be used in the event of guidance failure in order to prevent an errant vehicle from reaching the mainland. (MC-0048-3)

Response: Flight termination systems (FTSs) will be used in target vehicles to terminate thrust in the event of a malfunction during flight. The FTS is activated by range safety personnel. Two FTS techniques for target missiles are discussed in Appendix I and Section 2.1.1.1 of the Draft EIS.

Comment: Figure 2.2-21 is not clear as to what the precise flight paths for TACMS testing would be; this figure shows a potential path that crosses over or very close to both Santa Rosa and Santa Cruz islands. (MC-0051-13)

Response: Exact flight paths for Army TACMS flights have not yet been determined. Any missile overflights in the vicinity of the Channel Islands would occur at high altitude. Impacts are anticipated to be not significant.

Comment: The Army should weigh the impacts that these tests will create on the whole planet and shelve the projects that are questionable. (MC-0052-7)

Response: The purpose of the EIS process is to identify environmental issues, analyze impacts, inform the public, and solicit participation from the public and agencies. All foreseeable environmental impacts, as well as public and agency input, will be considered in the decision whether or not to proceed with any portion of the TMD Extended Test Range testing.

Comment: What is the probable ratio of hits to misses for the proposed test activities? (TLQ-0002)

Response: System effectiveness parameters are not available at this time. One of the objectives of the Extended Test Range program is to evaluate the effectiveness of TMD systems under realistic conditions; however, neither successful or unsuccessful intercept attempts will result in danger to human health and safety.

3.3.3 AIR QUALITY

Comment: Vandenberg AFB has been in contact with air pollution control agencies in an effort to design comprehensive integration methods in effecting state requirements; this would allow flexibility in expanding projects on the base. (TL-0008-2; EL-0001-3; MC-0034-3)

Response: Thank you for your comment.

Comment: Overcrowding in the Lompoc area is causing pollution concerns and any increase in business at Vandenberg AFB will increase this concern. (MC-0009-4)

Response: All activities will comply with existing Federal, state, and local pollution control regulations requirements.

Comment: Air pollution produced by missiles during launches here in Point Mugu is virtually nil when compared to what is produced on the freeways around Los Angeles. (MC-0013-3)

Response: Thank you for your comment.

Comment: The EIS should address the impact of the project on the levels of carbon monoxide, sulfur dioxide, nitrogen oxides, hydrocarbons, hydrogen chloride, and aluminum oxide in the surrounding area. (MC-0046-39)

Response: The effects from these pollutants on each region of influence (ROI) are addressed in sections 4.3.1.1, 4.3.2.1, 4.3.3.1, 4.3.4.1, and 4.3.5.1 of the Draft EIS in proportion to their potential for impact. In all cases, it is expected that impacts would be not significant.

Comment: Air quality impacts do not depend on the size of the LHA. (MC-0053-10)

Response: Air quality regulations apply primarily to concentrations of pollutants in the ambient air, where ambient air means air to which the public has access. As the public will be evacuated from the LHA during launch events, the size of the LHA is relevant to air quality impacts.

Impacts on resources which do not depend on the size of the LHA, such as biological resources and water resources, are addressed in their respective sections. It is expected that impacts on these resources would be not significant.

3.3.4 AIRSPACE

No comments were received for the airspace resource area of the Western Range Candidate Test Area.

3.3.5 BIOLOGICAL RESOURCES

Comment: The loud and abrupt noise from a projectile would startle and shock seals and mammals along the coast and frighten the wildlife which abounds on the base. (MC-0040-8; MC-0046-32)

Response: The effects of noise on wildlife are discussed in sections 4.3.1.3, 4.3.2.3, and 4.3.3.3 of the Draft EIS under Biological Resources, which found that the impacts were not significant.

Comment: Launches from San Nicolas Island would produce momentary noise levels as high as 115 dB at Sea Lion Beach; the candidate launch site located inland on San Nicolas Island would also produce high momentary noise levels at this pinniped site. The Draft EIS does not consider the effect of short-term pinniped exposure to high noise levels at very close proximity. Appropriate alternatives and mitigation measures should emphasize avoidance of project impacts on pinnipeds and other sensitive receptors. (MC-0051-10; MC-0051-11; MC-0051-12)

Response: The effects of noise on wildlife on San Nicolas Island are discussed in sections 4.3.1.3, 4.3.2.3, and 4.3.3.3 of the Draft EIS under Biological Resources. Impact on marine mammals is expected to be not significant. As stated on p. 4-197 of the Draft EIS, the U.S. Fish and Wildlife Service and the National Marine Fisheries Service have been consulted regarding their concerns and possible mitigation of impacts on listed, proposed, and candidate species.

Comment: There are small quantities of freshwater dolphins along coastal southern California that are in danger of extinction. (TO-0002-3)

Response: Impacts on marine wildlife including dolphins are expected to be not significant. As stated on p. 4-197 of the Draft EIS, the U.S. Fish and Wildlife Service and the National Marine Fisheries Service have been consulted regarding any possible monitoring requirements or mitigations.

Comment: Assuming four launches a month, the abandonment of rookeries could be an intolerable consequence. The rookeries are located about 6 km (1 mi) from the launch sites on San Nicolas and San Clemente islands. (MC-0041-3)

Response: The use of mobile launchers could reduce seasonal impacts. The launches would not represent continuous disturbances which would cause rookeries to be abandoned but may startle pinnipeds and other wildlife.

Comment: The least tern nesting period in the area around Vandenberg AFB begins on April 15 and runs for about 6 months; this may interfere with the possible launch schedule. (TL-0006-2; MC-0014-1)

Response: The least tern nesting season is mentioned in the text on p. 3-191 of the Draft EIS. Noise monitoring is currently being accomplished for launch noise impacts on the California least tern. Much larger missiles are currently launched from Vandenberg AFB. It is expected that noise produced by TMD defensive missiles will be significantly less. Scheduling of launches to avoid various biological seasons is also a common practice that has been performed over a long period of time. The TMD Extended Test Range program would use a mobile launcher, and the advantage of mobility can be used to reduce any seasonal environmental impacts.

Comment: I am pleased that there was a very extensive look at whale activity within the Draft EIS. (TL-0013-4)

Response: Thank you for your comment.

Comment: The Draft EIS was not specific enough with regard to marine mammals; for example, who will be monitoring the offshore waters to determine that a pod of whales will not be going by at the proposed time of launch? What will be the effect on the whales? (TL-0016-1; MC-0035-1; MC-0041-5)

Response: Impacts on marine mammals are expected to be not significant. As stated on p. 4-197 of the Draft EIS, the U.S. Fish and Wildlife Service and the National Marine Fisheries Service have been consulted regarding possible monitoring activities. Each program will go through the consultation process, and based on the monitoring requirements and mitigations proposed, the proper actions will be performed. All planned debris from an intercept and whole-body miss will be kept well offshore of Vandenberg AFB and will not risk known marine mammal migration routes.

Comment: The biological impact analysis is inaccurate. Although the Draft EIS states that a maximum of four launches per month will be conducted, after four launches are completed the damage would be done. The assumption of four launches a month implies "let's do four launches and see what damage is done." (TL-0016-2; MC-0052-2)

Response: The biological impact analysis is accurate to the best of our knowledge based on available data. The assumption of four launches per month was chosen to represent a maximum case. No more than four launches per month would occur; however, fewer than four launches is more realistic. Analysis of impacts on biological resources will be further evaluated during the consultation process and appropriate actions will be taken if needed.

Comment: Launching from seven or eight launch complexes could significantly impact species such as the Federally threatened sea otters, protected northern elephant seal, and California sea lions. (TL-0016-3)

Response: Analyzing 12 launch complexes will not increase the number of launch tests. The TMD Extended Test Range program uses a mobile launcher, so the advantage of mobility can be used to further reduce any seasonal environmental impacts. Simultaneous launches from 12 complexes will not occur. The launches will be discrete events with time in between, and impacts on threatened or endangered species are expected to be not significant.

Comment: There is no way to know that the launch window selected will not involve a nesting season, a whale nearby in the ocean, or something similar occurring that would prevent the launch. There are many species whose breeding times could be disrupted. It would be difficult to schedule launches on a regular basis without disturbing the breeding and pupping cycles of these pinnipeds. (TL-0018-1; MC-0041-2; MC-0041-4)

Response: Scheduling of launches with various biological seasons is a common practice that has been performed over a long period of time. The TMD Extended Test Range program uses a mobile launcher, so the advantage of mobility can be used to further reduce any seasonal environmental impacts. The impacts expected on the breeding and pupping cycles of these species as a result of TMD Extended Test Range missile testing were found to be not significant.

Comment: Please provide evidence of mitigation implementation in the event of a "take" and of mitigation monitoring for endangered species. (MC-0031-3; MC-0031-4; MC-0052-4)

Response: Individual programs will go through the consultation process with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service. These agencies will identify impacts on wildlife in the area and any necessary mitigation implementation.

Comment: Please correct table G-13, Endangered Species status. (MC-0031-5)

Response: Table has been corrected.

Comment: Will there be any way to evaluate what damage is occurring to whales, sea lions, fish, and some of the other birds and animals that inhabit the coast of California? What will be the effects of these tests on the marine life in the nearby waters and the effect on the migrating habits of whales? Please provide evidence of studies done on the effects on migrating mammals. (TL-0019-3; MC-0024-2; MC-0025-2; MC-0026-2; MC-0027-2; MC-0028-2; MC-0029-2; MC-0031-1; TLQ-0004)

Response: Impacts or damage to marine mammals, their migration routes, or other marine wildlife are expected to be not significant. Individual programs will go through the consultation process with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service. These and other applicable agencies will identify impacts on wildlife in the area and any necessary monitoring or mitigation. Material referenced in the Draft EIS is included in Section 5.0.

Comment: We are concerned that a full analysis of the species on San Nicolas Island was not performed, since it is one of the largest breeding rookeries off of the California coast. What impact will the increased human activity have here? (TL-0020-1; MC-0050-2; MC-0050-4)

Response: The impact analysis for San Nicolas Island addressed the species as listed in table G-12 of the Draft EIS. These data include marine mammals and sea birds which have major rookeries on the island. Increased human activity is expected to result in not significant impacts on wildlife.

Comment: Hundreds of missiles have been launched from launch sites on the mainland and San Nicolas Island without disturbing the birds, sea lions, dolphins, whales, or nearby human residents; therefore, there should be no reason that TMD Extended Test Range project-related missiles would cause any greater disturbance than any other missiles launched in the past. (MC-0013-4; MC-0037-2; MC-0037-3)

Response: Thank you for your comment.

Comment: It is a good start to check the test area for whales and other mammals, but further efforts would be appropriate. One suggestion is to use hydrophones to broadcast local mammal alarm/warning signals. (MC-0023-1)

Response: The chance of injuring a whale or other mammals is extremely remote. The planned debris patterns will be well outside of whale migration routes.

Comment: There are hundreds of life forms in the Pacific Ocean. How can you be sure they will not be harmed in any way? Even if only one animal is harmed for each of the proposed 100 missile launches between the year 1995 and 2000, that would be 100 animals harmed in 6 years just from missile testing. The missile testing would be an unacceptable risk to these animals and their places of breeding and migration. (MC-0039-2; MC-0039-4; MC-0040-1; MC-0041-1; MC-0045-4; TLQ-0005)

Response: Individual programs will go through the consultation process with the U.S. Fish and Wildlife Service and the National Fisheries Service. These and other applicable agencies will identify impacts on wildlife in the area and any necessary monitoring or mitigation implementation to reduce or eliminate any risk to listed species.

Comment: The Marine Mammal Act describes harassment as any disruption in an animal's normal behavior. The explosions would result in the disruption to many forms of the wildlife along the coast and in the test range itself. (MC-0040-7)

Response: The Marine Mammal Protection Act is one of the Federal laws and regulations that were considered in the TMD Extended Test Range EIS. Intercepts, which may or may not involve the use of explosives, will occur well off the coast, therefore causing minimal disruption to marine mammals.

Comment: California's outer waters are of great importance to its many marine resources; to create a missile range in the highly pristine locations could be an unwise decision. (MC-0040-14)

Response: Individual programs will go through the consultation process with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service. These and other applicable agencies will identify impacts on marine resources in the area and any necessary monitoring or mitigation implementation.

Comment: I support the defense of the country but am concerned about the destruction of marine habitat of traditional/diving areas and safe anchorage. (MC-0043-1)

Response: Temporary clearance of the LHA would impact recreational and commercial use but would last 70 minutes or less. No destruction of marine habitat from the proposed action is expected.

Comment: The EIS should address the impacts on the habitat of Federally listed endangered species and the effect on populations of Harbor seals, California sea lions, and occasional elephant and northern fur seals which inhabit several haul-out areas on South Vandenberg AFB and Point Conception. (MC-0046-36)

Response: Impacts on endangered wildlife are discussed in Section 4.0, Environmental Consequences and Mitigations, of the Draft EIS. Individual programs will go through the consultation process with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service. These and other applicable agencies will identify impacts on wildlife in the area and any necessary monitoring or mitigation implementation.

Comment: The islands of Santa Rosa and Channel Island National Park are home to humans as well as many rare or sensitive plant and animal species. The impacts on these groups should be discussed in the EIS. (MC-0051-14)

Response: Impacts on humans and plant and animal species in the Western Range are discussed in Section 4.3 of the Environmental Consequences and Mitigations portion of the Draft EIS.

Comment: The potential launch site just north of Point Sal is a nesting area for the least tern and snowy plover. Please remove the Point Sal site from the candidate list. (TLQ-0007)

Response: Much larger missiles are currently launched from Vandenberg AFB. It is expected that noise produced by TMD defensive missiles will be significantly less. The TMD Extended Test Range program also uses a mobile launcher, so the advantage of mobility can be used to further reduce any seasonal impacts. Scheduling of launches to avoid various biological seasons is also a common practice. The upcoming Record of Decision will identify which of the candidate ranges can be used for TMD Extended Test Range testing.

Comment: Please give more weight to cumulative impacts and vegetation degradation on San Clemente Island and San Nicolas Island through increased weeds. (MC-0053-1; MC-0053-2; MC-0053-3)

Response: The cumulative impacts discussion has been expanded in the Final EIS. Existing launch sites will be used for the TMD Extended Test Range program, and activities are not expected to result in vegetation degradation caused by an increase in weed growth.

Comment: The launch noise on San Nicolas Island (p. 4-181) is greater than your significance level of 92 dBA at significant portions of the seal areas. Has any synergistic effect of the noise been looked for or observed? (MC-0053-4; MC-0053-6)

Response: The TMD Extended Test Range program uses a mobile launcher, so the advantage of mobility can be used to reduce seasonal impacts on the seal areas. Individual programs will go through the consultation process with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service. These and other applicable agencies will identify impacts on wildlife in the area and any necessary monitoring or mitigation implementation. The synergistic effect of the noise has not been looked for or observed.

Comment: Hydrogen chloride is emitted during launch. The effect of HCl on wildlife is not discussed. (MC-0053-5)

Response: The effect of HCl on wildlife is discussed on p. 4-174 in the Draft EIS.

Comment: Any mitigation recommendations of the U.S. Fish and Wildlife Service and National Marine Fisheries Service should be followed. (MC-0053-11)

Response: Mitigation recommendations of the USFWS and NMFS will be followed and were included in the Draft EIS.

Comment: Contributions are missing from several authorities on the biology of San Nicolas and San Clemente islands. These include Ron Dow and Tom Keeney, U.S. Navy, Point Mugu (San Nicolas island biology); Paul Collins, Santa Barbara Museum of Natural History (San Clemente and San Nicolas islands wildlife); and Steve Junak, Santa Barbara Botanic Garden (San Clemente and San Nicolas islands botany). (MC-0053-7)

Response: Thank you for your comment.

3.3.6 CULTURAL RESOURCES

Comment: I would like an analysis of what danger or hazard the project poses to historic structures or properties located on adjacent and surrounding properties near Vandenberg AFB. (MC-0046-24)

Response: The currently defined LHAs are considered adequate for the containment of launch mishaps. There will be no danger or hazards for historic structures or properties located on adjacent and surrounding properties.

3.3.7 GEOLOGY AND SOILS

No comments were received for geology and soils for the Western Range Candidate Test Area.

3.3.8 HAZARDOUS MATERIALS AND WASTE

Comment: The EIS should address in more detail the toxic fumes and hazardous materials released during transportation from storage to the base, at the launch sites, or at some destruct points along the trajectory of the intercept missile as it progresses from launch to theater missile intercept. Are boosters and debris toxic? (MC-0046-33; TLQ-0006)

Response: Credible potential for the release of hazardous materials is limited to prelaunch and launch operations and transportation accidents. Analysis of releases associated with each have been analyzed in the Draft EIS. In each case, analysis is sufficient to support a conclusion concerning the impact significance.

Only airborne releases are associated with prelaunch and launch operations. Potential releases are analyzed for their impact on air quality in sections 4.3.1.1 and 4.3.2.1 of the Draft EIS and were found to be not significant since concentrations to which members of the public could be exposed would be within acceptable regulatory criteria.

Transportation accidents, including potential releases resulting from accidents, are analyzed in Section 4.1.1.7 of the Draft EIS. Because of the methods employed in shipping TMD systems, no credible hazardous material release was identified, and safety impacts associated with transportation operations were found to be not significant.

Spent target system boosters may contain some small quantities of residual solid propellant upon impact in booster drop zones; however, these materials will remain a part of the debris which would be recovered by the Army and would not be released into the environment.

Comment: Attention should be given to the risks of a major offshore oil spill in the event that a missile, or significant debris, strikes one of the offshore oil platforms in the area. (MC-0046-31; MC-0048-5)

Response: This probability is extremely remote. Vandenberg AFB has negotiated agreements with the owners of offshore oil platforms which address issues associated with environmental health and safety due to missile launch activities. As a user of Vandenberg AFB launch capabilities, TMD Extended Test Range programs would be covered under these agreements.

Comment: What is the policy for the transportation of rocket fuels to Vandenberg AFB? (TLQ-0003)

Response: Transportation requirements and procedures depend upon the quantities of fuels in an individual shipment. In the case of proposed TMD Extended Test Range program shipment activities, no specific protocol would be required beyond that necessary for the secure transportation of the missile systems.

Comment: The EPCRA (SARA Title III) applies to hazardous materials on San Nicolas Island and at all other sites. In California, requirements are set forth in Title 19 of the California Code of Regulations. Additional planning requirements are specified for extremely hazardous substances such as hypergolic propellants. (MC-0053-8; MC-0053-9)

Response: The EPCRA and other reporting requirements are part of base-level responsibilities and are applicable to facility-wide conditions. Requirements are not directed specifically toward individual base users of hazardous materials. Information needed by each facility to meet these regulatory reporting requirements would already be supplied to each facility where TMD Extended

Test Range activities occur as part of required safety analysis procedures. No additional activities under the EPCRA or other reporting requirement activities would need to occur, and none of these requirements would affect or limit procedures covering hazardous material handling or use.

3.3.9 HEALTH AND SAFETY

Comment: There are concerns that the propellant, chlorofluorocarbons, or solvents that may be used in test activities will be dumped into the air and cause skin cancer. (TO-0002-6)

Response: None of the substances proposed for use in TMD target systems as propellants or for prelaunch activities has been identified as causing skin cancer. Destruction of stratospheric ozone by TMD materials (which may cause a rise in skin cancer potential due to loss of ozone-layer UV shielding capability) has been assessed in Section 4.1.1.1 of the Draft EIS and found to be not significant.

Comment: Our major concern is that boosters or missile debris would fall on our houses or land. (TO-0004-1; TL-0016-4; MC-0015-1)

Response: All planned debris from an intercept or whole-body miss will be kept well off shore and will not risk population centers, oil platforms, or known marine mammal migration routes off of Vandenberg AFB. As discussed in sections 4.3.1.7, 4.3.2.7, 4.3.3.7, and 4.3.5.5 of the Draft EIS, each flight operation will be analyzed to ensure that all range safety requirements are met. Included in this analysis is a determination of all areas debris might impact in the event of any flight anomaly. As discussed in the EIS, no operation will be allowed where impacts have an unacceptable potential to occur outside secured areas.

Comment: Vandenberg AFB is well known for its safe and environmentally acceptable operations and has operated as a missile test facility for many years without significant negative environmental impacts. The use of Vandenberg AFB would provide a safety factor by using an existing, well-understood missile range. (TL-0014-3; TL-0017-4; TL-0017-5; EO-0003-5; EO-0007-4; MC-0010-5; MC-0018-2; MC-0022-5; MC-0047-5)

Response: Thank you for your comment.

Comment: The EIS needs to discuss the effects of launch activities on offshore oil platforms; will personnel need to be evacuated? These platforms are specifically included in the "flight corridor," but the health and safety issues are not addressed. (MC-0036-1; MC-0046-30)

Response: There are existing evacuation agreements. Range safety personnel will work with TMD personnel to avoid any overflight of or planned debris drop on the platforms. This coordination will avoid any oil platform evacuations. Vandenberg AFB has an in-place agreement with offshore platform operators which addresses evacuations and other safety concerns. In the event that pre-flight safety analysis indicates that a hazard may exist in the area of an offshore oil platform, appropriate notifications would be made and the provisions of the applicable agreement exercised.

Comment: If test activities do not go as planned, there may be injuries to people; we ask that proper steps be taken to ensure that tests are conducted safely. We ask that missiles not be aimed at cities or in the vicinity of cities and that a safety analysis be done for each of the proposed test flights which would include fire protection plans or disaster preparedness programs. Additionally, prior notification plans should be described in detail. (MC-0045-2; MC-0046-4; MC-0046-15; TL-0018-3; TL-0024-5; TL-0024-6)

Response: It is and will continue to be a standard operation to perform safety analysis before any operation. Populated areas would not be included within any impact zones expected as a result of proposed TMD Extended Test Range test activities. Prior to approval of any test operation, a complete safety analysis will be completed that will include the determination of all impact zones. Test approval will not be granted in the event that safety analysis indicates that unacceptable risk of injury would result from the planned operation.

Comment: I would like to know if there will be ongoing, close supervision of possible damage that may occur when test flights begin. (TL-0019-2)

Response: Range safety personnel routinely monitor all launch operations from the moment of launch to eventual ocean impact of debris.

Comment: I do not see a problem with scattered debris over the ocean range west of Vandenberg AFB since this area can be kept clear of traffic. (EO-0005-2; MC-0004-2)

Response: Thank you for your comment.

Comment: Has any specific research been conducted regarding on-base safety procedures if an earthquake hits Vandenberg AFB? (MC-0009-1)

Response: Vandenberg AFB has existing disaster preparedness plans for emergencies of all types. The impact of earthquakes on overall Vandenberg AFB safety is outside the scope of this EIS.

Comment: Overcrowding in the Lompoc area is causing health concerns, and any increase in business at Vandenberg AFB will increase this concern. (MC-0009-3)

Response: Thank you for your comment.

Comment: Vandenberg AFB had a large fire in the 1970s that killed many people; the concern over wildfires prompted a request that no additional work be brought to Vandenberg AFB until more research on wildfires in the area is conducted. I am concerned for safety in the area of Vandenberg AFB because during the last few years there have been several missile aborts, two of which contaminated or set fire to significant land areas on or near the base and because of a recent Titan IV launch that ended in an explosion barely a minute into the launch. Please provide evidence of studies for fire safety. (MC-0009-6; MC-0012-6; MC-0031-2)

Response: Vandenberg AFB has a wildland fuels management plan that was prepared by the U.S. Forest Service. The plan contains measures including prescribed burning activities to help prevent large wildfires by lowering the age class of the vegetation. As discussed in Section 4.3.2.7 of the Draft EIS, an emergency response team which includes fire fighting units is assembled near the launch site for each launch operation. This team provides an immediate fire suppression capability in the event a fire is initiated. Also, the potential fire hazards associated with proposed TMD Extended Test Range operations are considerably less than those associated with other launch vehicles due to the smaller size of the launch systems, reduced equipment needs, and the proposed use of existing launch pad areas.

Comment: The program could result in property damage, loss of life, and disruption or danger to humans in the surrounding area. (MC-0040-4; MC-0040-6; MC-0046-41)

Response: As discussed in the health and safety sections in Section 4.0 of the Draft EIS, such hazards have been evaluated.

Comment: We at the Sudden and Hollister Ranch are concerned about the impact the program will create regarding personnel living or working on our property. The Air Force considers this a "Safety Zone." (MC-0044-1)

Response: Temporary evacuations of some areas within mission-specific LHAs may be required during launch operations; however, no long-term impacts would be expected. Evacuation of any off-base areas would be accomplished in accordance with evacuation agreements obtained from each affected landowner prior to any test operations.

Comment: The Army should fully and carefully assess the health and safety risks of the 5-year operational life of the proposed program to present and future occupants and users (including agricultural and wildlife populations) of the neighboring properties of Vandenberg AFB. (MC-0046-1; MC-0046-2; MC-0046-14)

Response: As discussed in health and safety sections in Section 4.0 of the Draft EIS, and specifically Section 4.3.2.7 for Vandenberg AFB, such hazards have been assessed.

Comment: There should be a written and graphic form of the projected missile tracks and margin of error in track alignment and the margins of error considering weather condition knowledge for the theater and intercept missile. (MC-0046-6)

Response: Specification of exact flight paths will not be possible, until mission-specific requirements are determined; however Section 2.2.3 of the Draft EIS provides a description and illustration of representative flight activities. Safety requirements are specified in Vandenberg AFB safety procedures and would be applied to all TMD Extended Test Range operations.

Comment: Of all the environmental impact areas in the Draft EIS, the highest level of attention and work must focus on the topic of health and safety. (MC-0046-17)

Response: Under NEPA requirements, health and safety considerations were given attention commensurate with the potential impacts. Appropriate consideration of health and safety impacts associated with all proposed and alternative actions has been included in this EIS in fulfillment of this requirement.

Comment: Discuss in detail the types of incidents and accidents associated with the program and what the potential outcomes involved might be. Provisions for acceptable accident-potential zones and acceptable land use for such areas are not disclosed in the Draft EIS. (MC-0046-19; MC-0046-20; MC-0046-28)

Response: Section 4.1.1.7 of the Draft EIS and later health and safety discussions provide the requested information concerning identified operational and accident-case hazards. These discussions are predicated upon current and/or projected future land use and activities. Changes or restrictions in these uses are not part of the proposed action.

Comment: Include a discussion of all mitigation measures which will limit the adverse impacts of the project on the health, safety, and welfare of the human population on the base and surrounding area. (MC-0046-23)

Response: Appropriate mitigation measures are discussed as part of each Health and Safety section in Section 4.0 of the Draft EIS.

Comment: Define "safe" in the event of destruction of an erratic flight. Analyze the controllability factors, standards and acceptable methods, locations, and processes for a "safe" destruct. What is "safe" at Vandenberg AFB? What launches provide additional risk to surrounding properties? At what launch rates? (MC-0046-25; MC-0046-27)

Response: General flight safety issues are discussed in Section 4.1.1.7, and Vandenberg AFB-specific issues are presented in Section 4.3.2.7. As discussed in these sections, the safety of any proposed launch operation is based upon a determination of the risk (probability of injury or severe damage) associated with the operation. Determination of risk is based upon modeling analyses which consider parameters such as flight system reliability, missile flight performance characteristics, potentially exposed populations, flight monitoring capabilities, and flight termination protocols. The same type of analysis has been applied to proposed TMD Extended Test Range operations (see Appendix J of the Draft EIS). Risk determinations for the proposed action, as discussed in sections 4.1.1.7 and 4.3.2.7 of the Draft EIS, are based on proposed flight profiles, flight systems, and maximal launch rates (see Section 2.1). Results of this analysis for Vandenberg AFB demonstrate that risks associated with the proposed action are within acceptable flight safety criteria.

Comment: Representative impact locations and representative target missile trajectories are described for WSMR, but this information is not disclosed for the Western Range. (MC-0046-29)

Response: Much less flexibility in flight profiles is available for operations at the WSMR Candidate Test Area due to the specific restrictions inherent in overland flights. The greater flexibility at Vandenberg AFB and other sea-test locations is one reason for considerations of these candidate test areas. As a result of this flexibility, representative impact location and target missile trajectory determinations at this time would be fairly arbitrary, if not perhaps misleading; however, all flight operations would have to conform to specific flight safety requirements, which would be established in accordance with range requirements. A summary of requirements for Vandenberg AFB is presented in Section 4.3.2.7 of the Draft EIS.

Comment: The EIS is deficient in identifying debris containment areas for Vandenberg AFB and surrounding areas compared to the information given for the Fort Wingate and WSMR test areas. (MC-0048-1)

Response: Proposed operations from Vandenberg AFB cannot be analyzed at this time in the same location-specific detail as those at the WSMR Candidate Test Area.

Comment: The EIS must address in more detail blast and shock wave amplitudes caused by intentional or unintentional detonation of the target missile or theater missile from launch to target intercept and fuel storage areas or transport routes. (MC-0046-35)

Response: Explosive events associated with flight termination would be small and would have no effect except to the flight system. Since no large quantities of fuels are proposed in conjunction with TMD Extended Test Range activities, explosive potential from fuel storage is expected to be not significant. Hazards associated with transportation, including explosion hazards, are presented in Section 4.1.1.7 of the Draft EIS.

Comment: I am concerned about the hazard of a launch explosion on San Nicolas Island and how this would impact the people working on the island. (MC-0050-1; MC-0050-3)

Response: As discussed in sections 4.1.1.7 and 4.3.1.7 of the Draft EIS, an appropriate LHA would be established around each launch site. This LHA would encompass all areas which could be

affected by an explosion in the event of a launch accident. During a launch only authorized personnel would be within the LHA; personnel outside the LHA are by definition protected against the effects of a launch accident.

Comment: If people are killed, would that also be considered a "take"? (MC-0052-5)

Response: All proposed TMD Extended Test Range activities would be conducted with the utmost care and concern for human safety. The analysis in the EIS indicates that the likelihood of human injury is remote.

Comment: There are 14 million or more people from Vandenberg AFB to San Diego. Pick an area where there is no urban development to test these missiles. (MC-0005-1)

Response: Consideration of the size of the potentially affected population was part of the initial alternatives selection process and is part of the NEPA process. In the case of the Western Test Range alternative, the proposed testing would be carried out over open ocean areas, not urban land masses.

Comment: Who has overall range safety responsibility within the Western Range Candidate Test Area? (TOQ-0004)

Response: The Western Range is jointly controlled by the Air Force (Vandenberg AFB) and the Navy (NAWC-WPNS). The agency exercising control during an actual launch operation is whichever service is providing the launch service.

Comment: Will the interceptor missile have flight safety or flight termination systems? (TOQ-0005)

Response: Each missile system capable of exceeding on-base boundaries will be equipped with a flight termination system which is part of a larger flight safety system including tracking and flight analysis capabilities under the control of a trained Range Safety Officer.

Comment: How will range safety tracking data be provided on two missiles at the same time? (TOQ-0006)

Response: The capabilities and assets (radar, etc.) of each candidate test range are sufficient to allow appropriate tracking and telemetry capabilities for multiple flight systems simultaneously.

Comment: There is no provision for errant missiles in the Draft EIS. (TOQ-0007)

Response: Evaluation of flight safety issues, including anomalous flight profiles, is provided in Section 4.1.1.7 of the Draft EIS. Additional site-specific considerations are presented in individual candidate site health and safety sections.

Comment: Will interceptor rockets that do not impact with each other explode in the water? (TLQ-0001)

Response: Explosion upon impact is not expected to occur for defensive missiles that miss their targets.

Comment: It is stated that debris impacts would be in open waters, thus precluding fire potential; however, debris impact on land (e.g., one of the Channel Islands) could cause a fire. (MC-0053-12)

Response: The discussion of Secondary Effects in Section 4.3.5.5 has been modified to include discussion of island impacts.

3.3.10 LAND USE

Comment: If the proposed action will produce significant effects on public coastal access, then the EIS should consider appropriate alternatives and mitigation measures. (MC-0051-6)

Response: Such mitigation measures are not considered necessary because impacts would be not significant.

Comment: There is a concern that there may be indefinite closures of certain areas due to an accident or for any other reason. These closures would effectively take certain areas out of the public domain causing problems for such areas as national monuments. (TO-0002-1)

Response: For Vandenberg AFB, NOTMARs for the ocean area are provided 20 days in advance. If there were an incident requiring investigation, then the immediate area would be closed until the investigation team had completed its work. There is no reason to expect such a closure to be indefinite.

Comment: The Lompoc Valley Business Association is concerned with private land being under the LHAs at the northern launch site at Vandenberg AFB; if it would be possible to drop the northern launch site, the association would like to have that reexamined. (TL-0005-1)

Response: As stated in the Draft EIS, the Air Force has current evacuation agreements in place with owners of the parcels of land in the LHA of the northernmost launch site, LF07, that extends off base (see figure 2.2-25, p. 2-75) but not with the owners of the parcels of land in the LHA of launch site LF21 that extends off base (Section 4.3.2.8, p. 4-203). LF21 is the next northernmost site at Vandenberg AFB. These evacuation agreements with the owners of the land parcels under the LF21 LHA lapsed in the late 1980s and would need to be renegotiated before implementation of the proposed action if the LF21 launch site were chosen for the program. It is important to note that these northern launch sites would continue to be used with or without the TMD Extended Test Range program.

Comment: Vandenberg AFB has been working with the county regarding the closure of Jalama Beach and minimizing and possibly eliminating the impact of closure. (TL-0008-8)

Response: Vandenberg AFB has agreements with the county of Santa Barbara for the closure and evacuation of Point Sal State Beach, Ocean Beach County Park, and Jalama Beach County Park. All three closure and evacuation agreements have been consolidated under an Evacuation Agreement, No. SPCVAN/1/93/0006, between Vandenberg AFB and the county, which gives Vandenberg AFB the right to evacuate and close the three beaches not to exceed 48 hours before a launch (Clemente, 1994).

Comment: Farmlands and beaches are needed, and additional work at Vandenberg AFB would reduce their availability. (MC-0009-8)

Response: There is no indication that the off-base properties, including farmlands, outside of the LHAs will be affected by TMD Extended Test Range activities.

Comment: TMD Extended Test Range activities would not change existing land/sea use along the west coast of California. (MC-0033-3)

Response: Thank you for your comment.

Comment: We are concerned that TMD Extended Test Range activities would involve the evacuation of Miguelito Canyon (near Jalama Beach south of Vandenberg AFB); there is no reason to evacuate that particular area. (TL-0004-1; TL-0010-1; MC-0014-2; MC-0033-4)

Response: Evacuation procedures that are currently used for launch operations at Vandenberg AFB will be applied to TMD Extended Test Range activities. None of the proposed sites would involve closure of Miguelito Canyon.

Comment: We are concerned that all public beaches from Point Sal to Jalama Beach would have to be closed and\or evacuated. Even temporary restricted coastal access could cause major inconvenience. (TL-0006-1; MC-0015-2; MC-0038-2; MC-0040-10; MC-0040-11; MC-0055-2; MC-0056-1; MC-0057-1; MC-0058-1)

Response: Evacuation procedures that are currently used for launch operations at Vandenberg AFB will be applied to TMD Extended Test Range activities. Only affected beach areas, if any, would be closed. There is no known need to close all the beaches simultaneously to accommodate proposed TMD Extended Test Range activities.

Comment: One way to meet the concerns of some of the residents in the area regarding possible evacuation is to put into current evacuation agreements the appropriate terms that meet those concerns and that minimize test impacts. (TL-0008-7)

Response: There are existing evacuation agreements. Any evacuation required would be in accordance with existing agreements. If any new evacuation agreements are needed, property owners would be addressed in the negotiation process.

Comment: There is a concern about the impacts of potential coastal access closures. How much notice will be given prior to closures, specifically to commercial fishermen? (MC-0040-2; TOQ-0002)

Response: These concerns are addressed in the Evacuation Plan contained in the Supplement to the Draft EIS.

Comment: The EIS needs to describe in detail the existing setting in which the testing will occur; this description must include information on resident population levels and user figures for Jalama Beach Park. (MC-0046-12)

Response: Section 3.3.2.8 of the Draft EIS (pp. 3-199 to 3-201) does provide a description of the existing setting, or affected environment, for land use and also provides 1993 visitation data for Jalama Beach County Park. With the exception of portions of LHAs for the northernmost sites (LF07 and LF21) (shown in figures 2.2-25 on p. 2-75 and 2.2-26 on p. 2-76), all LHAs lie within the boundaries of Vandenberg AFB and lie outside the base residential or cantonment areas. No residential housing exists within the off-base portions of the LHAs for launch sites LF07 and LF21; consequently no evacuation of individuals would be involved, and therefore no discussion of resident population levels is necessary.

Comment: The EIS should analyze the impact of potential incidents of surrounding land uses currently existing and land uses possible during the operational lifetime of the TMD Extended Test Range program. (MC-0046-21)

Response: Since the TMD Extended Test Range program would only use existing or modified facilities on military installations already used for launching missiles, no direct adverse land use impacts would occur because the installations are currently supporting DOD missions. The only potential for indirect land use impacts that was identified arises from (1) the possibility of land use impacts outside the installation boundaries, particularly in the case of LHAs, (2) recreation impacts due to the temporary closure of an access road that passes through a LHA, or (3) the temporary closure and evacuation of public beaches or open waters in a LHA. In each case the Draft EIS addressed the impacts on current, existing land use. It was assumed that all current land uses in the potentially affected areas would be in effect for the life of the program.

Comment: What will be the visual impacts of the project on the surrounding area? (MC-0046-40)

Response: Since the TMD Extended Test Range program would only use existing or modified facilities on existing military installations already used for launching missiles, no adverse direct or indirect visual impacts would occur.

Comment: I am concerned about the impact on the existing agricultural operations and extensive wildlife population. (MC-0046-42)

Response: No impacts on existing agricultural operations would occur as a result of the TMD Extended Test Range program. The only Vandenberg AFB launch sites that could have the potential for off-base impacts would be LF07 and LF21. As stated in the Draft EIS, the Air Force has current evacuation agreements in place with owners of the parcels of land in the LF07 LHA that extends off base (see figure 2.2-25, p. 2-75) but not with the owners of the parcels of land in the LHA of launch site LF21 that extends off base (Section 4.3.2.8, p. 4-203). These evacuation agreements with the owners of the land parcels in the LF21 LHA lapsed in the late 1980s and would need to be renegotiated before implementation of the proposed action if the LF21 launch site were chosen for the program.

Comment: The EIS's description of the affected recreational environment at Vandenberg AFB should take into account the limited public coastal access opportunities between Gaviota and Point Sal. The Draft EIS understates the total recreational impacts of using Vandenberg AFB as a launch site for defensive missiles. The estimated impacts should be based on the assumption that launches will require an effective beach closure time of one half day. (MC-0051-1; MC-0051-3; MC-0051-5)

Response: The Final EIS acknowledges that there are limited public coastal access opportunities between Gaviota and Point Sal. The estimate of recreational impacts was based on the "no more than 70 minutes" temporary closure and evacuation time of the area's three beaches specified by Vandenberg AFB.

Comment: The limited coastal access opportunities in the area add to the significance of the locations that are open to the public. (MC-0051-2)

Response: The Final EIS acknowledges that there are limited public coastal access opportunities between Gaviota and Point Sal.

Comment: What will be the extent of the closure time on San Nicolas and San Clemente islands? (TOQ-0001)

Response: The Draft EIS stated that the LHAs on both San Nicolas and San Clemente islands would be activated for 70 minutes or less (p. 4-181, paragraph 1, and p. 4-223, paragraph 1).

Comment: Both Jalama Beach and Point Sal are remote from major population centers and multi-lane transportation routes. Many recreational users of Ocean Beach invest considerable time traveling to and from their destination. (MC-0051-4)

Response: Thank you for your comment.

3.3.11 NOISE

Comment: The EIS should address the noise impact on the area surrounding the base. The Community Noise Equivalent Levels (CNEL) resulting from the project must be depicted. (MC-0046-37)

Response: The effects of noise on the area surrounding the base are discussed in Section 4.3.2.9 of the Draft EIS. The use of CNEL is also discussed in this section.

Comment: The statement "The two areas that may be affected most by potentially elevated sound levels associated with the proposed project are the launch area and debris impact areas" is vague. (MC-0052-3)

Response: The statement is specific in its reference to the two areas where launch activities will occur close to the ground.

Comment: The EIS should express in graphic and written detail what levels of noise in dBA will occur from the missile launches and target detonation. What will be the duration of the noise impact? Will this level of noise have a significant effect on the humans and animal populations in the surrounding area. (MC-0046-38)

Response: The Draft EIS describes the noise environment both graphically and in the text in terms of C-weighted noise levels as discussed in Section 3.1.1.9. Noise from target and defensive missile impacts are described in Section 4.1.1.9, p. 4-47, of the Draft EIS. Graphic information relative to San Nicolas Island, Vandenberg AFB, and San Clemente Island can be found in figures 4.3-1, 4.3-2, and 4.3-3 respectively. Noise impacts from intercepts were not modeled because they will occur well off the coast and away from humans.

3.3.12 SOCIOECONOMICS

Comment: Local sport and commercial fishermen associations are concerned about needless lost business when launch activities are rescheduled but the lifting of closures is not well communicated. (TO-0001-1, TO-0001-5; TO-0005-1, TO-0005-2, TO-0005-3, TO-0005-4)

Response: The proposed action would not contribute significantly to the number of closures; however, the involvement of sport and commercial fisherman associations in the public comment process for this EIS has led to a heightened awareness and sensitivity to their concerns by the

Department of Defense. The Department of Defense will endeavor to better communicate the lifting of rescheduled closures.

Comment: The summer months are most important to the Sportfishing Association of California since it carries the majority of its passengers during these months. Another important part of the year is the early part of October, which is the opening of the lobster season. Weekends (especially mornings) are more important than weekdays. (TO-0001-2, TO-0001-3, TO-0001-4)

Response: Thank you for your comment.

Comment: Injuries to aquatic life from other test activities, such as the current "ship shock" tests being performed in the offshore waters of southern California, are extensive and will have a major impact on the economics of the fishing industry; the proposed TMD Extended Test Range activities will not make the situation any better. (TO-0002-5)

Response: The proposed shock tests would be conducted in different areas off the southern California coast. The likelihood that the TMD Extended Test Range booster drop areas would be over the same stretches of open water and affect the same aquatic life is very remote. Similarly, the economic effects on the area's fishing industry are believed to be not significant.

Comment: The military activities are causing economic problems and will have a detrimental impact on the tourist, hotel and restaurant, and fishing industries. (MC-0042-2)

Response: Many visitors will probably not realize that missile testing takes place in the area. Some visitors, while cognizant of the test activities, will be undeterred; witness the popularity of county beaches on and adjacent to Vandenberg AFB in California. Other visitors may be concerned and may schedule their visits to avoid launch times. Only a very small number of visitors are likely to be dissuaded from visiting an area due to the fact that missile tests are conducted nearby. It is also expected that a small number of visitors would be attracted to an area just to watch missile launches. Overall, the impact from test activities at the GRLC on tourism in the area is considered to be not significant.

Comment: I appreciate the Army's willingness to develop its test schedule around significant tourist events in the area. (TL-0008-3; EL-0001-4; MC-0034-4)

Response: Thank you for your comment.

Comment: The communities around Vandenberg AFB have quality available permanent housing for any increase in staff based on TMD Extended Test Range activity needs. (TL-0008-4; TL-0013-2; MC-0007-4)

Response: Thank you for your comment.

Comment: There has been a strong relationship between the city of Santa Maria and Vandenberg AFB, and it is important to the people of Santa Maria that the base remain a viable economic facility allowing people in the area to retain their jobs. (TL-0013-1)

Response: Thank you for your comment.

Comment: Lompoc schools are already overcrowded; Vandenberg AFB has not been very good at building their own housing and schools for their workers; Vandenberg AFB causes Lompoc a lot of hardship, and any increase in activities at the base may cause additional hardships. (MC-0009-2)

Response: Most TMD Extended Test Range program personnel associated with launch activity at Vandenberg AFB would be temporary transients unaccompanied by dependents. Consequently, the proposed program would have not significant impact on either the housing market or the school district in Lompoc.

Comment: There is a discrepancy within the socioeconomics section as to the correct number of available hotel rooms in the Lompoc area; there is also a suggestion that overflow availability of hotel rooms would be accommodated in the Santa Maria and Santa Ynez Valley areas instead of using the Los Angeles area. This would have spin-off economic benefits for these areas as well. (TL-0014-1; MC-0021-2; MC-0034-5)

Response: The error in the number of motel rooms in the Lompoc area in Section 4.3.2.10 has been corrected. The correct number is 683, which is consistent not only with the number cited in Section 3.3.2.10, but also with the number cited in Section 4.3.2.1, Infrastructure and Transportation. While some transient personnel could be accommodated in the Los Angeles area, it is most likely that they would choose Lompoc, Santa Maria, or even Santa Barbara, all of which are much closer to Vandenberg AFB and all of which could readily accommodate the transient personnel in their combined lodging industry without any adverse impacts.

Comment: Jobs that the TMD Extended Test Range project would create would provide a needed boost to the local economy surrounding Vandenberg AFB. (TL-0014-4; TL-0017-6; EO-0003-2; EO-0003-4; EO-0004-2; EO-0005-3; EO-0006-2; EO-0007-5; EL-0003-2; MC-0004-3; MC-0006-2; MC-0007-3; MC-0010-2; MC-0010-4; MC-0016-1; MC-0017-2; MC-0018-3; MC-0021-1; MC-0022-6; MC-0033-2; MC-0037-6; MC-0047-6)

Response: Thank you for your comment; however, the number of indirect and induced jobs created by the TMD Extended Test Range program is expected to be minimal.

Comment: The only reason that the local community leaders are anxious to see the TMD Extended Test Range program come to the area is to enhance the local economy. (MC-0012-4)

Response: Thank you for your comment.

Comment: There is concern that test activities will have an impact on the livelihood of the professional divers who frequent the area around San Nicolas Island, especially since some areas are already closed as marine sanctuaries. (TL-0020-2; MC-0032-1)

Response: Impacts on the livelihood of professional divers in the waters off San Nicolas Island are difficult to assess. Assuming the same individual diver is affected by each of the up to four LHA clearances per month that are possible and has to wait the full 70 minutes, this would nominally represent 2.7 percent of that individual's typical work month of 173 hours. Again, ample notice would be given of the area clearances, and those individuals concerned with their livelihood could schedule their dive times to avoid the announced LHA clearances. On balance, the impacts, while they are acknowledged, are believed to be not significant.

Comment: The military, including programs such as the TMD Extended Test Range activities, should stop destroying the fish habitats on the coast of California; the impact on the traditional fishing areas is not necessary; the loss is more than the diver-fishermen can bear. (MC-0003-1; MC-0043-2)

Response: No destruction of marine habitats is expected from the proposed action.

Comment: What is the projected economic growth for the area surrounding Vandenberg AFB as a result of TMD Extended Test Range activities? (TL-0022-1)

Response: As discussed in Section 4.3.2.10 of the Draft EIS, the TMD Extended Test Range program is not expected to have any impact on the projected rate of population growth of the Vandenberg AFB area, and the estimate of program-related growth in total personal income is less than 0.1 percent over the projected 1996 income level (p. 4-207).

Comment: Test activities, and therefore jobs, should be taken to areas where prices are cheaper and where jobs are needed; California does not need jobs in the Lompoc area. (MC-0009-9)

Response: The creation of jobs is not a purpose or impact of the proposed action. Cost is one factor that decision makers will eventually take into account; however, the Western Test Range is one of only four ranges that meet the necessary technical criteria for establishing an extended test range.

Comment: The TMD Extended Test Range program could result in property damage. (MC-0040-5)

Response: Very little private property will be exposed to even a slight risk of damage. This potential exists primarily on land contained within parts of the LHAs for Vandenberg AFB that would only be used with the permission of the landholders. Compensation is available to the public for property damage under the Federal Tort Claims Act and Military Claims Act.

Comment: Regarding evacuation, what is the Army position for off-site accommodations, reimbursement, and compensation? (MC-0044-4; MC-0044-5)

Response: The Draft EIS states "The Army would enter into agreements with private landowners and affected Government agencies within the LHAs and booster drop zones." (p. 2-52, paragraph 1, line 7). These agreements would be negotiated before the proposed action was implemented and before any launch hazard or booster drop area would be activated. Any concerns about off-site accommodations, reimbursement, and compensation would be part of the negotiated agreement process.

Comment: Resident populations, present and future, of the base and surrounding areas have not been depicted in the Draft EIS. (MC-0046-13)

Response: Population and growth rates are discussed in the socioeconomics section for Vandenberg AFB and detailed in Appendix J of the Draft EIS. There would be no impact from temporary launch personnel on the population growth.

Comment: The city of Lompoc has a history of excellent relations with Vandenberg AFB regarding business and community activities. (MC-0022-2; MC-0047-2)

Response: Thank you for your comment.

Comment: Will the program result in any change in oil tanker shipping activities in the Santa Barbara Channel, specifically routes designated for the tanker ships? (MC-0048-6)

Response: The TMD Extended Test Range program would have no impact on shipping routes or shipping lanes in the Santa Barbara Channel.

3.3.13 INFRASTRUCTURE AND TRANSPORTATION

Comment: Vandenberg AFB has a strong existing infrastructure in place that can only strengthen its support to the military, commercial, and civil users. (TL-0015-2; TL-0017-3; EO-0006-1; EO-0007-2; EL-0001-2; EL-0003-3; EL-0004-2; MC-0007-2; MC-0008-2; MC-0011-2; MC-0018-2; MC-0022-3; MC-0034-2; MC-0047-3; MC-0054-1)

Response: Thank you for your comment.

Comment: The technical facilities and capabilities on Vandenberg AFB are extensive, with more radar coverage than anyone on the west coast and more communications and telemetry capability than anyone outside of NASA. (MC-0013-2; MC-0016-2)

Response: Thank you for your comment.

Comment: Overcrowding in the Lompoc area is causing water availability concerns, and any increase in business at Vandenberg AFB will increase this concern. (MC-0009-5)

Response: The Draft EIS (Section 4.3.1.11, p. 4-208) states that the 140 transient personnel associated with each test flight would represent 1.6 percent of the personnel typically working at Vandenberg AFB. This is well within the normal daily, weekly, and monthly fluctuations in personnel present at the base as other programs come and go and activity builds up and winds down. Consequently, the TMD Extended Test Range program would not have a measurable effect on water usage.

Comment: Freeways and roads in the area of Vandenberg AFB are overcrowded, and new business at the base would worsen this problem. (MC-0009-7)

Response: Section 3.3.1.11 of the Draft EIS (p. 3-205) notes that highways in the Vandenberg area are generally at Level of Service C (stable flow but maneuverability limited by high volume) or better, except in a limited number of locations, notably in Lompoc. The 140 transient personnel associated with each test flight would represent a 1.6-percent increase in the base population and a 0.4-percent increase in the population of Lompoc (where the majority of transient personnel are expected to seek motel accommodations) and, thus, a 0.4-percent increase at most in traffic volume. This is well within the normal daily, weekly, and monthly fluctuations in personnel present at the base and in the local area, thus the program is not expected to have an adverse or even noticeable impact on the area□s traffic volumes.

Comment: Include a transportation analysis which studies and outlines transportation routes available for evacuation of on-site personnel and residents in surrounding areas. (MC-0046-22)

Response: Vandenberg AFB has approved disaster preparedness plans on hand for emergencies of all types, including the evacuation of on-site personnel.

3.3.14 WATER RESOURCES

Comment: Water quality would be worsened because of test activities. Even though there is a big ocean, the possibility exists that propellants or other materials would not be automatically diluted or buffered through natural processes. (TO-0006-1)

Response: Only residual solid propellant would remain in the spent booster. In surface water, solid propellant dissolves very slowly resulting in only small amounts of toxic release that are dispersed to a nontoxic level within a few meters of the source.

3.3.15 EIS PROCESS

Comment: We are concerned about the honesty and accuracy of the information supplied in conjunction with the TMD Extended Test Range program and question the credibility of the military and the program. (TL-0011-1; TL-0018-2; MC-0012-1; MC-0012-2; MC-0012-3)

Response: The purpose of the EIS process is to identify environmental issues, analyze impacts, inform the public, and solicit participation from the public and agencies. All foreseeable environmental impacts, as well as public input, are considered in the decision whether or not to proceed with TMD Extended Test Range program. The participation of agencies and the public as well as the Army's responses to their comments are intended to ensure thorough and objective analysis.

Comment: The public hearings are being done only to pacify the public; the public is not really heard, and, for that reason, the hearings are not really fair. (TO-0003-2)

Response: The purpose of the NEPA is to ensure that the public is informed about decisions on major Federal actions with the potential to affect the environment and to ensure that potential environmental effects are considered prior to a final decision on whether or not to proceed with a proposed action. At the time of the public hearings, no decisions had been made, and public input was solicited to help shape the proposal and otherwise minimize any potential adverse effects. Identification of additional potential booster drop zones and the preparation of the Supplement to the Draft EIS are further evidence that the Government was still looking for reasonable alternatives.

Comment: The TMD Extended Test Range Draft EIS was extensive and well done with a clear understanding of the environmental impacts. (TL-0013-3; TL-0023-2; MC-0001-1)

Response: Thank you for your comment.

Comment: We would like an explanation of how the Draft EIS was done and what measures were taken to make it objective. The Army has compiled the Draft EIS, and it will determine whether or not this document is sufficient. (TL-0019-1; MC-0052-6)

Response: The CEQ regulations implementing the NEPA require that the Federal agency responsible for the proposed action prepare the EIS by use of a systematic interdisciplinary approach to ensure integration of environmental considerations into the planning and decision-making process. The NEPA process requires the responsible agency to coordinate with all potentially affected agencies and provide the public with an opportunity to comment on the proposed action to ensure a thorough and well-rounded analysis. In the case of the TMD Extended Test Range EIS, scoping meetings were held in nine locations prior to preparing the Draft EIS. The Army then held a 55-day public comment period for the Draft EIS, including public hearings in 10 locations. In all, over 1,200 copies of the Draft EIS were distributed for public and agency review. The Army received literally thousands of comments from the public and agencies, all of which have been considered in the preparation of the Final EIS. The Army believes this process has contributed greatly to the thoroughness and objectivity of the document.

Comment: The display advertisement published in the local newspapers announcing the public hearings left a lot of questions to be answered. (MC-0002-1)

Response: There is only so much detail that can be put into an advertisement. The purpose of the advertisement is to provide enough detail so that the public will be sufficiently interested to participate if they have comments and concerns. The hearings themselves provided considerably more information through presentations by Army representatives and the opportunity for the public to ask questions and have them answered at the hearing. Considering the good turnout at these hearings, it would appear the advertisements were effective in accomplishing their primary goal of notifying and encouraging the public to attend.

Comment: Why were public hearings not held in locations such as Santa Barbara or Los Angeles? (TL-0024-4)

Response: Public hearings were held closest to the communities that were most likely to be impacted by the proposed action. In the case of the alternatives involving over-water flight corridors, the communities chosen for public hearings were based on the locations of facilities responsible for the proposed coastal launch sites. On this basis, it was appropriate to hold the hearings in Lompoc and Oxnard in association with the facilities at Vandenberg AFB and the Naval Air Warfare Center at Point Mugu.

Comment: Organizations involved at the local level in the test area should become involved in the process of preparing the EIS; this would assist in having local input and not just having input from state and Federal agencies. (TL-0025-1)

Response: The Army agrees with the need for local input. That is why the Army assembled an extensive mailing list prior to its Notice of Intent to prepare the EIS. Notification letters were then sent out at the beginning of the scoping process to encourage local input. In the case of the Western Test Range, these notifications included city, county, and regional agency and elected officials for Lompoc, Oxnard, Santa Maria, Santa Barbara, and Ventura. The mailing list also included local historical societies, chambers of commerce, businesses, environmental interest groups, air pollution control districts, water quality control boards, and waste management boards. Many of these entities participated in the scoping process and provided valuable local input.

Comment: There is a lack of confidence in the EIS because environmental concerns are secondary to the economic contribution that local supporters hope the project will provide to the local community. (MC-0012-7)

Response: The Army cannot speak to the motives of project supporters; however, the Army takes very seriously its charge under the NEPA to adequately and honestly evaluate the potential for significant environmental impacts so that the decision maker can make an informed decision. The impacts on the local economy are not the only concern of the EIS analysis. In any case, the conclusion reached by the Army in the EIS is that socioeconomic impacts are not significant. The Army is therefore unaware of any aspect of the EIS in which environmental concerns have been dismissed or ignored as a result of local economic considerations.

Comment: My questions and concerns raised during the scoping process, particularly regarding health and safety risks from proposed southern Vandenberg AFB launch sites, were not addressed in the Draft EIS. (MC-0046-3)

Response: The Army shares the commenter's concern for safety as the highest priority in planning and conducting the launches should a decision to proceed with the Western Range be made. The

Draft EIS, however, is a summary document and not a complete compendium of all the individual analyses, evaluations, and findings that contributed to the EIS. What the Draft EIS does discuss are the various procedures for storing and handling explosives, the existence of an Explosive Ordnance Disposal unit and an emergency response team, the procedures for establishing LHAs, the reliability of the associated missile systems, and the operation of flight termination systems. The Army believes it has adequately considered and evaluated safety concerns related to the proposed action and that its conclusion that there will be not significant impacts on human health and safety is adequately founded.

Comment: A description of the existing physical environment on the base and surrounding area was inadequate since conditions on San Nicholas Island were described and not those of Vandenberg AFB. (MC-0046-11)

Response: Rather than repeat the same general discussion of resource area issues and concerns for each alternative, the Draft EIS refers the reader to the first alternative, WSMR, where that discussion takes place in sections 3.1.1.1 through 3.1.1.12. Confusion was introduced into this process when on p. 3-187, a typographical error referenced section "3.3.1.3" which is the biological resource section for San Nicolas Island, rather than the appropriate section in the WSMR alternative, "3.1.1.3." The Army has noted this error in the Final EIS and assures the commenter that for issues specific to the physical environment of Vandenberg AFB, the conditions that relate to Vandenberg were used for analysis purposes, not those for San Nicolas Island or WSMR. Only discussions of non-site-specific issues were referenced.

Comment: The level of disclosure and analysis was not equal for the impact areas at each of the four alternatives under consideration. (MC-0046-16)

Response: The amount of detail presented in Section 4.0 of the Draft EIS, Environmental Consequences and Mitigations, was intended to be proportional to the potential for impacts. Because the overland alternative of WSMR involves booster drop zones near residences, national parks, and Indian reservations, the potential for impacts is greater for health and safety, land use, transportation, and other resource areas. Consequently, the Draft EIS contains a higher level of detail for the WSMR alternative.

Comment: The standard of what is considered "safe" for WSMR is specifically stated; however, no such disclosure is made for Vandenberg AFB. (MC-0046-26)

Response: The same standard generally applies to launch operations at Vandenberg AFB and has been noted in the Final EIS.

Comment: The EIS should consider the cumulative impacts of the two other proposed missile projects for Vandenberg AFB when assessing the effects upon air quality and biology in the area of northern Santa Barbara County. (MC-0048-4)

Response: As the Draft EIS states, cumulative impacts are difficult to create for air quality because the missile launches are short-term, discrete events. The Draft EIS also indicates that allowing 24-hours to elapse between launch event would be sufficient to avoid any cumulative impacts. Thus cumulative impacts from other proposed missile projects would potentially occur only in the event that launches occurred within 24 hours of each other. Given the anticipated infrequency of TMD Extended Test Range launches, avoiding this unlikely occurrence should pose no obstacle. With regard to cumulative impacts on biological resources, the Draft EIS acknowledges this potential on p. 4-196 in relation to other potential launch programs at Vandenberg. As a result, the Draft EIS identifies mitigation measures to avoid or lessen these potential impacts on sensitive species.

Comment: With respect to land use impacts, the Draft EIS does not account for various past, present, and future activities that may impact coastal access, recreation, and other land uses in the affected area. (MC-0051-7; MC-0051-9)

Response: Vandenberg AFB has agreements with the county of Santa Barbara for the closure and evacuation of Point Sal State Beach, Ocean Beach County Park, and Jalama Beach County Park. All three closure and evacuation agreements have been consolidated under the Evacuation Agreement, No. SPCVAN/1/93/0006, between Vandenberg AFB and the county, which gives Vandenberg AFB the right to evacuate and close the three beaches, not to exceed 48 hours before a launch (Clemente, 1994). As long as the TMD Extended Test Range program stays within the terms of the evacuation agreement, any potential cumulative incremental impact on coastal access and recreation would be not significant. The impacts on other land uses are confined to these portions of the LF07 and LF21 LHAs that extend beyond the boundaries of Vandenberg AFB.

As stated in the Draft EIS, the Air Force has current evacuation agreements in place with owners of the parcels of land in the LF07 LHA that extends off base (see figure 2.2-25, p. 2-75) but not with the owners of the parcels of land in the LHA of launch site LF21 that extends off base (Section 4.3.2.8, p. 4-203). These evacuation agreements with the owners of the land parcels in the LF21 LHA lapsed in the late 1980s but would be renegotiated before implementation of the proposed action if the LF21 launch site were chosen for the program. Assuming successful renegotiation, the potential for cumulative incremental land use impacts is negated.

Comment: In determining whether the proposed Federal action is one that significantly affects the human environment, an EIS must consider cumulative impacts that may result from the action. (MC-0051-8)

Response: The Army understands the requirement for cumulative impact analysis in an EIS, and such an analysis was performed for each resource area for each alternative and is included as Appendix A of the Final EIS.

Comment: The words used in the EIS are generic and vague; phrases such as "almost none, potential, could be, not significantly impacted" are used. (MC-0052-1)

Response: The main determination to be made in the EIS is whether or not a potential impact is significant. On pp. 4-1 to 4-3 of the Draft EIS, the terms "significant," "not significant," and "no impact" are defined in terms of the criteria for intensity/context. Unless the text specifically states that a potential impact is significant, it is not considered significant. Similarly, unless the text states there is "no impact," it means there is the potential for some impact. Consequently, a phrase such as "almost none" has the same meaning as "not significant." It is important to understand that the EIS identifies many potential impacts that do not necessarily meet the threshold required to be considered significant. It is also important to understand that because the analysis is performed prior to decision-making and possible implementation of an action, that phrases such as "potential" and "could be" are considered appropriate.

3.3.16 AMERICAN INDIAN ISSUES

No comments were received for American Indian issues for the Western Range Candidate Test Area.

3.3.17 OTHER

Comment: If damage was going to be done to the environment from testing, it would have happened long ago. (MC-0037-4)

Response: Thank you for your comment.

Comment: The oil rigs and commercial shipping are greater threats to the environment than the Navy testing ever could be. (MC-0037-5)

Response: Comparison of potential threats to the environment from other sources, whether greater or smaller than the proposed action, is not the appropriate yardstick for assessing impacts under the NEPA. The Department of Defense prepared this EIS to satisfy the NEPA by evaluating the proposed action on its own merits, including any significant, incremental, adverse impacts.

3.4 WSMR CANDIDATE TEST AREA (SUPPLEMENT TO THE DRAFT EIS)

3.4.1 POLICY

Comment TK-0002-1: We are eager participants when it comes to the defense of our country. It would appear to us that the Army has made every effort to address any negative issue brought forth during recent hearings regarding this project.

Response: Thank you for your comment.

Comment TK-0003-5: The Army lied to us about the performance of the Patriot in the Gulf War, and the video we saw tonight, wonderfully misleading language perpetuating the idea they hit something in the Gulf War. They didn't.

Response: The accuracy of the PATRIOT missile used during the Gulf War has been the subject of some disagreement, but the safety of a tactical missile under wartime conditions is very different from the considerations built into the controlled test flight scenarios proposed for the TMD Extended Test Range program.

Comment TK-0003-6: National security is important. This program is important. There are better ways to manage it. There are better ways to handle the testing.

Response: Thank you for your comment.

Comment TK-0006-1: The White Sands Missile Range is a natural resource, and it's dedicated to national security. These people need this area to monitor these flights.

Response: Thank you for your comment.

Comment TD-0017-3: When we talk about defense, I'm not sure who we're going to defend ourselves against, except the Republicans.

Response: Thank you for your comment.

Comment TA-0002-1: The membership recognizes the importance of strong national defense and the value of realistic testing of defense systems prior to fielding of these systems.

Response: Thank you for your comment.

Comment TA-0002-2: The potential risks of this program have shown to be minimal; and whereas, overland testing is less costly to the American taxpayer; and if more value to the tester because of more accurate collection of test data, we do wholly support the proposal to conduct testing of theater missiles in New Mexico, especially from Ft. Wingate to White Sands Missile Range.

Response: Thank you for your comment.

Comment TA-0004-1: I still oppose dropping things out of the air on our home soil. If we're testing these things for the people in Europe, I would think we could do it over their territory, drop the boosters on them, quite frankly.

Response: As described in Section 2.5 of the Draft EIS on pp. 2-95 and 2-96, the list of possibilities included two foreign sites outside U.S. control. Using the evaluation criteria listed in the referenced section, the list was reduced to the four alternatives analyzed in detail in the Draft EIS. As stated on page 1-1 of the Draft EIS, Congress, through the Missile Defense Acts of 1991 and 1993, directed the establishment of the Theater Missile Defense initiative as a program to defend and protect forward deployed and expeditionary elements of the armed forces of the United States and U.S. friends and allies.

Comment TA-0004-5: I would like to see the testing done over water. I understand the need to analyze debris and the ease of recovery over land. I do understand and appreciate that, but if I had any say over it, I would forgo that and do the testing over water where damage would be minimized.

Response: See response to comment TKQ-0013.

Comment TA-0005-2: The topo map shows that the land is just as rugged as the Zuni Mountains and booster retrieval will be very hard, but you already know this.

Response: Booster recovery operations differ depending upon the terrain. Rougher country does require more time for recovery.

Comment TAQ-0002: Does this system, in any way, violate or jeopardize any of our international treaties that we have entered into; for example, the Strategic Arms Limitation Treaty? Does this in its total concept violate our international obligations to any country or any group of people anywhere a globe, or is this the beginning of Strategic Defense Initiative?

Response: The U.S. strictly complies with all our arms control treaties and international obligations. Each of our programs and associated activities is reviewed thoroughly to ensure they are completely consistent with all such treaties and obligations. If there is a question of compliance, the issue is resolved before the activity proceeds.

Comment MS-0045-1: We cannot help wondering whether the takeover of such large areas in Southeastern Utah and New Mexico are really necessary to the security of our Nation.

Response: For proposed launch activities the Army would utilize only a small area of land in Utah and New Mexico, both of which are existing facilities. The proposed booster impact areas are also

small areas of land where evacuation agreements with public and private landowners would be negotiated.

Comment MS-0054-1: We do not understand why the Army needs to expand into even more areas for their missile testing. The Department of Defense budget has been cut back and the Cold War is over so it would seem that the current existing testing ranges in California, Nevada, Utah, New Mexico and the Oceanside ranges would provide plenty of space for drop zones.

Response: The need for missile testing and Department of Defense budgets is beyond the scope of this EIS. The need for realistic testing over greater distances to meet existing and developing threats is what requires booster drop zones outside of existing ranges.

Comment MS-0071-4: The idea of using lovely and sacred grounds of SE Utah as a test site is ill-conceived. It reflects a deep insensitivity, on the part of planners, not only to landscape values but to the making of an authentic basis of defense: one that begins by respecting and caring for the very thing defended.

Response: Thank you for your comment. Many difficult environmental, funding, operational, and technical issues will be carefully considered in reaching decisions on which range(s) should be used.

Comment MS-0082-2: With as many problems that were revealed in the Gulf War, the accuracy is very questionable.

Response: See response to comment TK-0003-5.

Comment MS-0086-1: The Army and Air Force currently have access to an adequate number of test ranges without desecrating and destroying the natural beauty found in Drop Zones 1 and 2.

Response: No existing range is large enough by itself to accommodate the proposed missile testing. See response to comment MS-0054-1.

Comment MS-0148-2: Is this proposal a necessity to our country's defense? Are we still in an arms race?

Response: See response to comment MS-0054-1.

Comment MS-0149-4: We strongly resent the military's continuing treatment of this part of the country as a convenient dumping ground for unpopular and dangerous defense industry testing.

Response: See response to comment MS-0045-1.

3.4.2 PROGRAM

Comment TKQ-0001: Is the booster a target at any point?

Response: No.

Comment TKQ-0002: Why are boosters used and not dropped from aircraft to avoid this issue?

Response: Current technical problems associated with aircraft delivery restrict it from being available within the time frame required.

Comment TKQ-0003: How much control can be exerted on the booster?

Response: The first-stage booster is guided in flight for the first 65 to 68 seconds. After that, it becomes ballistic and WSMR personnel can predict, with a high degree of reliability, where the booster is going to impact.

Comment TKQ-0004: How would a booster be recovered if it ends up in a steep slope near a cliff?

Response: The procedure will be coordinated with the appropriate landowner or the agency that owns the property. If the use of a helicopter is unsafe, boosters could be cut up and packed out by horses or mules. Most recovery is expected to be completed within a few hours.

Comment TKQ-0005: How often do the homing devices on the boosters fail?

Response: Very rarely. In addition to the homing device, a radar will track the booster, and on-board telemetry data can be used.

Comment TKQ-0006: What were the environmental impacts of the original plan, and how are the areas better?

Response: The primary impacts from use of the GRLC were related to temporary restriction on access to certain recreational areas near Canyonlands National Park. Also, I-70 would have needed to be closed for a short period of time during launches to ensure clearance of a launch hazard area. With the new booster drop areas there would be fewer areas of restricted access. Use of booster drop zones C1 and C2 would allow Highway 211 to remain open. No major roads would be closed, with the exception of the Needles access road that would be closed for a short period of time during launch, and I-70 would remain open during these launches.

Comment TKQ-0011: If a flight from the Green River Complex must be terminated, does the disabled missile become a free-falling bomb?

Response: No. The primary method of terminating flight is to stop the booster from thrusting by using explosive charges. If termination occurs during first-stage burn, the missile could be broken into several pieces. If termination occurs during second-stage burn, it would remain in one piece. The Range Safety Officer's decision will be timed to avoid populated or sensitive areas.

Comment TKQ-0012: What plans are in place for this type of event?

Response: Recovery of debris resulting from termination would be different from booster recovery because it would be handled under an emergency response plan. Recovery teams may be diverted to a different impact point rather than the booster impact zone. Terminations are rare and usually occur within the evacuated launch hazard area.

Comment TKQ-0013: Why over land; i.e., why not over water?

Response: We are considering four areas, three over water and one over land. The overland option affords us the best opportunity to cost-effectively recover intercept debris on WSMR and do post-intercept and impact analysis to determine test effectiveness.

Comment TKQ-0014: How much do the boosters weigh?

Response: Empty booster weight depends on whether the launch is from the GRLC or FWDA. It can weigh anywhere from 1,900 to about 3,300 pounds, depending on how much ballast is used. From the GRLC, since it's a longer flight, the booster would weigh approximately 1,900 pounds.

Comment TKQ-0015: How accurate are your predictions of impact areas?

Response: Missile flight paths are simulated and impact areas determined using sophisticated, state-of-the-art modeling techniques. The degree of confidence in these simulations is extremely high based on demonstrated flights at WSMR.

Comment TK-0001-1: I support the Theater Missile test program. Let me also say that the Army does not need to drop missiles here for this program to continue. According to the EIS, there are two other sites, both over water, which could host these launches without any serious adverse impact.

Response: See response to TKQ-0013.

Comment TK-0003-4: The comment that terminations are rare means that they do happen. It means that boosters will drop in areas they are not intended to drop in. They will cause damage, they may kill people.

Response: Preliminary flights will be done on WSMR proper to establish system reliability before any off-range launches would occur. Most terminations would be expected to occur within the evacuated launch hazard area. Safety is always the primary concern and will not be compromised for any other requirement. WSMR has demonstrated over 40 years of experience with missile testing without any injuries or deaths related to such testing.

Comment TK-0005-1: We are concerned that the drop zones have not been sufficiently evaluated and may not be the best alternative. The location identified for these drop zones include some of the most outstanding federal public land resources in the entire nation. They include culture, recreational, scenic and biological resources that are internationally known.

Response: The Army is continuing to evaluate all information that is available to determine the best alternative. Even the best alternative may have to include certain mitigation measures.

Comment TK-0008-2: I think the water sites look like a very good option, and I would ask you to reconsider those.

Response: See response to comment TKQ-0013.

Comment TK-0009-1: I believe it is time for the U.S. Army Space and Strategic Defense Command to abandon its ill-conceived proposal to drop booster rockets anywhere in Utah or New Mexico. The Army's present Supplement to it's Environmental Impact Statement for the White Sands missile target practice project fails to recognize that it's important to keep booster rockets from falling in its proposed new drop zones in Utah as it is to protect the Washington Monument and the White House from a possibly boisterous demonstration of people seeking to forward whatever their cause may be. If the Army must have missiles to shoot down at White Sands, those missiles can be launched from Air Force planes without endangering valuable national treasures in either Utah or Washington, D.C.

Response: See response to comment TKQ-0002.

Comment TK-0010-1: In my opinion the potential risks and inconvenience to residents and tourists, and the possible impact to the environment and to area tourism are imagined to be much worse than past experience and reality has demonstrated.

Response: Thank you for your comments.

Comment TK-0012-3: Given BLM's intermanagement policy and such to our mandated reclamation deadlines we believe that any recovery from within designated Wilderness Study Areas would be illegal.

Response: The Army will plan booster impact areas to avoid Wilderness Study Areas.

Comment TK-0013-1: I believe we do not need the inter-missile defense. It is too costly, too hazardous, too seductive, too unnecessary.

Response: As stated on page 1-1 of the Draft EIS, Congress has directed the establishment of the Theater Missile Defense initiative as a program to defend and protect forward deployed and expeditionary elements of the armed forces of the United States and U.S. friends and allies. Thus, the need for this program is beyond the scope of this document.

Comment TK-0016-4: The chances that you will hit irreplaceable rock art are maybe slim, but they are still there. And when you have the option of going over water where you can do recovery practice, the U.S. Navy could be part of that, and where you would do no damage or very little damage, then to even consider this as an option seems to be outside of any kind of rational thinking.

Response: A final decision whether or not to proceed with testing at WSMR and/or one of the other ranges will be made following the publication of the Final EIS. Foreseeable environmental impacts analyzed in the EIS will be considered in this decision.

Comment TK-0017-1: We are just as frustrated today by the idea of a 2,000 pound booster rocket dropping out of the sky in Utah as we were at the first comment session.

Response: Thank you for your comment.

Comment TK-0017-3: I would like to comment in particular on the military's public notice in the local newspapers dated August 18, 1994. Along with the invitation for the public to comment, a token map was printed to identify the new booster drop zones. It's a small map with few identifying markers. The flight trajectory of the missiles were missing. The map did not make it clear that the missiles pass over and drop their boosters adjacent to or near numerous areas of importance (Canyonlands National Park, Newspaper Rock, Ute Mountain and Navaho Indian Reservations, et cetera).

Response: Because of the space available in local newspapers, only general feature maps could be printed. The Supplement to the TMD Extended Test Range Draft EIS provided detailed maps in Section 3.0 of all affected and potentially affected areas.

Comment TK-0017-4: We are asking the military to reconsider the area for the missile tests. Any of the over-water sites would be a better choice than Utah's National Park areas.

Response: Thank you for your comment.

Comment TK-0018-4: I challenge you gentlemen to go down there and take a look at the area you are talking about. Please consider the alternate drop sites.

Response: Thank you for your comment.

Comment TK-0019-1: I have no problem with you dropping debris on military installations, but I do have a problem dropping debris on public land. And I'm not sure you understand that what you are asking the public to do is to evacuate, mobilize, readjust their itineraries and travel plans so that you can launch your rockets over our land. It doesn't make sense because there are other alternatives: launch over sea, or launch by plane.

Response: See response to comment TKQ-0002.

Comment TK-0021-4: I was wondering how much debris actually does split off. You said it's unlikely to break up. I don't know how unlikely unlikely is. If that's 10 percent that's one in a ten-drop year. That's one breakup booster per year.

Response: Some small hardware items may separate from the booster at impact and come to rest up to 100 feet from the booster. See page 2-9 of the Supplement to the Draft EIS.

Comment TK-0021-7: You said that if it's impractical to retrieve a booster it would not be retrieved. I believe that under the non impairment standard of WSA and Wilderness Area that that is not only impractical, it's illegal.

Response: See response to comment TK-0012-3.

Comment TK-0021-9: I think that overall overland testing seems patently more impractical than some other test regimen like over water, despite the benefit you state as far as retrieving boosters go. It sounds to me like the program is motivated by competition among missile test ranges and facilities, and I would be curious to know what the value of the contract to the White Sands Missile Range is, and if that has anything to do with why we are considering this program.

Response: While cost ultimately is a factor along with technical test requirement capabilities, the determination relative to which test range(s) will be used will not be made by the proposed test ranges. WSMR does not have a "contract" for extended-range testing.

Comment TK-0022-1: Human error is always a problem with all kinds of missile development and transportation and launches.

Response: Thank you for your comment.

Comment TK-0022-2: I submitted a number of equation plans on some alternate systems for noting where the impact is. And I don't think that you are going to be able to locate according to your plan by helicopter. There is a military procedure whereby every area is notified, and no one is allowed to be in that area. And a helicopter can not be there. So I think there should be multiple systems for the determination of where that impact is.

Response: The helicopter would be on the ground at the edge of the booster impact area, while the booster impact zone airspace would be restricted. The booster also has a locator beacon on it to aid in recovery. See response for TKQ-0005.

Comment TK-0025-1: I'm against the project. I don't believe you have picked the right area to do this. I believe Southeastern Utah, Southern Utah needs to be protected at any cost.

Response: Thank you for your comment.

Comment TK-0025-2: I wanted to suggest that the idea of moving the drop zones to BLM areas rather than National Park areas actually doesn't solve anything for me. I use BLM areas much more often than I go to National Parks.

Response: Thank you for your comment.

Comment TD-0002-7: You use the term "the desired flight path" and you sound very unsure about that. Whoever made your video, they didn't sound real certain about that.

Response: Thank you for your comment. The commentator should have used "the predetermined flight path."

Comment TD-0002-9: I wouldn't refer to a crater made by a 4,000-pound object falling from a 17 story building as a "ground depression".

Response: The object is also characterized as an "empty steel fuel tank;" therefore, the spent booster is expected to crumple upon impact, resulting in a "ground depression." Depending on the composition of the soil, this could be as little as a few inches up to as much as a foot or two (see Supplement to the Draft EIS, page 2-9).

Comment TD-0004-1: I don't like the title, the "Extended Test Range." It seems like the entire state of New Mexico has been sort of annexed by White Sands, so that you guys have more room to test missiles over the whole state, not just over the area that was obtained for that purpose.

Response: Thank you for your comment.

Comment TD-0004-3: Up at Langmuir Research Institute, a lot of things are fired into the air, and they do lightning research there. I think you should coordinate the schedule for your missiles with the Langmuir people, because they do shoot things into the air.

Response: Launch dates and times will be coordinated with all affected agencies.

Comment TD-0004-4: There is a blast study area that's run by the college, and I was wondering if any airborne pressure could affect the overflight of the missile or the booster, when they explode over there.

Response: Since the target missile will be over 50 miles high when over the area in question, there will be no effect.

Comment TD-0004-11: Shooting missiles over the homes of your own people to see if they work, so that you can then shoot your enemies, is downright un-American.

Response: Thank you for your comment.

Comment TD-0005-2: I'm opposed to any missiles flying overhead in this area because of safety reasons, noise and just not needed. I would rather the government conduct this experiment someplace else.

Response: Thank you for your comment.

Comment TD-0006-1: Probably the biggest concern that I have is the fact that you may have early separation of the booster, and that could result from a number of different things.

Response: This failure was one of the possible failure modes examined to determine the size of the launch hazard area and the procedures used for safety management of the tests.

Comment TD-0006-4: Historically, we know that anywhere from 2 to 3 percent of all missile failures are just failures that we cannot get away from. Even our best programs have a very difficult time getting below a 2-percent failure rate.

Response: It is precisely this type of historical data that helps establish the size of the launch hazard area and the booster impact areas.

Comment TD-0008-2: I think 100 tests is a little absurd; 49 years ago, Oppenheimer only needed one.

Response: The proposed schedule has not been finalized. No more than an average of six to ten launches per year from either the GRLC or FWDA are anticipated.

Comment TD-0012-3: I understand that people can pay attention, and people can pay attention, but there is human error. Things can happen; can go wrong. We just don't want the trajectory or anything else around this town. If it's that safe, shoot them over Albuquerque.

Response: In Section 2.2 of the Supplement to the Draft EIS, the development and definitions of booster drop zones are explained in figure 2-3 and in the text on pages 2-4 and 2-6. The required booster impact area would be evacuated prior to conducting each test. Only the booster impact area, not the entire booster drop zone, would be evacuated. Flight tests would not be approved unless the predicted booster impact area were contained within the identified booster drop zone. The Army will perform comprehensive planning and studies prior to launch to ensure that the launch vehicle can be reliably and safely launched. The flight of the launch vehicle will be monitored throughout the entire flight by Range Safety sensors. Should these sensors indicate that public health and safety could possibly be endangered, a flight termination command would be issued to the launch vehicle, and the vehicles flight would be terminated as described in the Draft EIS.

Comment TD-0013-2: Karen Shepherd from Utah, successfully passed an amendment on the 1995 Defense Authorization Bill, which would have made TMD tests, where debris falls outside of an existing range, against the law. As it now stands, there is a moratorium on these tests until June 30, 1995.

Response: Thank you for your comment.

Comment TD-0014-1: I just want you to know that I feel like the defense of America depends on these tests, and if this will allow something to be developed like the PATRIOT missile, and work as good, then I'm for it.

Response: Thank you for your comment.

Comment TD-0016-2: Another question that was brought up was the possible testing over an ocean. I don't know if that's possible or not, but that sounds like a good idea, where the only thing that would have to be cut off was just boats.

Response: See response to comment TKQ-0013.

Comment TD-0017-4: I understand the technology. I remember during the Gulf War, the controversy over the PATRIOT missile; there were some reporters who said it never did work, and others who claimed it did. There's been a great deal of controversy about it. I'm not sure what's true, because our press isn't known for their honesty, either.

Response: The accuracy of the PATRIOT missile used during the Gulf War has been the subject of some disagreement, but the safety of a tactical missile under wartime conditions is very different from the safety considerations built into the controlled test flight scenarios proposed for the TMD Extended Test Range program. However, it is the limited effectiveness of existing TMD systems such as the PATRIOT that necessitates development and testing of more advanced systems.

Comment TD-0018-1: I understand the need to test these missiles. I understand the need to make a defensive weapon that will knock them down or to counteract them. I don't agree where you're going to do it. I hate to be one of the ones that says "Not in my backyard." I don't want to have to tolerate it in Hop Canyon, though. It's not a war. There's plenty of places they can fly low. There's plenty of places you can test your rockets. Maybe it won't give you the most data that you need, but it will give you data anyway.

Response: Thank you for your comments. The Draft EIS identified reasonable alternatives for candidate test areas and compared the environmental effects of these alternatives. Many Federal test areas deemed practical were considered.

Comment TTQ-0001: We've been told these drops will happen three or four times a month for four years; is that not true?

Response: See response to comment TD-0008-2.

Comment TTQ-0003: When will the Wingate, Green River, California, Florida, or other alternatives be chosen?

Response: There will be no program decision on the range testing alternatives until at least 30 days after the Final EIS has been published.

Comment TTQ-0004: What made the Moab area drop zone more environmentally unacceptable than the two new drop zones?

Response: Use of booster drop zones C1 and C2 reduces the launch hazard area size and, therefore, allows I-70 to remain open. No U.S. or state highways would be affected. While State Highway 211 is within Booster Drop Zone C1, it would not be in the booster impact area; therefore, it would not be closed. Access restrictions to recreational areas in and adjacent to national and state parks are less with the new drop zones.

Comment TTQ-0006: Do you intend to do more tests from Fort Wingate or Green River?

Response: See response to comment TD-0008-2.

Comment TT-0002-7: We're told it will take 10 minutes of helicopter use in the area. If you hit the top of Comb Ridge with one of these things, it's not going to take you just 10 minutes to pick up the pieces. We haven't been told how much helicopter time will be required to clear out all these canyons, but it will be considerable.

Response: See response to comment TA-0005-2. For a discussion of helicopter use to assist in evacuation of booster drop zones, see Appendix B of the Supplement to the Draft EIS.

Comment TT-0002-12: We know that anything you approve in this EIS for a large number of flights and say you don't want to use that many, you can change your mind as soon as this thing is approved.

Response: See response to TD-0008-2.

Comment TT-0002-14: There are no limits set on the amount of helicopter use that could be out there.

Response: Helicopter use would be kept to the minimum required to locate and remove the booster and to verify that evacuations were complete.

Comment TT-0002-18: We still wonder why the military hasn't considered the alternative of firing these things from the air eliminating the need for booster drop zones. There is no place in southeastern Utah that deserves to be a bombing range. There's no place in New Mexico.

Response: See response to comment TKQ-0002.

Comment TT-0003-6: Why is everything whenever we're told something might hurt us, it's one chance in a million. It's never one chance in eight hundred and ninety-six thousand, or one chance in one million four hundred and thirty-two thousand, it's just always one chance in a million. I don't believe it. I don't believe that's a statistical fact that it's just by coincidence one chance in a million. That's something you're just pulling out.

Response: A number such as one in a million or five in a million is an easily remembered standard method of expressing odds of an event happening that reflects an extremely low probability of occurrence, such as winning the lottery. The actual safety margins used for the proposed testing are expected to be less than one in a million.

Comment TT-0003-8: If these tests are so safe, let's shoot them over some other city: St. Louis, Dallas, Washington D.C. If there's no chance that any of these things are going to come down, why pick us.

Response: See response to comment TD-0012-3.

Comment TT-0004-6: The other thing is with your recovery, I think you've got a lot better plan this time than you had last time, if it works. I'm a little concerned about being able to control the personnel in the helicopters. I know what guys in helicopters like to do.

Response: Thank you for your comment.

Comment TT-0005-1: There's a phrase in your video that said, "you are sensitive to environmental areas." If that's true, why are you even considering southern Utah?

Response: See response to comment TKQ-0013.

Comment TT-0005-2: You showed the recovery, the proposed recovery. That missile carcass is sitting on flat ground that's not even disturbed. Obviously that missile did not fall there; it was placed there. That's misleading. It makes people think that that's the way things go and that's the result of the damage.

Response: The recovery shown in the video was from a previously fired STORM target, and it was a booster of the approximate size that the HERA target would be. The intent of the video was to demonstrate a helicopter recovery, so the spent booster was placed in the impact area on WSMR to demonstrate how the booster would be cut up and removed.

Comment TT-0005-5: Our national security would not be detrimentally affected one bit by using the offshore sites instead of the Green River site. You don't need to analyze the debris. Pursing this alternative only serves to undermine the citizens' faith that our government truly tries to make the most of every tax dollar. I think you've wasted an incredible amount of money so far pursing this alternative.

Response: Debris analysis is very important in determining test effectiveness and failure analysis of developmental hardware (the interceptor). Without this information, more tests may have to be done, significantly increasing costs.

Comment TT-0005A-3: You packaged this really nice video. It is well thought out, well planned, and I don't buy it. Your track record hasn't been too positive in the past. I don't even get why we have to go through this in the first place. The plan itself is ludicrous in the amount of time, money, energy that you will waste to articulate such an extravaganza. We have enough weapons here to extinguish all life on the planet. Why spend all this money and time playing these war games?

Response: See response to comment TK-0013-1.

Comment TT-0014-1: You're talking about smoke screens. When you were asked to nail down what six to ten launches meant, you said "probably". Nobody here knows what you're talking about, because the Army isn't letting on to us what they're talking about.

Response: The numbers which are stated in the EIS are maximum numbers used for evaluation purposes. The number of launches will probably be much less than what is analyzed in the EIS.

Comment TT-0014-3: What's appropriate in southeastern Utah is not dropping booster rockets the size of U-boats out of the sky at the rate of what? Six, ten, a hundred. We really don't know. Over a period of five years, what kind of a reputation is that going to give southeastern Utah? Are folks going to still keep coming here in droves to have missile boosters dropped.

Response: See response to comment TD-0008-2.

Comment TT-0015-1: I'm hoping the missiles are more accurate now days, and I'm hoping they're more dependable.

Response: They are better, and the system that tracks and controls them is better.

Comment TT-0015-2: I think if this is the best place, then we have to do it. It's still a nasty world, and I would rather have those guys trained and the equipment work than go out there and push a

button and nothing happen. I would be in favor of a program that might be handled a little bit better.

Response: Thank you for your comment.

Comment TT-0015-3: I think the winter time would be better for the north drop zone and the south zone too. Part of the summer time and avoid the spring and fall.

Response: Schedule coordination will be accomplished with all affected agencies, taking into consideration periods of public use.

Comment TT-0016-5: It really doesn't help much when you drop missile debris on us, and they're very upset that this is going on without giving them full information.

Response: The Army plans are provided in the EIS.

Comment EK-0001-1: The Army does not need to drop missiles here for this program to continue. According to the EIS, there are two other sites, both over water, which could host these launches without any serious adverse impact. That cannot be said about the Utah sites.

Response: See response to comment TKQ-0013.

Comment EK-0002-1: I am pleased to lend my support to the prospective launch program from Green River, UT, and from Ft. Wingate, NM to White Sands Missile Range in NM.

Response: Thank you for your comment.

Comment EK-0003-1: We are just as frustrated today by the idea of a 2,000 pound booster rocket dropping out of the sky in Utah as we were at the first comment session.

Response: Thank you for your comment.

Comment EK-0003-3: I would like to comment in particular on the military's public notice in the local newspapers dated August 18, 1994. Along with the invitation for the public to comment, a token map was printed to identify the new booster drop zones. It's a small map with few identifying markers. The flight trajectory of the missiles were missing. The map did not make it clear that the missiles pass over and drop their boosters adjacent to or near numerous areas of importance (Canyonlands National Park, Newspaper Rock, Ute Mountain and Navaho Indian Reservations, et cetera).

Response: See response to comment TK-0017-3.

Comment EK-0003-4: We are asking the military to reconsider the area for the missile tests. Any of the over-water sites would be a better choice than Utah's National Park areas.

Response: Thank you for your comment.

Comment EK-0005-4: Please reconsider your flawed judgments so that any alternative to ground launch to WSMR can be seen to be preferable.

Response: Thank you for your comment.

Comment EA-0001-2: We would prefer that the Army look for an area where there was less people occupying the area.

Response: Thank you for your comment.

Comment EA-0002-1: Rather than launching from Ft. Wingate, I would like to suggest that an area in Mexico be used as a launch site.

Response: Thank you for your comment.

Comment EA-0005-2: The topo map shows that the land is just as rugged as the Zuni Mountains and booster retrieval will be very hard, but you already know this.

Response: See response to TA-0005-2.

Comment MS-0002-2: There were good alternatives to this proposal; namely, moving the test sites to areas over water in the Pacific and/or launching the missiles from airplanes instead of the ground. The objections to these alternatives did not seem compelling: recovery of the booster debris may be more difficult but not impossible in the ocean, and an air launch should be technically feasible and not that over budget.

Response: See response to comment TKQ-0002.

Comment MS-0004-4: Who is to say these launches would follow some sort of planned schedule anyway?

Response: The current plan is to have six to ten launches per year from either FWDA or the GRLC.

Comment MS-0004-5: There is no place in southern Utah, which deserves to be used as a dumping ground for missile debris!

Response: With a few possible exceptions, all boosters would be recovered, the area would be returned to its natural state, and no dumping would occur.

Comment MS-0004-6: What about an alternative of launching the missiles from airplanes, which I understand could eliminate the need for dropping booster rockets on public lands altogether? Or why not use existing military bombing ranges, (i.e. the very large ranges in western Utah), that could also encompass the seemingly necessary booster drops and flight paths?

Response: No existing range is large enough by itself. See response to comment TKQ-0002.

Comment MS-0005-2: Please no military junk on these pristine lands. Launch missiles from airplanes and eliminate the need for boosters.

Response: See response to comment TKQ-0002.

Comment MS-0011-3: If Eglin AFB selected you could use Navy TOMAHAWKS in lieu of "HERA's." What does "HERA" mean? Not in ACRs & ABBs.

Response: Navy Tomahawks would not realistically simulate an incoming theater missile. HERA, the name of the target missile, is not an acronym; it is the name of a Greek goddess.

Comment MS-0012-4: Your safest bet would be to select an alternative site for a booster drop area.

Response: Thank you for your comment.

Comment MS-0015-1: I implore you to drop your proposal to drop missile booster rockets in southern Utah. There is too much margin for error, even though the drop zones would only be 10 x 8 miles in size. Even the change of venue to San Juan County is not acceptable to me.

Response: Thank you for your comment.

Comment MS-0015-3: I ask you to look at alternatives to this plan: launching missiles from airplanes would be acceptable.

Response: See response to comment TKQ-0002.

Comment MS-0016-1: After reviewing the supplement I still believe that the test firings should take place and the booster drop zones may remain as they were before or the new ones used. I believe that the launches should take place and hope that you plan to go through with the program.

Response: Thank you for your comment.

Comment MS-0020-5: Scud missiles don't seem to go where they are necessarily intended. So that means to me that either the corridor is actually much wider than projected, endangering a lot more peoples' lives, or that "better" missiles will be used that don't go off course. If the "better" scuds are used, then that really isn't an accurate test of the White Sands defenses, is it? And if the test isn't accurate, then it will not be worth the associated risks and environmental damage it would cause. Please take the missiles elsewhere, to a place where all the people can be cleared out with 100% confidence, and our state's infrastructure will not be jeopardized.

Response: HERA target missiles (which are not Scud missiles) launched from either FWDA or the GRLC would simulate some of the trajectories from threat missiles. Although proposed target missiles will be much more accurate than Scuds, the trajectory, rather than the accuracy, is what is important in developing realistic test scenarios.

Comment MS-0021-1: I can't imagine anyone, even the Army, considering dropping 3,000 lb. canisters on the rock formations, ruins, trees, wildlife, and visitors of that country. These lands are sacred. Please don't allow the Army to defile them. They are unique and irreplaceable.

Response: Your concerns are receiving careful consideration.

Comment MS-0022-2: With the decline in the cold war and the downsizing of the military, it seems reasonable that there would not be a need for an additional drop zone let alone the one that already exists.

Response: No current drop zones exist. Alternative potential drop zones are being analyzed in this EIS. The need for testing of the Congressionally mandated TMD system is beyond the scope of the EIS.

Comment MS-0025-1: There must be alternative drop zones for the Green River Launch Complex Areas C1 and C2. They are just as important as area A and B for wildlife habitat, increasing

recreational use, and just one of those last few areas on our globe that have remained undeveloped and relatively undisturbed.

Response: See response to comment TK-0005-1.

Comment MS-0025-3: The actual event of the dropping, the debris left behind, the truck traffic needed in the process, the noise pollution, and more, would greatly detract from the beauty and serenity of the canyons, mesas, spires, et cetera in areas C1 and C2.

Response: See response to comment TK-0005-1.

Comment MS-0027-4: The supplement should be corrected to reflect that there has been no cooperation between the Army and other groups in the creation of the C1 and C2 drop zones.

Response: There has been cooperation and coordination between the Army and other Federal and state agencies, and this coordination is ongoing.

Comment MS-0027-5: Nor were these drop zones created through consultation with the land management agencies.

Response: See response to comment MS-0027-4.

Comment MS-0027-6: There is still no adequate description of the proposed action.

Response: Please see page 2-94 of the Draft EIS.

Comment MS-0027-9: There is no discussion of the likelihood of an increasing number of tests in future.

Response: The EIS analyzes tests over a period of approximately 5 years.

Comment MS-0027-20: The supplement does not calculate how much helicopter use would be required to evacuate these areas, especially if civil disobedience occurs. Nor is the amount of time which would be required for searching for debris discussed.

Response: The Supplement to the Draft EIS contains an evacuation plan and a booster recovery plan which address evacuation procedures and recovery operations by helicopter.

Comment MS-0027-24: The impact zone sizes appear uncertain. At page 2-6 the impact zone is said to be 13 miles by 9.9 miles. At page S-2, the impact zone is described as 8.1 miles by 9.9.

Response: The 8.1 miles by 9.9 miles is correct. The 8.1 and 13 on page 2-6 were transposed.

Comment MS-0027-29: The EIS states ground based sensors may be positioned to cover anticipated impact areas to assist in locating boosters. Where would the sensors be located, and what would be the environmental consequences of this action?

Response: A ground-based sensor would likely be a mobile radar. It would travel and be located on existing roads near the launch point. Therefore, environmental impacts would be not significant.

Comment MS-0027-30: Would there be seasonal limits placed on the firings? If so, what are those limits? Would there be any limits to the times of day the firings could occur?

Response: In most cases firings would occur in the early morning hours. Seasonal mitigation measures could also be used in establishing schedules.

Comment MS-0027-33: Are there any absolute limits to the amount of time launch areas and drop zones would be closed for flights, including roads? Are there any limits to the amount of vehicle use which would be allowed off of mechanically constructed and maintained roads for retrieval of booster rockets?

Response: Drop zones and launch hazard areas would be closed for a maximum of 12 hours, most likely 4 hours. Roads leading into the booster impact area will be closed for up to a maximum of 70 minutes. Wheeled vehicles will not be used off improved roadways for booster recovery.

Comment MS-0029-3: I am not against progress or multiple use, but dropping boosters is just destructive. Once damage is done in this area, it may never recover.

Response: A booster drop does not necessarily cause irreparable damage, and normally the area can be restored to its original condition.

Comment MS-0031-8: Finding booster rocket pieces will not be easy. Helicopters or no helicopters, these lands are wild.

Response: See response to comment TA-0005-2.

Comment MS-0032-2: The Army proposal to launch missiles from Green River to White Sands Missile Range in New Mexico is the worst idea the Army could ever come up with. It goes to show you not very much planning or thought went into this dumb idea.

Response: Thank you for your comment.

Comment MS-0034-2: We don't need C1 and C2 or White Sands (or want them).

Response: Thank you for your comment.

Comment MS-0035-4: More plausible testing alternatives exist in areas that are not as recreational and esthetically valuable as southeastern Utah.

Response: See response to comment TKQ-0013.

Comment MS-0036-1: I still do not understand why the testing has to be done in the United States and why the entities who will benefit do not have to pick up some of the cost.

Response: As described in Section 2.5 of the Draft EIS on pp. 2-95 and 2-96, the list of possibilities included two foreign sites outside U.S. control. Using the evaluation criteria listed in the referenced section, the list was reduced to the four alternatives analyzed in detail in the Draft EIS. As stated on page 1-1 of the Draft EIS, Congress, through the Missile Defense Acts of 1991 and 1993, directed the establishment of the Theater Missile Defense initiative as a program to defend and protect forward deployed and expeditionary elements of the armed forces of the United States and U.S. friends and allies.

Comment MS-0042-1: The military could use military reservations for such purposes.

Response: Unfortunately, no individual military reservation is large enough.

Comment MS-0045-3: No part of picturesque southeastern Utah desert deserves to be used as a dumping place for missile debris.

Response: See response to comment MS-0004-5.

Comment MS-0045-7: Look to other means of testing your armaments. Find other creative ways to determine their efficacy and look deep into the need to do it at all.

Response: Thank you for your comment.

Comment MS-0048-2: Is it not possible to find an area for this activity that does not involve land that is already designated as Wilderness? Is it not possible to find an area that is less used by both humans and animals? For example, my map of Nevada, Oregon, and Idaho shows a lot of space that is much less utilized for these purposes.

Response: As described in Section 2.5 of the Draft EIS on pp. 2-95 and 2-96, the list of possibilities included several other sites, including two outside of U.S. control. Using the evaluation criteria listed in the referenced section, the list was reduced to the four alternatives analyzed in detail in the Draft EIS.

Comment MS-0049-2: The use of aircraft launched missiles would eliminate booster rocket parts being strewn on public lands.

Response: See response to comment TKQ-0002.

Comment MS-0055-1: The military has yet to accurately map the drop zones which compromises the integrity of the proposal.

Response: The drop zones are shown in the Supplement to the Draft EIS.

Comment MS-0056-6: With the supplemental information, the EIS still fails to provide reasonable alternatives to the proposed action. The Army's proposed action remains the use of more than one test range (draft EIS page S-1 and 2-32), meaning that all action alternatives would be implemented. This violates the National Environmental Policy Act which requires that alternatives to the proposed action be considered (section 102 (C)(iii) and (E) of NEPA).

Response: The EIS provides for the use of one or more alternatives and the no-action alternative, thereby satisfying the NEPA.

Comment MS-0056-7: In checking with federal agencies to better understand the resources present in the proposed booster rocket drop zones in southeastern Utah, I looked at maps provided to them by the Army. Their maps do not identify the same areas as illustrated in draft EIS or supplement. This discrepancy indicates that the Army is not doing an adequate job of informing the affected agencies or public, and clearly shows that assessment of impacts is incomplete and misleading.

Response: Coordination with all agencies is an ongoing, continuous process. Earlier versions of drawings and maps may vary from final versions.

Comment MS-0057-1: We feel that the beauty, safety, and quality of life here in our county would be at risk. We ask you to find another alternative - someplace far from towns where people live; someplace where the land is of little value to the environment, to history and to recreation.

Response: Thank you for your comment.

Comment MS-0059-1: Our concern is for the missile launch sites on McGregor Range, Fort Bliss Texas/New Mexico. The management of McGregor Range is governed by Public Law 99-606, Nov. 6 1986. If you are to use McGregor Range or are to be a tenant, you should then abide by the provisions of this law. We are particularly concerned that the joint management by DOI, BLM, Caballo Resource Area, be recognized. And, that PL 99-606, Sect 7, Ongoing Decontamination, be enforced not only by Fort Bliss but by all users and/or tenants. Should the U.S. Army, TMD Extended Test Range use these sites, the USASSDC should budget for the decontamination of the area. We request that McGregor Range sites not be used. We further request since Fig. 2.2.8 is labeled "White Sands Missile Range Candidate Test Area," that McGregor Range be decontaminated by the U.S. Army as part of this and any other activity planned for McGregor Range.

Response: The Army will follow all public laws with regard to using McGregor Range.

Comment MS-0060-2: Much of the environmental damage caused by a first-stage booster impact could be greatly reduced if they were parachuted to the ground, reducing the ground deformation crater.

Response: Since the boosters are already manufactured, (i.e. they are Minuteman second stages,) it is not possible to economically retrofit parachutes to those boosters.

Comment MS-0060-3: The removal of the spent booster rocket by means of helicopter might not render the least impact to the surrounding soil, i.e. a Blackhawk helicopter has to move its weight in air in order to fly, therefore, a helicopter weighing 18,000 lbs. has to move 18,000 lbs. of air just to hover. During certain maneuvers, Blackhawk helicopters can create wind speeds of up to 150 miles per hour. Perhaps retrieval of spent boosters by land vehicle would have the least impact, especially in view of the recent BLM enactment of Resource Management Plans, closing roads off due to excess soil deterioration and erosion.

Response: Booster recovery will be accomplished by the least intrusive method possible, in coordination with the public or private landowner.

Comment MS-0064-1: The supplement to the DEIS fails to disclose that a decision has been made to use only the SR-19-AJ-1 boosters for the first stage of the HERA target missiles, because the reliability of the few available M56A-1 boosters is questionable.

Response: Due to the delay in a decision on the Extended Test Range EIS and delays to the current HERA target test program along with the imminent replacement of the M56A-1 by the SR-19-AJ-1 motor, a program decision was made to proceed with only the SR-19-AJ-1. The M56A-1 success rate was only 90 percent in its operational lifetime, though it did pose technical issues to the HERA program.

Comment MS-0064-2: The supplement to the DEIS fails to disclose that the SR-19-AJ-1 boosters proposed for HERA target missiles are not "off-the-shelf" qualified military booster stages with proven reliability. The redesigned booster will be requalified under the constraints of peacetime military hardware development.

Response: The SR-19-AJ-1 motors will be inspected and tested prior to shipment to the launch site. The booster motor itself remains unchanged with exception of the addition of a flight termination system and miscellaneous electronics. Before HERA launches proceed at extended- range locations, extensive testing will be performed on the booster motors. Both live fire and laboratory tests will be conducted. A demonstration launch of the HERA vehicles is planned within WSMR solely to analyze the performance of the SR-19-AJ-1 booster. In addition, a number of missions will be conducted within WSMR to prove reliability.

Comment MS-0064-3: There is no way to collect a large statistical base of successful launches to support using these modified missiles on a test range where the drop zones have to be carefully planned to avoid populated areas.

Response: The Army used the data from many previous flights to help establish the statistical data base on which the calculations were made.

Comment MS-0064-4: The EIS should take into account the number of failed Minuteman training and test launches that have happened in recent years in the test programs conducted from Vandenberg AFB and other launch sites around the world. The failure rate during these training and test programs do not support a decision which precludes using existing DOD booster assets; but, the failure rate is high enough that the possibility of a mission termination by the Range Safety officer must be addressed within the scope of the EIS.

Response: Mission termination is covered under the missile flight safety discussions and in the Emergency Response Plan, Appendix C of the Supplement to the Draft EIS.

Comment MS-0064-5: The HERA target missiles use modified military booster stages and an entirely new and yet to be qualified guidance system, all which have been developed and qualified under fiscal constraints much tighter than those used to develop and qualify the highly reliable Minuteman ballistic missiles.

Response: See comment MS-0064-2.

Comment MS-0068-1: There are plenty of desolate cattle grazing, marginal land areas in New Mexico to do unnecessary tests upon.

Response: Thank you for your comment.

Comment MS-0073-1: With alternative launching sites available that have minimal environmental and human impact, there is no reason to launch them over such a sensitive area.

Response: See response to TKQ-0013.

Comment MS-0074-1: I would like to see the military do their experimenting some place else and not in our yard.

Response: Thank you for your comment.

Comment MS-0078-1: I urge you through the Congress to request that the Army reanalyze their proposal and adopt another alternative.

Response: See response to comment TK-0005-1.

Comment MS-0082-3: Please consider the alternative of recovering boosters over sea.

Response: Thank you for your comment.

Comment MS-0087-2: If this exercise is indeed "necessary" why not target one of the countless stretches of Utah land that is little but sage plain.

Response: See response to comment TK-0005-1.

Comment MS-0091-13: Fire untested missiles controlled by untested radar over the ocean. Test them in Death Valley. Confine testing to military reservations; that's why they exist.

Response: See response to comment TK-0005-1.

Comment MS-0092-4: I understand that these missiles can be tested over water. While I would feel sorry over the loss of marine life and habitat, I think that this would be a better choice than San Juan County, Utah. Or perhaps we could test them in other countries. Another thought would be to test them in Huntsville, Alabama.

Response: See response to TK-0016-4

Comment MS-0093-1: Knowing this terrain well it is very hard for me to conceive of the damage that would be done both by impact and recovery. If there was a place that I wouldn't want to try and find and retrieve items such as these boosters this would be it.

Response: See response to comment TK-0005-1.

Comment MS-0094-1: Please look at other options. Much of the land near Farmington, NM is much more desolate and less used than what you are considering in Utah.

Response: See response to comment TK-0005-1.

Comment MS-0095-1: We emphatically protest the Army's planned use for these areas. We encourage you to find different sites for these proposed Army experiments.

Response: See response to comment TKQ-0013.

Comment MS-0105-2: The military could consider the alternative of launching missiles from airplanes instead.

Response: See response to comment TKQ-0002.

Comment MS-0101-1: No bombing of public or tribal lands is justified.

Response: No land is being bombed.

Comment MS-0101-3: The military must consider the alternative of launching missiles from airplanes, which would eliminate the need to drop booster rockets on public lands.

Response: See response to comment TKQ-0002.

Comment MS-0101-3: The Army could consider the alternative of launching missiles from airplanes.

Response: See response to comment TKQ-0002.

Comment MS-0112-1: The military must consider the alternative of launching missiles from airplanes, which eliminates the need for dropping booster rockets on public lands.

Response: See response to comment TKQ-0002.

Comment MS-0115-4: Let your bombs, if they must drop at all, drop over open water.

Response: See response to comment TKQ-0013.

Comment MS-0116-1: Can the Army honestly say that they would train each and every person to protect our National Heritage while on missions to find booster parts?

Response: All Army personnel, military and civilian, will be briefed on cultural resource protection laws and regulations.

Comment MS-0116-4: Is there no where else for these missions to be done? Perhaps there could be tests conducted over Nevada or the Gulf of Mexico where personal injury and destruction of priceless antiquities and natural beauty would be minimized.

Response: See response to comment TKQ-0013.

Comment MS-0117-1: The accuracy of any radar, laser, or electronic system is directly related to how the affects of the atmosphere have been removed, or accounted for. These affects increase as the tracking (from radar antennae) elevation decreases. These affects are enhanced or enlarged when an inversion condition exists between the radar and its target. (Procedure included in letter).

Response: Thank you for your comment.

Comment MS-0118-4: Both the booster drop and recovery activities in the two WSAs would clearly violate the no-impairment requirement of FLPMA and so are prohibited as a matter of Federal law. This requirement is in no way waived simply by "coordination" with the BLM.

Response: The Army will plan a booster impact area which does not occur within a Wilderness Study Area.

Comment MS-0118-5: Presenters claimed that impact on WSAs could be reduced by using horses instead of helicopters to transport booster remains. Clearly, this individual had never seen the rugged terrain in the Bridger Jack Mesa area!

Response: See response to comment MS-0118-4.

Comment MS-0119-5: I would recommend that the helicopters fly above 500 feet. My cattle are not used to low flying aircraft and I do not want them disturbed by the helicopters.

Response: Thank you for your comment.

Comment MS-0121-1: There will apparently be more than one hundred flights, each of which will drop boosters and other rocket debris all along the rocket's trajectory.

Response: See response to comment TD-0008-2.

Comment: MS-0123-3: The documents admit the tanks "would likely be tumbling upon impact" and "may bounce once or twice before coming to a rest". These points make it quite evident that these boosters will have a negative impact upon the landscape wherever they land. They also illustrate that the U.S. Army cannot yet predict the behavior of the boosters and thus specifically pinpoint the areas where these boosters will land.

Response: See response to comment TKQ-0015.

Comment MS-0123-4: We are bothered by the recovery plan outlined in the documents because it is based upon unrealistic goals developed from scant knowledge about the rugged and remote nature of the area. In one hour and fifteen minutes, the U.S. Army intends to locate a spent booster missile tank. Using this procedure, they will be lucky if they find the tank in a day's time. The longer they are left at the impact point, the more vulnerable natural and cultural resources will be especially if toxins have spilled from the tanks.

Response: Thank you for your comment.

Comment MS-0124-1: Why, when these booster rockets were made, didn't the Army consider the why and wherefores of the disposal in a less destructive manner?

Response: This is not a disposal program for these boosters.

Comment MS-0125-2: Who honestly believes the feasibility of a booster recovery team cleaning and "restoring" highly inaccessible drop sites in little more than one hour? Does the Army have a magic genie who responds on command to impossible tasks?

Response: Thank you for your comment.

Comment MS-0127-1: How long will it take the Army to get to the target areas to "Clean Up?"

Response: See response to comment TA-0005-2.

Comment MS-0127-2: Why don't you shoot them off in the Pacific?

Response: See response to comment TKQ-0013.

Comment MS-0128-1: The Board of Directors for Blue Mountain Dine' Inc. hereby requests U.S. Army to discontinue their plan in using two San Juan County sites as missile booster drop zones. The board opposes the plan because of the cultural, economic, and archeology impacts in the area.

Response: Thank you for your comment.

Comment MS-0130-1: Your diagrams are small and provide only the barest number of reference points. Although I am familiar with this part of the country and have visited both zone C1 and C2 it is difficult for me to know just where the zone boundaries are.

Response: The Supplement to the Draft provided detailed maps in Section 3.0 of all affected and potentially affected areas.

Comment MS-0131-6: The military should not use U.S. Forest land or BLM land anywhere in the country for dumping missile debris. I suggest using the existing bombing ranges in Nevada or other land that has already been set aside for such purposes.

Response: Thank you for your comment.

Comment MS-0133-1: According to my knowledge of the area in question and in conjunction with known Range Safety procedures, the retrieval system outlined in the Draft EIS simply cannot happen as planned. At the meeting, those representing the Draft EIS discussed how one or more helicopters would be viewing the booster drop zone. In the event the booster's on-board beacon failed to operate, the personnel in the helicopters would be able to see where the booster dropped. It is extremely unlikely that anyone in the helicopters could see where the booster dropped. This is because all such helicopters must remain outside of the NOTAM'ed drop zone, during booster flight. Personnel with field glasses likewise would be located too far away. In order for personnel to locate the booster given that its on-board beacon failed, additional booster drop location systems must be implemented. An example would be the seismic system.

Response: See response to comment TKQ-0005.

Comment MS-0133-2: I concur that land impacts are required for several reasons. A particularly compelling one is that actual missile components need to be inspected after impact.

Response: Thank you for your comment.

Comment MS-0140-5: When the negative impacts of the Green River-White Sands alternative not just on Canyonlands National Park and Southeastern Utah, but also on National Park System, tribal and public lands in Arizona and New Mexico are also considered, it is clear that it is unacceptable. It is not a reasonable alternative and should not have been included in the DEIS.

Response: Thank you for your comment.

Comment MS-0142-18: Given the "precision" arguments put forth by Army staff when trying to persuade affected residents that they would be safe from booster debris, it is difficult to understand how utilization of over-water testing would compromise our national security. The WSMR alternative should be eliminated from the Final EIS.

Response: See response to comment TKQ-0013.

Comment MS-0143-4: If you must test missiles, please arrange to do it somewhere within the vast tracts of land the military already utilizes.

Response: Thank you for your comment.

Comment MS-0144-2: Roads are few and far between so transportation in and out of the area will either be solely by air or destroy more ground surface.

Response: Thank you for your comment.

Comment MS-0145-8: Develop your plan for testing over the ocean.

Response: See response to comment TKQ-0013.

Comment MS-0146-1: What is the actual boost vehicle for the target missile? The document continually refers to the "first stage booster" which implies it is the first stage of a Minuteman. During the public meeting in Magdalena, NM, we were led to believe stages 2 and 3 of the Minuteman II missile system will be used. The entire basis for the risk analysis relies very heavily on the selection of a boost vehicle.

Response: The boost vehicle is comprised of a SR-19-AJ-1 first stage and a M57A-1 second stage. This is equivalent to the second and third stages of the Minuteman II missile.

Comment MS-0146-2: Why is the drop zone for the initial stage booster of the target missile only a 2 Sigma wide zone? Most research and development programs use a 3 Sigma wide hazard zone which encompasses about 97% of the total possible outcomes. Using this criterion, the drop zone should be 6 miles wide and 15 miles long.

Response: Analysis has been conducted to determine the inherent guidance errors associated with the first-stage flight. The "length" of the booster drop zone was determined from that analysis. The worst-case errors were assumed to conduct the analysis. The errors will likely be reduced after actual errors are determined from the on-WSMR HERA flight program. The width of the booster drop zone is determined almost entirely by wind effects. Simulations will be conducted immediately prior to launch to determine if the booster will impact in the booster drop zone. If it does not, the launch will not proceed at that time.

Comment MS-0146-6: What operational experience justifies that helicopter recovery operations will take less than 10 minutes on site within the proposed drop zones? Any difficulties with the retrieval process can require the helicopter to remain at the drop site longer than 10 minutes.

Response: See response to comment TA-0005-2.

Comment MS-0146-9: What steps will be taken to ensure Minuteman boost portion of target missile is free of voids, cracks, and fissures? Older Minuteman stages have been found to have cracks, voids, and fissures that developed over the years that they stood on alert. Before these stages were used for missile test flights, they had to pass nondestructive inspections to find such problems. The public wants to know that all possible care has been taken to ensure public safety especially since these launches will be over inhabited lands.

Response: The SR-19-AJ-1 and the M57A-1 boosters will be visually inspected for cracks and dents to the cases. Propellant inspection will then take place using x-ray equipment by qualified, experienced personnel familiar with the Minuteman booster hardware.

Comment MS-0146-10: What type of radiofrequency interference is expected from the explosion associated with the intercept and the various telemetry channels and radars? Large air explosions emit radiofrequency signals across a wide spectrum of energies. In addition, the boost stage of the target missile will likely generate telemetry signals to allow tracking of its path. Active radar on the ground will also track the target missile. All of these activities generate radiofrequency signals in a number of frequency bands.

Response: A Radio Frequency Assignment (RFA) will be requested prior to use of any radio frequency emitter associated with the HERA target missile or its safety radars. The frequencies to be used in this activity are no different than what are normally used at WSMR.

Comment MS-0146-11: What consideration has been given to specialized collection resources within the Department of Defense (DOD) to maximize data collection during flights from other ranges? There are resources within the DOD that can collect optical (visible, ultraviolet, and infrared) as well as radiofrequency information during any intercept tests. Use of some of these resources may reduce or eliminate the need for test flights that are totally over land.

Response: See response to comment TKQ-0013.

Comment MS-0146-12: Why was the Tonopah Test Range never considered as an alternative? Firing a target missile from the northwestern portion of the Tonopah Test Range toward the Nellis Gunnery Range in Nevada would give a flight path of at least 150 miles. The primary advantage of such a flight path is that it would be entirely over federal reservations. There would be no impact to private lands or individuals.

Response: See response to comment MS-0036-1.

Comment MS-0147-1: If you must shoot missiles, shoot them over the ocean.

Response: See response to comment TKQ-0013.

Comment MS-0148-6: It was said at a meeting in Monticello, Utah, that Army personnel would be able to accomplish the whole process of dropping and picking up the 3-ton missile fuel container in one hour and 15 minutes. Hogwash!

Response: See response to comment TA-0005-2.

Comment MS-0149-3: As there are alternative sites for this kind of test range over the ocean, where little or no human risks are involved, we insist that you drop this dangerous proposal.

Response: See response to comment TKQ-0013.

Comment MS-0152-1: As stated in 2.2 "Test planners have a considerable degree of flexibility in planning booster impact points." If you can pinpoint so well, then why not use water landing sites; you will know where to retrieve.

Response: See response to comment TKQ-0013.

Comment MS-0153-3: The candidate test areas in California and Florida do not have these problems (impact archeological sites and impact wilderness study areas). These overwater areas do not have the same potential of adversely affecting sensitive environments as does the WSMR. They are still my preferred alternatives.

Response: See response to comment TKQ-0013.

Comment MS-0155-1: Since you believe there is no significant impact on the ground you are bombing I strongly suggest you bomb your own homes, museums, and other cultural sites. Or better yet, why not bomb existing military bases, after all, there is no significant impact from this activity.

Response: See response to comment MS-0101-1.

Comment MS-0156-1: The SEIS provides insufficient detail on characteristics of the booster proposed for TMD Extended Range tests. Without information on the SR-19 launch missile and its guidance system, including historical, test, and R&D performance data, reviewers can not analyze and verify the Army's assertions regarding failure probabilities. The Army should provide information on how it has determined the "circular error probable" for SR-19 booster drops - based on historical and test data. Otherwise, reviewers are left with having to accept Army assertions about the accuracy of booster drops, and therefore the size of the booster drop zones, impact area, impact points, and dispersion areas required for program implementation.

Response: See response to comment MS-0064-5.

Comment MS-0156-2: The Army has not provided sufficient programmatic justification for retaining the over-land (WSMR) alternative. Ability to retrieve debris for study more easily with the over land than the over water alternatives does not outweigh the dramatically more severe potential impacts associated with over land testing.

Response: See response to comment TKQ-0013.

Comment MS-0156-5: The SEIS alludes vaguely to a reduced number of launches than were proposed in the DEIS. Is this a change in the proposed program scope and scale? The SEIS leaves these questions unanswered.

Response: See response to comment TD-0008-2.

Comment MS-0156-9: Downwinders maintains that the Army should drop the WSMR Extended Test Range alternative from further consideration in the environmental review process for the TMD program.

Response: Thank you for your comment.

Comment MS-0160-1: P. 2-13, Figure 2-7. Booster drop zone C1 is shown as one area; however, the text states that C1 is actually two drop zones separated by highway U-211. No information is given on the size of the buffer area around U-211 that will not be included in the Booster Drop Zone. If U-211 is excluded from the drop zone, then C1 should be shown as two separate potential zones.

Response: See response to comment TD-0012-3.

Comment MS-0160-2: P. 2-6, ? 4, and P. 2-14, Figure 2-8. On p. 2-6 is the statement "The booster drop zone is larger than the booster impact area to allow for multiple booster impact areas. While only one booster impact area would be used for any one test event, multiple booster impact areas allow test planners to choose the appropriate area based on the particular flight and test parameters required for the individual test event." Figure 2-8 shows that the booster drop zones do not allow for "multiple impact areas." C1 is actually two booster drop zones separated by highway U-211. There is no room in each of these sections of C1 to allow for multiple impact areas. The irregular shape of C2 also limits the placement of the booster impact area. It can be moved only about one mile to the northeast or about one mile to the west of the location shown in Figure 2-8. This figure should be redrawn to show the actual flexibility in locating the proposed booster impact areas.

Response: See response to comment TD-0012-3.

Comment MS-0164-1: Your newly proposed Booster Drop Zone C for Ft. Wingate firing is a great improvement, and we would not oppose that part of the proposal, as we would oppose New Mexico Drop Zones A and B. You have shown some sensitivity to the irreplaceable natural values of the Zuni Mountains and El Malpais. The scope of our comments is New Mexico. Nothing said here expresses an opinion on activities in other states.

Response: Thank you for your comment.

Comment MS-0165-1: I am aware of the extreme caution that the military employs in the conduct of a test program. I have the utmost confidence you will continue that policy in this program. I also note that our City Council here passed a resolution in support of bringing the program to Fort Walton Beach.

Response: Thank you for your comment.

3.4.3 AIR QUALITY

Comment TA-0005-3: You already know that rocket engine exhaust will be regulated by the EPA by the year 2000. You know that the exhaust destroys the ozone, particularly the boosters containing Halon. You know that these test will be close to schools.

Response: The Army will adhere to all future regulations as they are enacted. Section 4.1.1.1, page 4-16 of the Draft EIS has been revised in the Final EIS to state that the target missiles involved with TMD Extended Test Range activities will contain no Halon. Rocket motors have been redesigned not to use any Class I or Class II ozone-depleting chemicals, as defined by 40 CFR 82.3. Sections 4.1.2.1 and 4.1.3.1 of the Draft EIS have been revised in the Final EIS to state that for all distances greater than 1.0 km (0.6 mi) from the missile launch site, the 1-hour average concentration was less than the 1.00 ppm SPEGL for HCl. Therefore, since the proposed LHAs would keep the public at distances greater than 1.0 km (0.6 mi) from the launch site, air quality impacts from launch or launch failure of a representative target missile would be not significant.

Comment TA-0009-1: In the initial Draft EIS, in Volume II, in the supplement, there's a section of wind roses, and these are meteorological diagrams that chart the direction of the wind. And the wind blows, by your own research you have shown, from the launch hazard area across I-40. It can blow debris that way; it can blow gases that way; it can blow a cloud that way, a flame, and noxious gases. I think this is significant.

Response: The air quality analysis in the Draft EIS examines predicted concentrations of pollutants at distances greater than or equal to 1 km (0.6 mi) from the launch site. The analysis in the Draft EIS (especially in Section 4.1.1.1) indicates that the public would not be exposed to concentrations of air pollutants in excess of health-based guidelines. Secondary impacts from air pollutants to other resources are also addressed in the Draft EIS. It is expected that impacts on air quality would be not significant.

Comment EA-0005-3: You already know that rocket engine exhaust will be regulated by the EPA by the year 2000. You know that the exhaust destroys the ozone, particularly the boosters containing Halon. You know that these tests will be close to schools.

Response: See response to comment TA-0005-3.

3.4.4 AIRSPACE

Comment TD-0005-1: Since I've been here, the military has kind of taken advantage of the airspace overhead here. I would like to see it stopped or curtailed.

Response: Thank you for your comment.

Comment TTQ-0008: How would this plan affect business at the Monticello Airport?

Response: We perceive minimal impact on recreational users such as scenic flight operators. There would be some restricted airspace directly above the booster drop zone per FAA regulations. However, there are no low-altitude (or Victor) airways in the booster drop zones that would be affected. The airspace would be restricted to military use only as needed for each test mission. This time would be for approximately 2 to 4 hours per mission. As soon as the mission is complete, the FAA is notified and the restriction is lifted. So, the actual impact in terms of restricted flight activities for recreational tours in the booster drop zone would be minimal.

Comment TTQ-0009: From the time of flight, what would be the actual time of closure of that air space?

Response: See response to comment TTQ-0008.

Comment MS-0142-8: While the Supplement included a figure for the Fort Wingate area that showed Low-Altitude Airways and High-Altitude Jet Routes, it only had a High-Altitude Jet Route figure for the Monticello drop zone. The figures in the Supplement still fail to give local residents a clear picture of the effects on local air traffic. The Supplement does nothing to alleviate concerns that this proposal is being used as a "foot in the door" for perpetual restricted airspace.

Response: See response to comment TTQ-0008.

Comment MS-0142-17: The DEIS and Supplement do not adequately address the issue of establishing restricted airspace for two reasons. A) They made no mention of the fact that the FAA will ONLY grant Restricted Airspace when the requesting entity owns, leases, or otherwise controls the land under the Restricted Airspace, and B) The temporal aspects of the proposal are not clearly set forth in that a definitive end date for the project is never mentioned. This lack of an ending test date gives rise to the potential of a perpetual test and/or overflight zone, which is entirely inappropriate for the overland alternative set forth in this DEIS.

Response: See response to comment TTQ-0008.

3.4.5 BIOLOGICAL RESOURCES

Comment TKQ-0007: On page 3-33, Biological Resources For Drop Zone C, three amphibians and three reptiles were named, but on page 3-7, Biological Resources and Wildlife zone C, zero amphibians and zero reptiles were listed. Are there none, or were they omitted or forgotten?

Response: The listings on 3-7 refer to booster drop zones C1 and C2 for the GRLC. The listings on page 3-33 refer to Booster Drop Zone C for FWDA. They are different geographical areas.

Comment TK-0012-2: You have not adequately described the wildlife, the archaeological resources. There's been no substantive discussions on the broad diversity of wildlife. You have failed to identify impacts in eight areas close to Wilderness currently pending before Congress.

Response: Federal and state regulatory agencies have been consulted to identify wildlife and archeological resources in affected areas including proposed wilderness study areas. Sections 3.1.3 and 3.1.4 in the Supplement to the Draft EIS address these resources. The analysis of the impacts and associated mitigation measures are based on consultation with these agencies.

Comment TK-0020-3: The State has recommended that the area (drop zone C1) be considered a bear sanctuary where no bear hunting would be allowed. This would be far worse than any bear hunting I have ever heard of.

Response: Federal and state regulatory agencies have been consulted to identify environmental resources in the area which could potentially be affected. The analysis of the impacts and associated mitigation measures are based on consultation with these agencies. No significant impacts are expected to result from the proposed activities. Also, the booster drop zones are large areas which cover many square miles. The probability of impacting a single sensitive resource is extremely remote.

Comment TD-0002-4: I don't see anywhere it addresses the fact that in the U.S. Forest service area, that is in the drop zone, that there are 2 endangered species, the Zuni Fleabane and the Spotted Owl. It seems very odd to me that the consideration is just ignored.

Response: Consultation with various agencies, including the U.S. Forest Service, has taken place. Areas of potential habitat for the Zuni Fleabane and Mexican Spotted Owl are identified on page 3-32 in the Supplement to the Draft EIS.

Comment TD-0017-2: Bosque del Apache provides habitat for 325 different bird species, 135 different mammals, reptiles and amphibians; mule deer, porcupines, rattlesnakes and soft-shelled turtles, that are also in jeopardy. It's one of the few places of its kind in the world, and I certainly wouldn't want to see it damaged.

Response: There are no planned TMD test activities which would affect the Bosque del Apache National Refuge located outside of WSMR boundaries.

Comment TTQ-0007: What liability does the Army incur from danger to species or wildlife incurred from boosters?

Response: The Army is subject to the legal requirements of the Threatened and Endangered Species Act as well as other state and Department of Army regulations. The U.S. Fish and Wildlife Service and the State Wildlife Management agencies in consultation with the U.S. Army determine potential for impacts on threatened and endangered species.

Comment TT-0001-2: If the reason to move the drop area from the canyons further to the north is supposedly based on protecting biological life or destroying the esthetics, I disagree with it. Far more human life is around Monticello than down there in the canyons. Furthermore, a booster rocket on landing will disturb an area about the size of a master bedroom, normally. The chance of hitting any animal life larger than a cottontail rabbit is far less than getting hit by lightning.

Response: Thank you for your comment.

Comment TT-0002-6: In terms of wildlife, there has been no consultation yet with fish and wildlife services. You haven't completed your wildlife studies. You told us you will miss endangered plant species, which is difficult for us to accept; you want to close a 63 square mile area because of the certainty that you can miss things when you want to.

Response: See response to comment TK-0020-3.

Comment MS-0004-2: These areas play host to not only "fawning grounds and critical winter habitat for deer and pronghorn, (as well as habitat for numerous birds of prey and bats), but they also include some of the highest concentrations of ancient Indian archaeological sites in the American Southwest.

Response: See response to TK-0020-3.

Comment MS-0005-1: The supplemental EIS still does nothing to address the effects on proposed wilderness areas, wildlife and archaeology.

Response: See response to TK-0020-3.

Comment MS-0015-2: I'm sure you know the archaeological richness of that area, not to mention the wide range of wildlife whose habitat would be changed forever.

Response: Thank you for your comment.

Comment MS-0025-4: We as humans have already altered and/or destroyed much of the globe's wildlife habitat. Currently, the impacts of high technology are minimal or none in areas C1 and C2. Please let's keep it this way for the sake of the wildlife, and for our children's sake so that they can enjoy the resources in the future.

Response: Thank you for your comment.

Comment MS-0027-18: The information provided about wildlife is so generic as to be useless. There has been no section 7 consultation, p. 4-4, nor has the military conducted full on the ground studies of area wildlife. According to the supplement the Army does not know what wildlife and plant species are in these drop zones. There is no way the environmental impacts of the project can be analyzed without this information.

Response: See response to comment TK-0020-3.

Comment MS-0027-19: How can the Army justify its claim that threatened and endangered species will be avoided? p. 4-34.

Response: See response to comment TK-0020-3.

Comment MS-0031-2: The pristine quality of the area is supported by the large number of rare animals which still inhabit the area: peregrine falcons, Mexican spotted owls, southwestern willow flycatchers, ferruginous hawks,and Swainson's hawks.

Response: Thank you for your comment.

Comment MS-0031-5: How does the Army plan to keep a booster rocket from landing on rare plants, from destroying rare bird nests, and protecting the hundreds of archaeological sites which

have not been surveyed to date? The chances may be low such an event will happen but the document is required to explain what will be done in the event that it does happen. That is what I thought planning documents were for.

Response: The Army acknowledges that it would not be possible to program booster drops to give complete assurance that no sensitive areas or species would be affected. However, the small area affected and the small amount of resources that exist in the area make the likelihood of impact quite small. The Army is subject to the legal requirements of the Threatened and Endangered Species Act as well as other state and Department of Army regulations. The U.S. Fish and Wildlife Service and the State Wildlife Management agencies in consultation with the U.S. Army determine potential for impacts on threatened and endangered species, as well as procedures if impacts occur.

Comment MS-0037-1: Page 3-30; paragraph 4 (Vegetation) - woodcutting season is May 1 through December 15, not June through December, as stated.

Response: Thank you for providing this information. The Final EIS now reflects the correct dates.

Comment MS-0037-2: Paragraph 5 (Vegetation) - the Zuni Fleabane is not proposed endangered, as indicated, but it is listed as threatened by the U.S. Fish and Wildlife Service.

Response: Thank you for providing this information. The Final EIS now reflects this change.

Comment MS-0037-3: Paragraph 1 (Wildlife) - the southwest portion of the drop zone is indeed a popular hunting area, contrary to Dano's statement. Between 50 and 100 archery elk hunters frequent the area in September, and the number of muzzle loading elk hunters in October equals or exceeds this number. In addition, many hunters use the area in November to hunt deer, and again in April and May to hunt turkeys.

Response: Thank you for providing this information. The Final EIS now reflects these dates.

Comment MS-0037-4: Paragraph 3 (Wildlife) - the Mexican Spotted Owl is not endangered, but is listed by the U.S. Fish and Wildlife Service as threatened.

Response: Thank you for providing this information. The Final EIS now reflects this change.

Comment MS-0038-3: Potentially hazardous chemicals may be released upon impact or during an aborted flight. The booster impact site may suffer fires and vegetation damage, and the equipment and personnel recovering material for study would disturb sensitive arid soil and damage plant life. Wildlife will be displaced while material is recovered and, given the frequency of launches, will result in a significant impact to the ecosystem.

Response: Since the potential use of a single impact area more than once is slight, significant damage to an ecosystem is not expected. The impact area for the boosters is expected to be less than one acre in size. Minimal damage is expected to the area because vehicles would remain on existing roads and helicopters would normally be used to remove spent boosters.

Comment MS-0049-1: Much wilderness camping and hunting use is made of this area including use by ourselves. The danger to persons and impacts on wildlife are not fully addressed in your EIS.

Response: Persons will be evacuated from within booster impact areas used for test purposes. Potential impacts on wildlife are discussed within the Biological Resources section of the EIS.

Comment MS-0055-2: The military has not performed any surveys for wildlife or archaeological sites in the drop zone. The area is replete with sensitive and valuable archaeological sites.

Response: See response to comment TK-0020-3.

Comment MS-0056-2: The supplement states that habitat for certain federally listed species is known to occur in the booster drop zones, and that consultation would occur if species have the potential to be affected (4-4). Since the habitat is known to exist in the drop zones, the potential for these species to be affected is already acknowledged and consultation is, therefore, required. Until that consultation process is complete the effects of implementation are unknown. Therefore the claim that "...no impact on threatened and endangered wildlife species or their habitat is expected" (page 4-5) is premature and inappropriate.

Response: See response to comment TK-0031-5.

Comment MS-0056-3: The Army's reliance on statistical generalizations to assess potential impacts to sensitive plants is misleading. Disturbance of "...less than 0.4 ha (1 ac)..." (page 4-4) during recovery sounds insignificant, unless the impacted acre is the one on which the sensitive plant grows. By its own admission (page 2-6) the Army cannot pin-point or accurately control the booster rocket drop trajectory. Therefore the potential to affect the sensitive plant is known to exist, the mitigation measures are inadequate to protect the species, and the Army has failed to clearly disclose the consequences of implementation.

Response: See response to comment TK-0020-3.

Comment MS-0058-1: The proposal is unreasonably dangerous to humans and wildlife alike, and should be considered completely unfeasible for reasons of potential government liability alone.

Response: Thank you for your comment.

Comment MS-0061-1: Much of this area is made up of U.S. Forest Service and BLM lands. Several wilderness areas are also included in this "zone." They will hardly stay pristine wilderness when covered with huge craters made by rocket boosters. How do endangered plants and animals know to "get out of the way?" There are also many spectacular ruins that stand sentinel to a culture that lived in touch with the natural environment. How can these fragile structures made of wood and earth withstand the onslaught of 3,000 lbs. falling from the sky. Present-day Native Americans also live in the area near this drop zone. They are in fear of what the U.S. government is doing to them. As in the past, it appears the Army is totally ignoring their concerns and treating them as "expendable" members of our society.

Response: The Army is working with resource agencies to identify and avoid known sensitive areas and to minimize impacts on unknown resources.

Comment MS-0067-1: Butler and Comb Wash have numerous precious ruins and are home to many creatures and mature vegetation.

Response: The Army is working with resource agencies to identify and avoid known sensitive areas and to minimize impacts on unknown resources.

Comment MS-0071-3: Mexican spotted owls, peregrine falcons, willow flycatchers are among the threatened and endangered species who make their homes in the canyons and flats of SE Utah. These animals as well as hundreds of no-listed species would undoubtedly be affected by dropping missile fragments. It would not be possible to clear these organisms from their homes and grounds before a missile launch.

Response: Thank you for your comment.

Comment MS-0091-11: And what about endangered species in the drop zone? Great consideration was given to the Spotted Owl when the lumbermill at Reserve was shut down and the endangered Zuni Fleabane? They aren't even mentioned in this "Sweetheart Deal" with the Forest Service.

Response: See response to comment TK-0018-1.

Comment MS-0101-2: Of particular concern is the safety and preservation of viable habitat for wildlife now occupying these areas.

Response: See response to comment TK-0018-1.

Comment MS-0142-4: The Supplement did not clarify the involvement of the Utah Department of Wildlife Resources or the U.S. Fish and Wildlife Service on the DEIS. Were they involved? If not, why?

Response: See response to comment TK-0020-3.

Comment MS-0144-3: The negative impact to the wildlife and its habitat is unquestionable.

Response: See response to comment TK-0020-3.

3.4.6 CULTURAL RESOURCES

Comment TKQ-0008: Was the Indian petroglyphs and petrographs in the Indian Creek and Newspaper Rock, et cetera considered a cultural resource?

Response: Yes.

Comment TKQ-0019: How will you restore a thousand year old Anasazi dwelling?

Response: Significant impacts on cultural resources are not expected as a result of TMD activities. However, once the specific locations for TMD activities have been finalized, mitigation measures will be developed in consultation with the State Historic Preservation Office and any affected American Indian groups to ensure the protection of any potentially affected resources.

Comment TK-0004-1: I'm amazed at one statement on your handout indicating no significant impacts to any of the resource areas have been identified within the new booster drop zones. I doubt if you had tried if you could have found a more cultural, archaeologically-rich resource area than the Cedar Mesa-Grand Gulch-Comb Ridge area. You are immediately in the area of Grand Gulch, and we are talking thousand year old Indian rock art, two thousand year old pit houses, up to five and ten thousand year old burial sites, and frankly I don't know much about betting, but if you dropped ten missiles or ten boosters a year for five years, out of the fifty drops I would venture to

say that conservatively you would have a ninety percent chance of hitting a significant culture resource.

Response: See response to comment TKQ-0019.

Comment TK-0005-3: We are very concerned about potential impacts to archaeological resources on public lands in both zones (C1 and C2). These resources are protected under federal law, and it is our responsibility to ensure compliance with those laws. The subject document does not adequately describe the high concentrations of archaeological sites or the significance of the culture sites on the public lands. The analysis of potential impacts to culture resources from booster drops is subsequently inadequate.

Response: All applicable laws protecting archeological resources will be adhered to. The booster drop zones are large areas which cover many square miles. The probability of impacting a sensitive resource is extremely remote. It would be impractical to list all known resources which are in each zone. Instead, a listing of the types of resources was provided. This information is based on the most recent cultural resource surveys available from Utah State Historical Preservation Office archives.

Comment TK-0007-1: Shooting an unguided missile into an area filled with culture resources that cannot be replaced, even with fifteen minute response time, is not compatible with my way of thinking. The federal law requires protection of archaeological resources. I don't think this plan complies with that.

Response: All Federal, state, Department of Defense, and Department of the Army laws and regulations are being complied with during the environmental impact analysis process for TMD activities.

Comment TK-0008-1: I have some real concerns regarding using these sites. That area is full of culture sites that are very important to Utahans. Particularly if you look around the Indian Creek areas and the other areas that have been mentioned. I think it would be very likely that there would be damage to these precious resources.

Response: See response to comment TKQ-0019.

Comment TK-0011-2: I believe from experience you can't walk a mile in any direction once you are on the Ceder Mesa or Comb Ridge area without running into an archaeological site or artifact. And I just don't think you can drop these boosters without hitting some of them. You can't repair the ruins.

Response: See response to comment TKQ-0019.

Comment TK-0016-1: There are rock art sites that have not been mentioned, because they are almost unknown, and obviously unknown to you guys as well. Both the site A and B, as well as C1, overlap into the areas that are local for these rock art panels. Unlike cryptogamic soil or trees or antelope or even human beings, these are irreplaceable and there is no way that you can restore them if you hit upon them.

Response: Your concern is acknowledged.

Comment TK-0016-2: C1 overlaps into an area which not only holds Barrier Canyon style rock art in panels, but also is a critical area for trying to understand the sequence of transition from the early

Archaic Indian, which to back to about fifty-five to six thousand B.C. up to about five hundred A.D., and the Anasazi and Freemont Indians and then later on the Utes and the Piutes.

Response: Thank you for your comment.

Comment TK-0016-5: Some of these sites that are critically important aren't necessarily the ones that are the most dramatic in their impact, and certainly are not the ones that are known. Even the locals keep a lot of these sites secret.

Response: Thank you for your comment.

Comment TK-0016-6: Publications by Polly Schaaffma, Indian Rock Art of the Southwest, Utah Rock Art, and by Sally Cole, Legacy in Stone, are recommended for understanding the significance of the rock art in the affected areas.

Response: Thank you for your comment.

Comment TK-0018-3: You will impact archaeological sites. They are there so clustered, so rich in that area you can't help but hit one of them.

Response: See response to comment TKQ-0019.

Comment TA-0004-2: My concerns over the significant impact statements concerning USAKA. "Due to the large increase in personnel, we'll have cultural resource site vandalism." I would think you could control your own people if you take them someplace to do a job. Don't destroy the terrain and so on, the cultural resources.

Response: All Army personnel, military and civilian, will be briefed on cultural resource protection laws and regulations.

Comment TTQ-0005: The two drop zones, especially the southern, have the largest number of Indian ruins in the United States. How will these be protected?

Response: See response to comment TKQ-0019.

Comment TT-0002-4: Speaking of archeology, you haven't done inventories out there; you haven't consulted with the Advisory Counsel. Instead, what you're promising us is you going to do some plan in the future.

Response: The booster drop zones are large areas which cover many square miles. It would be impractical to list all known resources which are in each zone. Instead a listing of the types of resources was provided. This information is based on the most recent cultural resource surveys available from the state SHPOs. Consultation with the State Historic Preservation Officers (SHPOs), the Advisory Council on Historic Preservation, and other interested parties, including the Navajo Nation, has been conducted and will continue when and if a flight alternative is selected. Specific mitigation measures will be developed at that time. The analysis of the impacts in the EIS and associated mitigation measures are based on years of similar missile testing and recovery at WSMR.

Comment TT-0003-4: The archeological sites have been talked about a little bit, but if you've been down Butler and Comb with anybody that knows sites and knows how to identify a site, there is hardly 200 or 300 yards you can go down there and not see a site.

Response: Thank you for your comment.

Comment TT-0006-2: Anasazi cultures. The really socially redeeming value of archeological culture is that it teaches us that Mother Nature does not treat kindly those who do not prepare for their own long-term existence.

Response: Thank you for your comment.

Comment TT-0007-1: Maybe they aren't intact anymore, but I'd like to remind Mr. Redd that Rome fell just as these ruins have fallen. I guess we would like to be respectful. Humanity is the unique thing that happened, and the Anasazi are part of that humanity.

Response: Thank you for your comment.

Comment TT-0008-3: The Bureau is very concerned about potential impact of cultural resources in both zones. These resources are protected under federal law, and it's our responsibility as the Bureau of Land Management to see that you comply with the law.

Responses: All Federal and state laws and Department of Defense and Department of the Army regulations protecting cultural resources will be followed.

Comment TT-0008-4: The subject document does not adequately describe the concentrations or significance of the cultural resources on public lands. Although sites specific survey data may be limited for the C1 and C2 zones, we know that the public lands in this resource area contain concentrations of up to 200 sites per square mile. Because the document's description of the affected environment is inadequate, analysis of the potential impact of cultural resources from booster drops is subsequently inadequate.

Response: See response to comment TKQ-0019.

Comment EA-0003-2: I also don't understand the statement about "vandalism of cultural sites" and the inability of TMD to exercise control over it.

Response: This is beyond the scope of this EIS.

Comment MS-0002-1: Damage to our delicate environment (microbiotic soil) and to our cultural artifacts (rock art) is a virtual certainty over the extended test period.

Response: See response to comment TKQ-0019.

Comment MS-0004-2: These areas play host to not only "fawning grounds and critical winter habitat for deer and pronghorn, (as well as habitat for numerous birds of prey and bats), but they also include some of the highest concentrations of ancient Indian archaeological sites in the American Southwest.

Response: See response to comment MS-0002-1.

Comment MS-0005-1: The supplemental EIS still does nothing to address the effects on proposed wilderness areas, wildlife and archaeology.

Response: See response to comment MS-0002-1.

Comment MS-0006-1: The impact on natural resources, archaeological resources, and quality of life would be devastating to the area.

Response: Your concerns are acknowledged.

Comment MS-0008-3: The proposed drop zones are located in one of the richest archaeological areas in the country. The density of ancestral Puebloan (Anasazi) sites in southeastern Utah is extremely high. I find it difficult to believe that the military can guarantee that none of the sites will be damaged. The Historic Preservation Act explicitly protects cultural resources located on federally owned lands and provides for penalties for infringement.

Response: Thank you for your comment.

Comment MS-0010-3: The proposed drop zones are located in an area that is extremely rich in prehistoric Pueblo Indian sites. The sites are expressly protected by the federal Historic Preservation Act. Given the state of military technology that prevails today, it is impossible to believe that the Army can avoid damaging or destroying sites. Such damage or destruction would constitute direct violation of the Act.

Response: All Federal and state laws and Department of Defense and Department of the Army regulations are being followed during the environmental impact analysis process for TMD activities.

Comment MS-0015-2: I'm sure you know the archaeological richness of that area, not to mention the wide range of wildlife whose habitat would be changed forever.

Response: Your concerns are acknowledged.

Comment MS-0025-5: C1 and C2 are extremely rich in archeological sites. If any of these sites are disturbed in the least, we'll have lost one of our national treasures.

Response: See response to comment MS-0002-1.

Comment MS-0027-13: The new drop zones hold some of the richest concentrations of cultural sites in the American southwest. The Army has not conducted any on the ground inventory of the area. Nor has the Army consulted with the Advisory Council on Historic Preservation. The Army must know what resources are at risk before it reaches a FONSI.

Response: The Army will adhere to all applicable laws protecting archaeological resources. The booster drop zones are large areas which cover many square miles. It would be impractical to list all known resources in each zone. Instead a listing of the types of resources was provided. This information is based on the most recent cultural resource surveys available from Utah State Historical Preservation Office archives.

Comment MS-0027-14: Instead of actually considering the damage that will occur to archaeology, the public is promised future mitigation plans in order to justify a FONSI. P. 4-34. 4-6. How will the Army mitigate a direct hit to a rock art panel or kiva?

Response: See response to MS-0002-1.

Comment MS-0029-4: There are laws in Utah that protect old Indian camping places and artifacts. People here can't even pick up an arrowhead, old corn cobs, or a piece of pottery. And you want to drop boosters on them?

Response: See response to MS-0010-3.

Comment MS-0030-1: The fact that there are no dwellings in the area that deserve to be registered as a National Historic Site does not give license to disturbing the hundreds of cultural sites in the area.

Response: Thank you for your comment.

Comment MS-0031-3: The rich cultural heritage which is found in this area also represents a chronology of culture which is a gift to the world.

Response: Thank you for your comment.

Comment MS-0031-5: How does the Army plan to keep a booster rocket from landing on rare plants, from destroying rare bird nests, and protecting the hundreds of archaeological sites which have not been surveyed to date? The chances may be low such an event will happen but the document is required to explain what will be done in the event that it does happen. That is what I thought planning documents were for.

Response: See response to comment MS-0002-1

Comment MS-0032-1: Don't mess with southeastern Utah's pristine wilderness, Indian rock art and irreplaceable archaeological sites.

Response: Thank you for your comment.

Comment MS-0038-4: Historical sites, also would be threatened by the new launch proposal, even more so than in the original plan. The area designated as a booster impact zone is one of the richest archaeological areas in the region. Visitation by Army personnel poses the danger of vandalism and theft of cultural resources. Vehicles used by the Army or the boosters themselves may inadvertently damage an archaeological site, causing the loss of information about the human past.

Response: Your concerns are acknowledged.

Comment MS-0039-2: The land that you are proposing to bombard is filled with archaeological sites that you don't know about because you have conducted no responsible survey of the area. Besides desecrating sacred land, these boosters have the potential to annihilate precious artifacts and ruins that hold the key to much of our understanding about humanity - past, present, and future. There is no way to be sure where these boosters will land; it is our responsibility and duty as inhabitants of the land to protect it from the unnatural ravages of an outdated and obsolete defense program.

Response: See response to comment TT-0002-4.

Comment MS-0041-1: I would like to protest the use of the Butler Wash, Comb Ridge, and other areas of Southeastern Utah for the purpose of a booster drop zone. These areas are geologic and archaeologic resources which cannot be replaced.

Response: Thank you for your comment.

Comment MS-0042-3: This area contains many fine examples of prehistoric ruins and rock art. Undoubtedly, some of these sites have religious and cultural significance for modern-day pueblo peoples. Even a slim chance of a rocket booster damaging these sites would be a disaster of criminal proportions.

Response: See response to MS-0002-1.

Comment MS-0047-1: I am writing concerning "Drop Zone 2." A ridge of unusual white rock runs North and South. What lies within many drainages are the stories of the Anasazi. There are countless cliff dwellings and petroglyphs and picrographs. It is unfortunate that these historical hidden landmarks may now be exposed with the wildness lost forever. However, I'd rather inform people of these places to protect and see them enjoyed than watch U.S. Army rockets destroy them in seconds!

Response: Thank you for your comment.

Comment MS-0051-3: Care should be taken that the ruins of the most developed ancient civilization in the United States not be desecrated by missile tests. If areas such as C2 in the GRLC, which are rich in archaeological remains and sites are to be protected, they at a minimum should be thoroughly inventoried before damage is done of a permanent nature in order that a reasonable determination can be made of what is being risked.

Response: See response to comment TT-0002-4.

Comment MS-0054-2: The proposed Drop Zone 2 includes both a wilderness study area and proposed wilderness areas. This area has some of the most spectacular and unique archaeological sites in the region that will most certainly be impacted or destroyed either by the landing of the spent boosters weighing up to 3000 pounds or by the Army personnel who try to retrieve the boosters.

Response: See response to comment MS-0039-2.

Comment MS-0055-2: The military has not performed any surveys for wildlife or archaeological sites in the drop zone. The area is replete with sensitive and valuable archaeological sites.

Response: See response to TT-0002-4.

Comment MS-0056-4: The presence of cultural resources are known in the booster drop zones (page 4-6) but the discussion of potential impacts is so general that neither the public nor the decision maker has the ability to determine the effects of implementation. The Army must define specifically where these resources are located in order to provide for their protection, but neither the EIS or the supplement provide any evidence that such data have been considered. Furthermore, the Army acknowledges that it cannot control the booster rocket trajectory so that impacts can be avoided (page 2-6 and 4-5). The mitigation measures do not address the fact that where the rocket lands cannot be controlled, and therefore mitigation measures are inadequate to provide protection for this non-renewable resource.

Response: See response to TT-0002-4.

Comment MS-0061-1: Much of this area is made up of U.S. Forest Service and BLM lands. Several wilderness areas are also included in this "zone." They will hardly stay pristine wilderness when covered with huge craters made by rocket boosters. How do endangered plants and animals know

to "get out of the way?" There are also many spectacular ruins that stand sentinel to a culture that lived in touch with the natural environment. How can these fragile structures made of wood and earth withstand the onslaught of 3,000 lbs. falling from the sky. Present-day Native Americans also live in the area near this drop zone. They are in fear of what the U.S. government is doing to them. As in the past, it appears the Army is totally ignoring their concerns and treating them as "expendable" members of our society.

Response: The Army is working with resource agencies to identify and avoid known sensitive areas and to minimize impacts on unknown resources.

Comment MS-0065-4: As a Utah permitted archaeologist I can definitively say that numerous, extremely important prehistoric archeological sites could be absolutely devastated by the proposed drops. Historic sites too could be severely impacted, including some that are significant to the Mormon people. Many sites are not yet properly documented. The density of these sites in this area is such that they <u>will</u> be impacted by your program. The draft EIS that accompanies this proposal is frighteningly inadequate.

Response: See response to TT-0002-4.

Comment MS-0067-1: Butler and Comb Wash have numerous precious ruins and are home to many creatures and mature vegetation.

Response: Thank you for your comment.

Comment MS-0069-1: This proposed zone is totally unacceptable. It is rich in cultural sites - archaic, prehistoric, and historic. The land is fragile. Archaeological sites, cryptobiotic soil, etc. cannot be restored.

Response: Thank you for your comment.

Comment MS-0071-2: San Juan County has an astonishingly high concentration of archaeological sites. 3000 lb missile pieces would surely mar these areas as they strike the ground.

Response: Your concerns are acknowledged.

Comment MS-0073-3: There is <u>NO</u> way to restore ancient rock art, artifacts or archeology to its unique and invaluable original status. Once destroyed or damaged such resources are irrevocably altered.

Response: Thank you for your comment.

Comment MS-0075-1: This proposed drop zone would not only threaten two wilderness study areas (Fish Creek and Bridger Jack) but also the preservation of nearly a thousand documented archaeological sites in that area.

Response: See response to comment TKQ-0019.

Comment MS-0076-1: The proposed booster drop zones C1 and C2 have, as identified in your document on page 3-9, NOT been totally surveyed for cultural resources. This area is one of the most archaeologically dense areas in the lower 48 states, and archaeologists are just beginning to develop the data base necessary to deal with regional research questions, as opposed to site-specific

research which was conducted in the past. In view of the sensitive, non-renewable nature of the cultural resources in the proposed booster drop zones, this area would not be appropriate for the high impact activity you suggest. Mitigation will not protect the resource, and adequate research has not yet occurred.

Response: See response to comment TKQ-0019.

Comment MS-0077-1: Most of us frequently visit those vast areas for recreation and to work for the protection of thousands of ancient archaeological and geological wonders found throughout those splendid, countless canyons. If your proposed plan is implemented, our very lives are in danger and, tragically, untold valuable elements of Mankind's history will be destroyed forever. Federal laws protect that evidence from vandals yet your command intends to indiscriminately and in random selection rain down waste cartridges on our rightful heritage.

Response: See response to comment TKQ-0019.

Comment MS-0079-1: My concern is for the boosters falling on the thousands of archaeology sites in the area of designated impact.

Response: Your concern is acknowledged.

Comment MS-0079-3: These sites which testify to an ancient culture do not need to be dumped on because technology has out-grown White Sands.

Response: Thank you for your comment.

Comment MS-0081-1: It is one of the richest areas in this country for sheer natural beauty and for cultural resources of rock art and cliff dwellings numbering in the hundreds perhaps thousands, most of which have yet to be surveyed and recorded. These resources are irreplaceable and draw many tourists and students.

Response: Thank you for your comment.

Comment MS-0082-1: I am deeply concerned about the impact this project will have on the fragile desert landscape with its many archeological sites. Not only would the dropping of the booster be damaging, but the foot or horse traffic to recover the boosters would damage sites and vegetation that either would take years to recover or would never recover.

Response: See response to comment TKQ-0019.

Comment MS-0083-1: This area, which includes Butler Wash, Comb Ridge, Comb Wash, and Newspaper Rock, has one of the highest concentrations of prehistoric cultural material on the North American Continent. These cultural resources are irreplaceable and require the highest protection and preservation possible. Any changes in the use of this area should go in the direction of increasing protection, not putting the sites at risk as the booster drop zone would do.

Response: Thank you for your comment.

Comment MS-0085-3: Please imagine what effect a hundred falling boosters, and the manpower, cranes, and trucks necessary to retrieve the buried debris, would have on this fragile area. Butler Wash and Comb Ridge hold uncountable Anasazi cliff dwellings and art sites. The roads into the area are minimal and would be destroyed by heavy trucks. Please know that to authorize missile-booster drop zones near Newspaper Rock and Comb Ridge would be as criminal a destruction

of American historic sites as authorizing the haphazard bombing of Williamsburg or Boston or Jamestown.

Response: See response to comment TKQ-0019.

Comment MS-0087-1: This extraordinary area is home to incredible undisturbed terrain, beautiful scenery, and abundant and varied flora and fauna, The region is rich in history, having been home to peoples from Paleo Indian groups to early settlers.

Response: Thank you for your comment.

Comment MS-0092-2: It would definitely hurt the wonderful environment. This area is unique to any other part of the world. It is filled with sandstone spires, Anasazi artifacts. I would not want any of this destroyed not even for only four times a month.

Response: Thank you for your comment.

Comment MS-0102-1: Such air traffic, not to mention the rockets themselves, would endanger valuable archaeological sites which are the only record of the prehistoric people who lived there.

Response: Thank you for your comment.

Comment MS-0113-1: Archeologically the impact could be devastating considering the Anasazi ruins already discovered and worse yet those which have not yet been recorded or documented.

Response: See response to comment TKQ-0019.

Comment MS-0114-1: The area noted for these test activities, in particular the Booster Drop Zones are extremely important in terms of cultural resources. They have not been surveyed, studied and recorded to determine completely how much is really there.

Response: See response to comment TKQ-0019.

Comment MS-0115-2: It is home to some of the finest archaeological sites in the Southwest whose stability is endangered greatly from the slightest vibrations, and the vibrations caused by helicopters is far from slight.

Response: See response to comment TT-0008-3.

Comment MS-0116-3: It is well known that the archeological sites in the proposed booster rocket drop zone are numerous, fragile, ancient, and irreplaceable. It is our National Heritage to visit these sites as well as ancestral grounds for thousands of Native Americans.

Response: See response to comment TKQ-0019.

Comment MS-0118-1: Nowhere in this analysis is there any indication whatsoever that the two proposed drop zones include some of the densest concentrations of archaeological remains in the United States.

Response: See response to comment TKQ-0019.

Comment MS-0118-2: The Supplement contains the following statement: "Assurance of avoidance is not possible given the nature of TMD activities, but it is expected that the probability of a booster striking a specific resource would be quite low" {emphasis added}. As I suspect the author(s) of this section are well aware, the large number of sites leads to a cumulative risk far greater than that associated with any single site.

Response: See response to comment TKQ-0019.

Comment MS-0121-3: The permanent damage to natural and historic features in the affected area that would result from these flights is the most serious issue of all. Much of the impacted area is very inaccessible by vehicle and even by foot. It includes archaeological sites, canyons, cliffs, mountains, roadless areas. These features would be permanently damaged, and the Army seems to be completely clueless in its assessment of its ability to retrieve the debris, clean up the mess, and return the crash sites to their former state.

Response: See response to comment TKQ-0019.

Comment MS-0122-1: To think that a few spent rocket boosters crashing to the earth here will not present irreparable and unsightly damage is absolutely wrong. Is the Army immune from the consequence of destroying archeologic sites? We have laws that cause private companies to pay penalties and restore the land when they willfully destroy it. Is the Army above these laws?

Response: See response to comment TK-0007-1.

Comment MS-0125-1: Surely anyone who has a knowledge, love and respect for the great southwest can foresee the destruction of irreplaceable geological and archaeological treasures when under attack from both missiles and missile debris? There is a disturbing air of ignorance and misrepresentation in literature printed to pacify the public.

Response: See response to comment TKQ-0019.

Comment MS-0126-1: Amazing geological and archaeological sites are threatened by this ridiculous plan. Do you think that because population density is low the area can be sacrificed to this ill conceived military action? If people from foreign countries recognize the importance of these national treasures and expend the effort and money to visit these out-of-the-way sites, maybe we, the citizens of the West, should realize how important this area is to the world.

Response: Thank you for your comment.

Comment MS-0130-3: Your statement that "there are no significant adverse effects on known cultural resources that cannot be avoided" is wrong. If any of the 950 recorded sites are directly impacted they are eternally lost as it would be impossible to restore or "mitigate" them.

Response: See response to comment TKQ-0019.

Comment MS-0131-5: I am very concerned with the protection of the numerous prehistoric sites within the proposed drop zones. This area has one of the highest site densities to be found in North America, up to 200 sites per square mile. Falling debris and the resulting search to retrieve this material would allow for irreversible damage to the many cultural resources of the area, many of these sites remain unrecorded.

Response: See response to comment TKQ-0019.

Comment MS-0133-4: There appears to be some validity to environmental concerns. To satisfy these concerns the Army should create a public review board which includes environmentalists. The environmentalists input should be limited to : 1) identification of sensitive archeological sites; 2) verification that the Army has satisfactory locations for each of these sites; 3) verification that each such site is included on all Range Safety Charts, Maps, and Electronic Displays; and 4) review of (a) pre-launch predicted booster impact locations versus live radar location predictions and (b) actual measured geographical locations as given by portable navigational satellite receiver readouts. At this August 24, 1994, EIS meeting it was apparent that there is a considerable number of very sensitive archeology sites of which personnel developing this draft EIS are to date unawares. Far too many environmental concerns were shown to be unconsidered. I propose a plan whereby those environmental concerns can be taken into account. (1) All known archeological sites be identified by name and latitude and longitude. (2) That there be established NO HARM ZONES which circumscribe each known archeological site, and that all of these No Harm Zones be included on all applicable Range Safety Charts, Maps, and Electronic Displays. (3) The size of each No Harm Zone, surrounding each known archeological site should be three times the Army's ability to predict actual booster impacts while using only pre-launch trajectory data and the best available wind data nearest to the day and hour of each intended launch.

Response: Thank you for your comment.

Comment MS-0135-2: I think you have side-stepped the issue of archaeological resources in drop zones C1 and C2. Mainly in C2. What "current level of data indicates a low density of prehistoric sites in Booster Drop Zone C" (page 4-22). This area is rich in prehistoric archaeological sites.

Response: See response to comment TK-0005-3.

Comment MS-0142-9: The Supplement speaks to the use of horses to access impact sites away from existing roads. Use of hand tools to reclaim a site is questionable.

Response: Thank you for your comment.

Comment MS-0144-1: It is filled with thousands of Indian ruins (which was not marked on the map) and a fragile ecosystem.

Response: Thank you for your comment.

Comment MS-0145-6: You have not addressed the damage to archaeological sites, Kivas, burial areas. The Bluff drop zone contains some of the finest sites in the American Southwest.

Response: See response to comment TKQ-0019.

Comment MS-0148-5: The Army admits that there are nearly one-thousand documented archeological sites in the area, and much of this land has not been surveyed for a total count. Their claim that the impact area would be restored to its natural condition is preposterous. How would you restore a crumbled cliff dwelling? [] with super glue??

Response: See response to comment TT-0002-4.

Comment MS-0150-2: I am deeply concerned about the protection of the cultural resources, primarily prehistoric masonry habitation sites, located in the open in many parts of the proposed Drop Zones. Most of these sites, which probably number in the hundreds, could be very badly

damaged by the proposed booster drops. Having worked with some of these sites, I know that each site has some unique information to yield that cannot be duplicated at any other site.

Response: See response to comment TT-0002-4.

Comment MS-0151-3: As an archaeologist, I know that the areas are extremely dense with prehistoric sites (the BLM figure is as high as 200 sites/square mile). Given the high site densities noted above, an archaeologist will have to be sent with each recovery team to determine if the booster fragment has landed on an archaeological site. If the booster has impacted a site, I think there should be several options open to the recovery effort. 1) The booster should be removed by means other than detonation of explosives if the detonation could impact subsurface features (as is often the case with sites situated on sand dunes). 2) If detonation has to take place, then some mitigation may be necessary before the booster is removed; the amount of time necessary to remove the booster should be determined by the archaeologist on the site. 3) If no site is observed prior to the detonation, but found afterwards, the damage should be mitigated by thorough recording of the site including appropriate sampling of the area damaged by recovery work. In all cases, thorough recording of the sites will need to be done. Consultation with Native American Pueblo groups (ie. Hopi, Zuni, Acoma, etc.) would be appropriate and advisable. Considering the high site density of the areas under consideration, it becomes a question of how many sites are going to be hit, what kinds of sites are going to be hit, and finally, how much is it going to cost the taxpayer to send professionals out to clean up after the damage.

Response: See response to comment TK-0005-3.

Comment MS-0153-1: While it is true that the proposed drop zones, both old and new, are remote and sparsely populated, this is exactly what makes them valuable. These areas contain some of the most unique and rare geology in the world. They contain hundreds of sensitive archeological sites. Any damage to these areas no matter how small, may not be repairable by any means.

Response: See response to comment TKQ-0019.

Comment MS-0158-1: I am especially concerned with the undeniable threat to the area's cultural resources. Although southern Utah may seem a sparsely populated region, and thus a perfect location for missile testing, it is in fact home to a dynamic and ethnically diverse community.

Response: See response to comment TKQ-0019.

Comment MS-0158-2: The proposed missile testing zones are inhabited by a wealth of prehistoric sites, many of which remain unexplored.

Response: Thank you for your comment.

Comment MS-0159-1: The two areas have 950 documented archaeological sites but neither has had complete surveys done. So the statement from the Army's Environmental Impact Study that "the chance of a booster striking a specific resource would be quite low" is practically groundless. In fact, this area is so rich in archaeological resources that the chances are extremely high that a site would be struck and destroyed.

Response: See response to comment TKQ-0019.

Comment MS-0160-3: PP. 3-9 and 10. This section is entirely inadequate. The cultural resource records at the BLM's San Juan Resource Area are more complete than those in the Antiquities Section of the Utah State Division of History. Why didn't you consult them?

Response: The most recent cultural resource surveys available from Utah State Historical Preservation Office archives have been used.

Comment MS-0160-4: "Because of the large size of the drop zones, however, some portions still remain unsurveyed." Unfortunately, the opposite is true. Because of the large size of the drop zones, some portions have been surveyed. At most, 10% of the BLM's San Juan Resource Area has been inventoried for cultural resources.

Response: Thank you for your comment.

Comment MS-0160-5: The statement on p. 3-11 that "(n)one of the identified sites within booster drop zones C1 and C2 have been determined to be eligible for inclusion in the National Register of Historic Places" is absurd. Maybe you meant to say that none of the sites have been nominated for listing on the National Register. Hundreds of archaeological sites in booster drop zones C1 and C2 are eligible for listing on the National Register. If you found only 275 recorded sites in proposed drop zone C1, something is wrong. More than 200 sites have been recorded just along Indian Creek and North Cottonwood.

Response: See response to comment TK-0005-3.

Comment MS-0160-6: P. 4-6. Consultation with the Advisory Council on Historic Preservation must take place before the EIS is written. What good does it do to wait until after the decision is made to proceed with the project before the Advisory Council determines whether or not cultural resource issues are, or can be, adequately addressed?

Response: See response to comment TK-0007-1.

Comment MS-0160-7: P. 4-35, 4.8. The statement that there would be "no loss of cultural resources, such as archaeological or historic sites" cannot be supported. Without a complete cultural resource survey, it is impossible to determine if adverse impacts to cultural resources can be avoided. Direct impacts to cultural features such as rock art and standing walls of archaeological sites cannot be mitigated □ especially if the sites have not been recorded.

Response: See response to comment TKQ-0019.

3.4.7 GEOLOGY AND SOILS

Comment TKQ-0017: How can microbiotic cryptogamic soil be repaired if damaged in the impact?
Response: The impact on microbiotic cryptogamic soil from booster drop and recovery is expected to be not significant because of the small area of less than 1 acre that would be affected. During booster recovery, a biologist would also be available to assess the area of cryptogamic soils in order to avoid these areas during recovery activity. If it is determined that cryptogamic soils may be impacted, further consultation will be initiated with the appropriate agency, land managers, and responsible private individuals. The most suitable method for restoration or treatment will be undertaken after these consultations. Studies on areas with bacteria crust indicate that restoration,

while a long-term process requiring 5 to 7 years in the initial phase, is possible. Off-road vehicular travel for booster recovery will not be conducted.

Comment TK-0003-1: Cryptobiotic soil is a critical biological resource. They are not restorable. They are easily damaged, both on impact and by human traffic and by horse traffic, however they are not addressed in the plan.

Response: See response to comment TKQ-0017.

Comment TK-0018-2: Microbiotic/cryptogamic soil will be impacted. When you enter the National Park area they give you a handout that tells you not to step on it because merely a human step will destroy it for many years to come.

Response: See response to comment TKQ-0017.

Comment TK-0026-2: My concern is the cursory review of resource impacts, and the cavalier dismissal of irreparable damages as insignificant. Cryptogamic soil will not redevelop in my lifetime, and soil would be damaged both by the one hundred drops and any recovery efforts. The probability of impacting irreplaceable archaeological sites is not acceptable, and I completely oppose it.

Response: See response to comment TKQ-0017.

Comment EK-0004-2: My concern is the cursory review of resource impacts, and the cavalier dismissal of irreparable damages as insignificant. Cryptogamic soil will not redevelop in my lifetime, and soil would be damaged both by the one hundred drops and any recovery efforts. The probability of impacting irreplaceable archaeological sites is not acceptable, and I completely oppose it.

Response: See response to comment TKQ-0017.

Comment EA-0005-2: Cryptogamic soil, cultural and archeological resources have a probability of damage that is significant.

Response: See response to TKQ-0017.

Comment MS-0002-1: Damage to our delicate environment (microbiotic soil) and to our cultural artifacts (rock art) is a virtual certainty over the extended test period.

Response: See response to TKQ-0017.

Comment MS-0041-1: I would like to protest the use of the Butler Wash, Comb Ridge, and other areas of Southeastern Utah for the purpose of a booster drop zone. These areas are geologic and archaeologic resources which cannot be replaced.

Response: Thank you for your comment.

Comment MS-0068-2: I will not compromise the cleanliness of the water and soil upon which I grow my food for my family.

Response: Thank you for your comment.

Comment MS-0073-2: You speak of restoring the land where a booster would drop. You cannot restore cryptogamic soil, the glue of the desert.

Response: See response to TKQ-0017.

Comment MS-0085-1: The US Army plans to drop boosters weighing up to one and a half tons into an environment that I have been taught to walk across so carefully that I do not make new footprints in the fragile cryptogamic soil.

Response: See response to TKQ-0017.

Comment MS-0107-1: It would be outrageous if a wayward missile destroyed an irreplaceable geologic formation.

Response: Thank you for your comment.

Comment MS-0118-3: No mention is made in either the DEIS or the Supplement of the extensive areas of cryptobiotic soils in the drop zone areas. Cryptobiotic soils are widespread, extremely fragile, and cannot be restored once damaged. The failure to recognize this risk calls into question the competence of the entire natural resource analysis.

Response: See response to comment TKQ-0017.

Comment MS-0142-12: The Supplement did not change the vague probabilistic language used in the DEIS regarding potential damage to pristine land forms.

Response: Restoration of land is discussed within the Booster Recovery Plan in the Supplement to the Draft EIS.

Comment MS-0142-14: The DEIS and Supplement did not include an analysis of the probable areal extent of ground damage to be expected from the falling booster rockets for different types of earth strata.

Response: The areal extent of ground damage from the falling booster is not expected to vary considerably for different types of strata. Based on studies of missile impacts in sand, alluvium, soil, colluvium, moist lake beds, and basalt, the maximum areal extent of ground damage will be roughly equal to the size of the booster. Impact on rock and colluvium will have the least areal extent of ground damage while impact in saturated materials would result in the maximum areal extent.

3.4.8 HAZARDOUS MATERIALS AND WASTE

Comment MS-0086-2: The toxic residue from the spent fuel (no one knows how much that would be, maybe gallons) would also add to the environmental destruction.

Response: The Supplement to the Draft EIS (pages 2-9 and 4-8) has determined the impacts are not significant.

Comment MS-0142-13: The Supplement did not quantify the amount of tri-ethyl phosphate that could leak from a booster.

Response: See page 2-10 of the Draft EIS.

Comment MS-0142-13: The Supplement did not quantify the amount of tri-ethyl phosphate that could leak from a booster.

Response: See page 2-10 of the Draft EIS.

3.4.9 HEALTH AND SAFETY

Comment TKQ-0010: How are people in remote areas with no radio, TV, newspaper, going to be notified and evacuated?

Response: This will be done by direct contact. Notices would be hand-delivered to those people. The extension area in New Mexico north of WSMR is handled in a similar manner. Range riders go out and hand-deliver notices on horseback as necessary. At the end of evacuation these people will also be told when the area is clear and when they can go back in.

Comment TKQ-0016: Is notification given outside of the local community when a test will occur?

Response: Yes. The states of New Mexico and Utah have asked to be notified of all missile launches. Other agencies will also be notified such as the Bureau of Land Management, Forest Service, FAA, etc., and we will try to spread the word about the launch dates in as wide an area as possible.

Comment TKQ-0020: Are you going to be canvassing the area to determine who's in that drop zone?

Response: In order to ensure the effectiveness of evacuation procedures, WSMR Range Control will implement surveillance sweeps for the evacuation areas as part of the prelaunch activities.

Comment TKQ-0021: If you sweep the area and you find me in my camp you are going to ask me to leave?

Response: Yes.

Comment TKQ-0022: What if I say no?

Response: That information is then relayed back into the countdown procedures and the mission is put on hold until a decision can be made as to what the risk would be for you staying in there.

Comment TKQ-0023: So you can't physically remove me?

Response: If considered necessary, procedures would be worked out with local law enforcement agencies to effect removal of individuals who do not leave voluntarily.

Comment TK-0001-3: This proposal would introduce a new fire danger in an area that certainly doesn't need one.

Response: The potential for fire is considered remote since spent boosters impacting within booster drop zones would contain no appreciable amounts of solid propellant and would be cooled during their descent. Thus, any fire hazard associated with debris impact is limited to a flight termination

action where propellant could fall to the ground. Where there is any indication of fires caused by launch operations or debris impacts, fire response units will immediately respond. These can be either ground units provided by WSMR Fire Safety or its civilian counterparts or air units equipped to fight wildland fires. The Emergency Response Plan addresses procedures to be followed in the event of flight termination including fire response. This plan would be finalized in coordination with affected Federal, state, and local agencies to identify specific responsibility. Known times of drought or extreme dryness for the affected area would be considered in the plan. In general, such response procedures are similar to those which would occur as a result of other unanticipated fires such as lightning strikes. Due to the reliability of the proposed target missile systems, the occurrence of flight termination which could result in a fire is considered to be very remote.

Comment TK-0001-4: Keep in mind that Monticello is less than five miles away from the edge of the northern drop zone. This threat gives me great cause for worry.

Response: In Section 2.2 of the Supplement to the Draft EIS, the development and definitions of booster drop zones are explained in figure 2-3 and in the text on pages 2-4 and 2-6. The required booster impact area would be evacuated prior to conducting each test. Only the booster impact area, not the entire booster drop zone, would be evacuated. Flight tests would not be approved unless the predicted boosted impact area were contained within the identified booster drop zone. The Army would perform comprehensive planning and studies prior to launch to ensure that the launch vehicle could be reliably and safely launched. The flight of the launch vehicle would be monitored throughout the entire flight by Range Safety sensors. Should these sensors indicate that public health and safety could possibly be endangered, a flight termination command would be issued to the launch vehicle, and the vehicle's flight would be terminated as described in the Draft EIS.

Comment TK-0001-5: The Army now claims it can drop its rockets in a booster impact area which is much smaller than the actual drop zone, and that is the only area that would have to be evacuated. I'm not an expert on missiles, but I know that whenever you shrink your margin of error the chances of a serious accident increase.

Response: See response to comment TK-0001-4.

Comment TK-0001-6: The Army also claims that it no longer needs to shut down I-70 or close off the Green River, but they neglected to include a new map of the area around Green River that would be evacuated. I'm concerned that in their efforts to solve problems associated with the original launch plan the Army has unintentionally increased the risk to the public.

Response: The size of the LHAs was reduced due to the selection of an alternative first-stage booster and proposed new flight trajectories. A map of the new LHAs is included in the Final EIS. Using the proposed smaller LHA at the GRLC excludes I-70 and the Green River from the hazard area, thereby eliminating the need to stop traffic and river rafting during flight tests. There has been no increased hazard to the public because of the new, revised LHAs.

Comment TK-0002-2: Having been involved with the missile base when it was active in Green River in years past, I can truly say the Army and its other agencies were all safety conscious. To my knowledge they never intentionally impacted the lands or environment in a detrimental manner.

Response: Thank you for your comment.

Comment TK-0003-3: The evacuation plan is not workable, and parts of it are a joke. The comment that you will post trailheads is absurd. There aren't any trailheads to post. People come and go whenever they want. Some people will not heed warnings through either stubbornness or through ignorance. Other people may be tempted to enter the area simply out of spite in order to cause problems.

Response: As detailed in the Evacuation Plan in the Supplement to the Draft EIS, all persons would be properly notified well in advance of any planned evacuation. In order to improve the effectiveness of the evacuation procedures, WSMR Range Control would implement surveillance sweeps of all evacuation areas.

Comment TK-0011-1: My concerns are predominantly how are you going to get us out of these canyons? If there's notification in Bluff that there's going to be a missile drop, I'm not going to hear about it until I'm probably in that canyon. I don't believe you can post notifications at trailheads, because there aren't any trailheads.

Response: See response to comment TK-0003-3.

Comment TK-0020-2: Your C1 proposal goes high into the Abajo Mountains. One of the problems is those mountains hold clouds just about all the time, which would make it rather impossible for you to find hikers or anybody who may be there.

Response: Area surveillance sweeps to ensure evacuations would be augmented, as required, by ground security patrols.

Comment TK-0020-5: In regards to closure I asked the Forest Service at Wasatch National Forest if it would be possible to close the canyons because of fire danger, and they said no. They said it would practically be impossible to do, even though they have major trailheads marked. Closure like that just will not work.

Response: The Army believes that comprehensive prior planning and careful execution performed through public notices of area closures and implementation of the Evacuation Plan in the Supplement to the Draft EIS would enable safe and complete evacuation of the identified evacuation areas.

Comment TK-0021-1: With regard to evacuation zones, the fact that people living around White Sands, NM regularly leave their homes so that you can test missiles, I don't understand how that has anything to do with what we are talking about today.

Response: The Army has been regularly and routinely performing such evacuations around WSMR for years, without incident. The U.S. Army believes that the fact that such evacuations have been previously and successfully performed lends credence to the analysis that such evacuations can be performed elsewhere, including the proposed areas, without significant adverse impacts on the residents' quality of life, health, and safety.

Comment TK-0021-2: I happen to have been backpacking in booster drop zone C2 and I was never near any trailhead at any time, nor did I see anyone. I don't know how I would have gotten notification.

Response: Public notices of area closures will be issued far in advance of any testing to allow ample time for hikers to avoid those areas. The Evacuation Plan in the Supplement to the Draft EIS defines the requirements and procedures to be implemented during prelaunch evacuations. The Army

believes that comprehensive prior planning and careful execution performed through public notices of area closures and adherence to the Evacuation Plan would enable safe and complete evacuation of the identified evacuation areas.

Comment TK-0021-3: You mentioned in defense of ample notification that you would use local media such as radio, television and newspaper. When backpacking in the back country of Southeastern Utah, I have never brought a paper along with me, or watched TV, or been able to get radio reception. I don't know how I would receive notification of these things.

Response: See response to comment TK-00021-2.

Comment TK-0021-5: You said it's unlikely to cause fire. I don't know how unlikely it is. What conditions is it unlikely? Is that 10 percent in a dry August or a dry September, so we are talking about one fire per year?

Response: See response to comment TK-0001-3.

Comment TK-0024-1: It's not flat. You can't look at the area with binoculars. You can't get in a helicopter and fly over it. There is no way you are going to be able to find people in that kind of geographic area.

Response: Helicopters are used as a safety precaution to sweep the area. The helicopter typically flies 500 to 1,000 feet above the ground to quickly view a large area to look for obvious signs of people that could still be in there. Specifically the crew looks for a vehicle or a tent. If the people in the area can not be evacuated or leave the area within the time that is scheduled for evacuation, the launch is put on hold until the people can be evacuated.

Comment TK-0025-3: The idea has occurred to me much as the way people have inhabited ground zero at the Nevada test site, I don't know if evacuation of all people in the areas is a prerequisite for the test or how important that will be. You will have hundreds of volunteers going down to the Canyon Country to make it impossible to conduct such.

Response: Thank you for your comment.

Comment TD-0002-1: You say that the optimum test flights would be 100 within 5 years. That's every 2 weeks. Does that mean that every 2 weeks, that we will be evacuated?

Response: For the purposes of environmental analysis, a maximum of 100 test flights was examined with a possibility of test activities occurring at more than one candidate test area. The actual number of tests from either the GRLC or FWDA is not expected to exceed six to eight launches per year.

Comment TD-0002-2: It seems to me that a less-than-10-percent deviation between Ft. Wingate and White Sands could land the booster right in the heart of Magdalena.

Response: The Army would perform comprehensive planning and studies prior to launch to ensure that the launch vehicle could be reliably and safely launched. The flight of the launch vehicle would be monitored throughout the entire flight by Range Safety sensors. Should these sensors indicate that public health and safety could possibly be endangered, a Flight Termination command would be issued to the launch vehicle, and the vehicle's flight would be terminated as described in the Draft EIS.

Comment TD-0002-3: I have a lot of questions about the proximity to Alamo. There's a lot of kids going to school at Alamo. That's 5 miles from the west of the border of your drop zone. Your drop zone is 9 miles wide. A 50 percent deviation could land the booster in the drop zone at Alamo school.

Response: See response to comment TK-0001-4.

Comment TD-0002-5: There was a statement in the film that this whole process would also test the radar. Testing the radar, while flying missiles over communities seems a little bizarre.

Response: The radars tracking the target would be proven radars from WSMR. The radars being tested are associated with the interceptor and would in no way interfere with or influence the flight of the target missile.

Comment TD-0002-6: When you say "We have a perfect safety record," it sounds to me like the odds are stacked against you.

Response: Thank you for your comment.

Comment TD-0002-8: You referred to the drop size, in area, as "approximate." By what percentage of deviation? Again, I'm referring to the size of the booster drop zone and its proximity to inhabitants and children, in Magdalena and in Alamo.

Response: See response to comment TK-0001-4.

Comment TD-0003-1: The first area is physical security: how often and what the probabilities of dropping outside of your designated drop area are?

Response: See response to comment TK-0001-4.

Comment TD-0004-2: I agree that the location of the schools here in town is very important. They are very, very close and these are the only kids we have.

Response: See response to comment TK-0001-4.

Comment TD-0004-6: Regarding your evacuation plans, the road closures, et cetera, I would expect that FEMA would be involved. It seems that the whole subject is awful quiet about evacuations and road closings; perhaps, maybe, if it's really quiet, nobody would notice.

Response: The Army is making every attempt to involve the local communities and the public affected by this proposed action and has held numerous public hearings throughout the affected areas. There has been no attempt to disguise or hide the nature and number of evacuations and road closures. The FEMA would not be involved in test activities.

Comment TD-0004-10: If Magdalena, Alamo, Pietown, and Datil are to be under siege for an undetermined number of years, then we should probably get an air raid signal to announce all the tests.

Response: There would be no ground impact on the communities of Magdalena, Alamo, Pietown, or Datil from the proposed flight tests. There would be no need for citizens in these towns to take shelter or take any other form of action to protect themselves. The flight tests would be completely invisible to them.

Comment TD-0004-13: There is really no way of knowing who is in the mountains and the woods on any one day. Hikers, visitors could be anywhere. As citizens and taxpayers, we have the right to enjoy the national forest. And there's no way to warn people about the threat of being killed here. Would it count as friendly fire if somebody were killed in this test?

Response: See response to comment TK-0003-3.

Comment TD-0006-2: There could be a misguided thrust or an explosion due to cracks and burn throughs, and I know those sort of things happen. What happens if that booster segment comes down with some of the propellant intact? It has the potential for starting fires, for having confined-by-missiles sorts of explosions, depending on how much propellant might be left on board.

Response: See response to comment TK-0001-3.

Comment TD-0006-3: In addition, there is the helium pressure tank that is used for vector control. I know that starts out at about 10,000 psi. I don't know what it's projected to be at booster separation; however, I know that anything that's got 10,000 psi in it, when it goes splatto on the ground, can make a very big hole and cause a lot of shrapnel to be thrown around.

Response: The helium used in the thrust vector control system is virtually used up during the first-stage burn. It is not expected to contain more than 1,000 psi pressure of the helium. The booster-recovery team will be trained on how to depressurize the container. The container used is DOT-certified and has been proven reliable.

Comment TD-0008-1: I don't understand why they must be tested over an area that has had a parched winter and the hottest, driest summer on record. If I'm not mistaken, rocket fuel is pretty flammable stuff, black boxes have been known to fail. So why not test over the ocean in cooperation with the Navy.

Response: See response to comment TK-0001-3.

Comment TD-0009-1: In the transcripts that you do provide for us, I would like to know what the major complaint was of the other people that you had to evacuate in the past.

Response: There have not been previous test programs in this area in the recent past so that data of this type could be collected.

Comment TD-0011-1: What about our buses that go in and out of Alamo? We send school buses for our children.

Response: See response to comment TK-0001-4.

Comment TD-0012-1: The flight path trajectory is directly over where you're sitting. This is a school. I understand White Sands needs money as any agency does; they have to justify existence and everything else. But you can't put a price when it comes to kid's lives.

Response: See response to comment TK-0001-4.

Comment TD-0013-3: For months, I have been unable to get our good Senator Bingaman to help us. The last letter I received, we had to prove that these tests weren't safe. He gave me the impression that he felt these tests were safe, and that we should just swallow it. Well, it's election year. So we're still here. I'm lining up groups, and I guess we'll see you in court.

Response: Thank you for your comment.

Comment TD-0016-1: I really don't see it necessary that you have to endanger innocent lives. I understand what it's for, but if it's a 2-percent chance of error, I don't want my head to be on that 2-percent chance.

Response: Thank you for your comment.

Comment TD-0017-1: I'm looking at this little trajectory here, and I'm noticing that when it reaches the top, if it shuts off right then, it falls right, smack down onto Magdalena. And with human error, something like that can happen.

Response: At that point, the booster has completed its thrusting and is on a ballistic path to WSMR. It would not fall on Magdalena.

Comment TA-0003-1: So the helicopter starts to lift off and a booster that's been destroyed because it's going off trajectory. The booster is destroyed in the air, it impacts. You still have rocket fuel; you have fire. And the helicopter tries to take off and has immediate failure. We have problems. And the helicopter, being ready to take off immediately, is not going to do it any good when you have intentional destruction because a missile is going off trajectory and it's high enough that it goes off the assigned area. We have dangers.

Response: See response to comment TK-0001-3.

Comment TA-0006-1: The thing that bothers me the worse is this evacuation. I realize the chances of getting hit by one of those things is pretty remote, but how do you tell your cows "You've got to wait a couple of days to get milked because we gotta run down and stay in a motel." You can't just go off and leave things like that. I don't think this is the right place for this kind of thing.

Response: Thank you for your comment.

Comment TTQ-0010: How are helicopters used in the evacuation process?

Response: See response to comment TK-0024-1.

Comment TT-0001-1: If the logical place for the boosters to drop is northwest of Monticello, then do it. A lot of vegetation is northwest of Monticello, and we're talking about fire season this year, but if that's where they decide they want it, I'm all in favor of it.

Response: Thank you for your comment.

Comment TT-0003-2: There's no safety device to blow boosters up if they're not dropped in the right area.

Response: The first-stage booster, while attached to the upper part of missile (second stage and payload), and while it is thrusting from lift-off, can be destroyed. After the first stage burns out and separates from the rest of the missile, its flight path will not change. After burn-out there is no more energy in the first stage to cause it to change its flight path. If the missile fails in flight then the booster will be destroyed before it approaches a populated area.

Comment TT-0003-7: You can't guarantee 100% that something might not fall on a house, a business or worse yet, a school and damage us.

Response: See response to comment TK-0001-4.

Comment TT-0004-5: I'm really not worried about the dangers to me and myself, because I was there before, and I saw what happened. Sometimes I think you were lucky that nobody was hurt. There were some of those things that hit that weren't scheduled. There were some of them that we weren't evacuated for.

Response: Thank you for your comment.

Comment TT-0008-6: It may be easy to say that all the boosters' impact locations will be evacuated in advance of every missile launch. We question whether this is really truly possible to do. The majority of the public land is very disbursed in nature and most difficult to access, inform and control. The Bureau will take no responsibility for evacuation of these lands, and that would be entirely your responsibility as a project proponent.

Response: See response to comment TK-0003-3.

Comment TT-0015-4: I like the idea of evacuating. We never evacuated before.

Response: Thank you for your comment.

Comment TT-0016-3: Regarding this missile, there was some testing in 1970's and also in the '60's. To this day, we're still asking what happened. There was a debris dropped by Montezuma Creek, and many of those traveled several distances, and they're afraid that that might happen again. They want a full report on what happened then. They also were asking for the EIS report.

Response: The EIS is available for review at the repositories identified in the document.

Comment TT-0016-4: They are also afraid of the Haunta Virus. There was an article that indicated that military in the past did some nuclear or chemical testing in low populated minority areas. Everyone is concerned about that, and I think even though the disease has been associated with the mice droppings, they somehow still feel that this could be part of that.

Response: The proposed action has nothing to do with the Haunta Virus.

Comment EK-0001-3: Your proposal would introduce a new danger in an area that certainly doesn't need one.

Response: See response to comment TK-0001-3.

Comment EK-0001-4: Keep in mind that Monticello is less than five miles away from the edge of the northern drop zone. This threat gives me great cause for worry.

Response: See response to comment TK-0001-4.

Comment EK-0001-5: The Army now claims it can drop its rockets in a booster impact area which is much smaller than the actual drop zone, and that is the only area that would have to be evacuated. I'm not an expert on missiles, but I know that whenever you shrink your margin of error the chances of a serious accident increase.

Response: See response to comment TK-0001-4.

Comment EK-0001-6: The Army also claims that it no longer needs to shut down I-70 or close off the Green River, but they neglected to include a new map of the area around Green River that would be evacuated. I'm concerned that in their efforts to solve problems associated with the original launch plan the Army has unintentionally increased the risk to the public.

Response: See response to comment TK-0001-6.

Comment EA-0001-1: There are too many people, too many animals and too many private residences for this type of activity.

Response: Thank you for your comment.

Comment EA-0001-3: There are forests here which could cause serious forest fires.

Response: See response to comment TK-0001-3.

Comment MS-0002-3: I am concerned about our neighbors in southeast Utah who live near the drop zones.

Response: See response to comment TK-0001-4.

Comment MS-0002-4: My love for these areas is anguished by the prospect of missiles and helicopters overhead and evacuations for a ton of metal booster falling from above.

Response: Thank you for your comment.

Comment MS-0004-3: These areas offer outstanding primitive recreation opportunities for many wilderness enthusiasts who would find a sudden order from a helicopter sweep to cut short a wilderness trip and immediately evacuate, awfully annoying and terribly inconvenient.

Response: Thank you for your comment.

Comment MS-0009-1: I am still not convinced that the need for testing in "realistic theater environments" outweighs the possible hazards and inconveniences that will come with launching missiles over this area.

Response: Thank you for your comment.

Comment MS-0013-2: Impact could be minimized if the Army or cognizant test organization observed the following: 1) Public notification of test schedule published 30 days in advance, 2) Area closed for no more than 4 hours in any 24 hour period, 3) Daily notification over public radio and in local area, of changes to previously announced test schedule, 4) Test schedule to include day and hours of closing.

Response: Thank you for your comment.

Comment MS-0017-1: San Juan County, Utah has reviewed the context of the subject Draft EIS and is in support of the project, with some reservations, so long as it meets all public safety requirements and is properly permitted in conjunction with County, State, and Federal regulatory requirements.

Response: Thank you for your comment.

Comment MS-0019-1: One correction. Sect. 4.2.8 Land Use, paragraph 4 states: "There are no known year-round residential dwelling units in the booster drop zone, and only one seasonal ranch house, the Webster Cabin …." The HH Ranch has a dwelling known as "Dog Springs Camp" located in Sect. 31 T2N R8W. This camp is occupied year around by one of our Ranch employees.

Response: Thank you for this information.

Comment MS-0020-2: There are a couple of high voltage power lines that the missiles will fly over whole cities could lose power for days if a mishap occurs. This would have a serious economic impact on business and an even more serious impact on people on life-support in hospitals.

Response: Thank you for your comment.

Comment MS-0020-3: This will endanger the lives of people (three different native American tribes, ranchers and recreationalists). If you say all the affected folks will be evacuated before a launch good luck. With the vast, rugged terrain and forested areas that are out there, no matter how good your remote sensing is you won't get them all out.

Response: See response to comment TK-0003-3

Comment MS-0022-3: We cannot imagine how the military will be able to locate everyone hiking or riding in these areas before a proposed drop and can foresee that they will simply close the areas permanently.

Response: See response to comment TK-0003-3.

Comment MS-0025-6: The private land of the Dugout Ranch would certainly be under threat. The residents and employees here should absolutely not be required to evacuate their important operations.

Response: See response to comment TK-0003-3.

Comment MS-0027-12: There is no explanation for how the Army intends to conduct evacuation and recovery procedures in this rugged country.

Response: See response to comment TK-0021-2.

Comment MS-0027-32: How would fires be controlled, if a booster starts a fire at a remote location?

Response: See response to comment TK-0001-3.

Comment MS-0028-1: There are habitations and human life even in this sparsely populated area; and, of course, there is Magdalena.

Response: Thank you for your comment.

Comment MS-0028-2: Even in the most minutely calculated physics spectrum there is always the element of human error.

Response: Thank you for your comment.

Comment: MS-0029-6 What if you miss the mark, and it falls outside the boundaries you have set? What do you say?

Response: See response to comment TK-0001-4.

Comment MS-0038-2: It is completely unreasonable to propose evacuating these tranquil lands using Army helicopters, bull horns, or any other method.

Response: Thank you for your comment.

Comment MS-0041-2: There are many people like myself who enjoy visiting these areas and could be in danger.

Response: See response to comment TK-0003-3.

Comment MS-0042-4: Any loss of life because of the Army's actions would be even more criminal in nature.

Response: Thank you for your comment.

Comment MS-0043-3: As a user of the areas being considered as a dump ground, I request this proposal be withdrawn, not only for esthetics, but also for the safety of the people living and visiting these areas. Evacuation of the area is not an option! Evacuation of homes and public lands is a direct assault on the rights of the citizens of this LAND OF THE FREE.

Response: Thank you for your comment.

Comment MS-0048-3: What about safety considerations for the inhabited areas over which such rockets would travel? My map shows the communities of Shiprock and Gallup to be directly under their path.

Response: See response to comment TK-0001-4.

Comment MS-0049-1: Much wilderness camping and hunting use is made of this area including use by ourselves. The danger to persons and impacts on wildlife are not fully addressed in your EIS.

Response: See response to comment TK-0001-4.

Comment MS-0051-1: My first concern is for the safety of the people living in populated areas next to the booster drop zones. If these are tests of missiles similar to those used in the Gulf War, missiles that were not always accurate even after testing, what are the risks to people immediately outside of the zones should the missiles become misdirected?

Response: See response to comment TK-0001-4.

Comment MS-0054-3: Drop Zone 1 is so near to Canyonlands National Park and extends so close to the town of Monticello, Utah, that it is beyond reason why they would suggest it as a possibility.

Response: See response to comment TK-0001-4.

Comment MS-0054-4: We know how hard it would be to try to search out and evacuate all the humans (without regard to livestock and wildlife) from the area.

Response: Thank you for your comment.

Comment MS-0054-5: Hopefully the ability of the Army to drop the booster where intended is more probable than in the past.

Response: See response to comment TK-0001-4.

Comment MS-0055-3: Proposed steps to survey and evacuate hikers from the site prior to a missile drop will be costly and risky at best.

Response: See response to comment TK-0021-1.

Comment MS-0055-5: As a backpacker into these areas, I resent the idea of these beautiful areas being littered by debris. I resent the idea of having to be evacuated during my stay that I have planned for months in advance. As a worker in Emergency Medical Services in rural and wilderness areas, I understand the risks and costs involved in evacuating civilians. Those risks and costs alone should be enough to discourage such a proposal.

Response: Thank you for your comment.

Comment MS-0058-1: The proposal is unreasonably dangerous to humans and wildlife alike, and should be considered completely unfeasible for reasons of potential government liability alone.

Response: Thank you for your comment.

Comment MS-0065-1: We often experience very dry years and extreme fire danger. I am not aware of the status of the booster rockets when they hit the ground but am concerned about possible fire danger.

Response: See response to comment TK-0001-3.

Comment MS-0065-3: It concerns me that my family could be subjected to extremely dangerous situations in an area that we think of as pristine, peaceful and safe. It would seem that the logistics of actually evacuating everyone from a drop area are difficult if not impossible to work out especially in such a rugged and remote area as this and with so many backcountry users.

Response: See response to comment TK-0021-1.

Comment MS-0066-2: There is no way everyone could be cleared out of such remote areas. The Army would be endangering people and livestock.

Response: See response to comment TK-0021-1.

Comment MS-0067-2: Is nowhere safe from helicopters with loudspeakers, barricades and doubtful Army exercises with rockets? I can't believe our government can intend to deface our natural heritage in this manner.

Response: Thank you for your comment.

Comment MS-0071-1: Tourist use is increasing season to season. To clear out remote areas of hikers when the Army plans to launch its missiles, is simply not feasible.

Response: See response to comment TK-0003-3.

Comment MS-0078-3: Heavy rocket boosters striking the earth at even relatively high velocity would cause considerable impact and scatter debris widely. Can the Army warn everyone in these "Zones" to clear the area, including livestock operators who would have to round up and drive their animals without using vehicles in the WSAs and possibly prospectors who would have to disrupt intensive mineral resource activities? Can the Army negate impacts and indelible marks on natural features, replace values that could be destroyed, and retrieve all debris? Miscalculations in any program are always possible. I am concerned that the Army could not provide complete safety and mitigate negative impacts.

Response: See response to comment TK-0003-3.

Comment MS-0078-2: Disrupting access to the area would be of great inconvenience to me personally.

Response: Thank you for your comment.

Comment MS-0080-1: Aside from the obvious physical impact that dropping spent booster rockets would have on things like ancient native ruins, living creatures, rocks and streams, the most painful loss for me would be intangible. I would no longer feel safe to go to Comb Wash, or anywhere else in "Drop Zone 2."

Response: This is beyond the scope of the EIS.

Comment MS-0082-2: With as many problems that were revealed in the Gulf War, the accuracy is very questionable.

Response: Thank you for your comment.

Comment MS-0091-1: Dropping booster engines off of rockets not thirty miles from our home. Screaming rockets filled with flammable, poisonous propellants, explosive bolts, and high pressure tanks zipping over my child's school.

Response: Thank you for your comment.

Comment MS-0091-2: But defensive measures can be tested in unpopulated areas. By seeking to test missiles over our town does that mean that we're expendable?

Response: No. See response to comment TK-0003-4.

Comment MS-0091-3: The Army assures us that there will be no failures. A deviation of less than 5% in trajectory, however, could land a three thousand pound rocket engine in our school, home, or senior citizens center. Is that an acceptable factor? A deviation of two feet would put the booster drop zone inside the Alamo Navajo Reservation.

Response: See responses to comments TK-0001-4 and TD-0002-2.

Comment MS-0091-4: Army officials let it slip that the radar guidance system for these missiles is untested. But they insist they are building precision instruments. The fact is, humans make mistakes. And a little mistake can cost lives.

Response: The radar testing will be performed on WSMR using dedicated targets and targets of opportunity.

Comment MS-0091-7: By what law or authority can the Army close public roads and evacuate people from their homes?

Response: Public land managers have the authority to take precautions to protect public health and safety. There is no plan to involuntarily evacuate people from property they own.

Comment MS-0091-9: These boosters will start fires. Not a reassuring thought considering the kindling-dry forest.

Response: See response to comment TK-0001-3.

Comment MS-0091-10: The EIS filed assures us that adequate warning will be given in the event of missile failure. How many seconds do we have to empty our area schools?

Response: See response to comment TD-0002-2.

Comment MS-0091-12: It's a simple conclusion that the odds are stacked against them. There will be a percentage of errors; it is an accepted statistical fact.

Response: Thank you for your comment.

Comment MS-0092-3: How accurate are these missiles? Considering that I live fairly close to the C2 Drop Zone, should I be concerned about my house being hit? Or my family being killed as we drive to Blanding, Utah?

Response: See response to comment TD-0002-2.

Comment MS-0093-2: These are hard areas to contain. There are a variety of roads and I'm sure posting announcements would be made, but the reality is that there could easily be people entering these areas during times of risk.

Response: See response to comment TK-0003-3.

Comment MS-0096-1: The Army's plan to test missiles over the Southwest population of living people, animals and growth and allow missile boosters to fall to earth is too risky and destructive.

Response: Thank you for your comment.

Comment MS-0104-1: We have been informed the project proponents have considered expected system failures for all major components of the boosters and missiles and that analysis exists for a failure of a major component. This information is obviously important for the public to understand this project, and must be made part of the EIS document.

Response: See response to comment TD-0002-2.

Comment MS-0104-2: The draft EIS suggests that if the booster rocket beacon failed that the location of the booster would be determined by observation from a helicopter. Because a helicopter would not be allowed within the drop zone it is very unlikely that anyone in a helicopter would observe where the booster rocket dropped, especially given the rough terrain of the proposed drop zones. The EIS must address this problem.

Response: Only the booster impact area, not the entire booster drop zone, would be evacuated. The flight of the booster will be monitored throughout the entire flight by Range Safety sensors. From this tracking the location of the booster can be determined.

Comment MS-0104-3: The EIS should include known safety range criteria, such as archeological sites. This will require the military to conduct on the ground inventories to determine the locations of the safety range criteria, including all archeological sites and threatened and endangered plant or animal species. Buffer zones should be planned for each criteria for various wind conditions. The EIS must explain the conditions which would delay launchings, and discuss the duration of the delays which would result.

Response: Once the specific locations for TMD activities have been finalized, mitigation measures will be developed in consultation with the appropriate Federal, state, and local agencies and organizations to ensure the protection of any potentially affected resources.

Comment MS-0105-1: I use these drop zones with my kids. I assure you they cannot evacuate quickly as you may think.

Response: Thank you for your comment.

Comment MS-0112-2: There is <u>No</u> way you can get all hikers and rafters out of harms way. It is absurd to suggest you could do that as well as a violation on our public lands.

Response: See response to comment TK-0020-5.

Comment MS-0116-2: We are concerned that a degree or two error in aim would send booster rocket parts to our property. What is there to protect us from "friendly fire" injury or accident?

Response: See response to comment TK-0001-4.

Comment MS-0118-6: The Risk Analysis contained in Appendix I of the original Draft EIS is not redone for the new drop zones and flight paths proposed in the Supplement. I will therefore assume that the risk is presumed unchanged.

Response: See response to comment TK-0001-6.

Comment MS-0118-7: While the Draft EIS quotes many quantitative likelihood estimates, it leaves out one of the most relevant numbers: what is the chance of at least one premature termination causing debris to fall outside of an evacuated drop zone? Page I-7 quotes the probability of failure of a single booster as 1.4% figure and the presumption of a total of 100 flights, the chance of <u>at least</u> one premature flight termination is over 75%. Using a single failure likelihood of 2.0%, the chance of at least one premature failure in 100 flights increases to almost 86%. I suspect that the failure to quote these numbers was not an oversight.

Response: The purpose of the study was to determine the statistical risk to the public from the test program. The risk was presented accurately and in a straightforward manner. The chance that at

least one failure will occur in 100 flights is high; however, this was considered in overall risk calculations. An illustrative example: The risk of fatality by auto accident for an individual driving on a U.S. highway is low. The chance that at least one auto accident fatality will occur on a U.S. highway is high. It is clear that as the number of missile test flights increase, the chance of at least one failure causing debris to fall outside of evacuated drop zones will increase, assuming the estimate of failure likelihood remains constant. The major premise of this comment is 100 flights. The maximum number of flights using these corridors will not exceed 12 per year. To provide a basis of comparison with other risks commonly accepted by the public, the flight test risk numbers were annualized. The issue is not the likelihood of debris impacting outside of the evacuated drop zones, but the risk to the public from these flight tests, and these risks were very low even with some very conservative assumptions (e.g., everyone is outside in light clothing). You will find from close examination of the administrative record that the risk analysis was conducted from a public safety point of view, and a number of reasonable assumptions could have been made which would have driven the estimated risks several orders of magnitude below those presented.

Comment MS-0118-8: The low estimated total casualty figure on page I-4 comes about almost entirely because of the low single flight casualty rate, as determined by Monte Carlo simulations. The claim of statistical significance for a likelihood estimate of 10^{-6} based on only 2×10^{5} events is certainly suspect. The non-random and non-uniform specification of malfunction times in the simulation is further grounds for concern, given the very uneven distribution of population in the area.

Response: Statistical significance is achieved when it is determined that an increase in the number of statistical simulation samples will not significantly change the probability distribution of impacting debris at selected times in flight. These times are carefully selected to characterize the debris impact probability distribution at all times of interest. Debris impact probability distributions are produced directly from sampled statistical simulation data or derived indirectly from these data. For example, statistical samples were generated for times of 0, 5, and 10 seconds after launch. The debris impact probability distributions for these times were generated directly from statistical simulation output. The debris impact probability distributions for 1, 2, 3, 4, 6, 7, 8, and 9 seconds were generated by interpolating between the distributions generated from statistical simulation output. The most important constraint for this interpolation process, which was enforced for this analysis, is that the probability distributions derived (interpolated) from the statistical simulation data exhibit continuous behavior from time to time. In order to satisfy this constraint, one should not interpolate across discontinuities such as staging. In this interpolation process, three aspects of the distribution are interpolated: (1) the distribution centroid, (2) the shape of the distribution perimeter, and (3) the distribution probability topology. Any arbitrary density function for malfunction probability over time can be applied, but given a lack of information on the characteristics of the density function for the particular systems analyzed, malfunctions were assumed to be equally likely across the interval of powered flight. In conclusion, debris impact distributions are computed in a uniform manner (every 0.1 seconds) and these data are overlain on the U.S. 1990 Census population database. Therefore, uneven distribution of population is considered in the analysis.

Comment MS-0118-9: Neither the Supplement nor presentations at the 24 August 1994 public hearing indicate that adequate concern has been given to potential harm to back-country recreational users in the two drop zones. The 1992 use figures quoted in the Draft EIS and Supplement are already well out of date. With several flights a month, many users of these areas will intentionally or otherwise fail to consult the warnings. Others will avoid the area altogether, effecting an economic impact on the local economy not considered in the Draft EIS or Supplement.

Response: See response to comment TK-0003-3.

Comment MS-0118-10: The statement made at the 24 August 1994 public hearing that "notices would be placed at trailheads" could only have been made by someone who is totally unfamiliar with the area, since almost all travel is cross-country and, because there are no trails, there are no trailheads.

Response: See response to comment TK-0003-3.

Comment MS-0119-3: My private property is used as a line camp for my cattle operation. If we decided to sell drinking water from the artesian wells, then someone will be living there year round. We work not only on my private property but on the BLM and State land. Due to the size of the impact area it will affect me every time a booster rocket is dropped in the C2 zone. The C2 zone is not much larger than the impact area.

Response: See response to comment TK-0001-4.

Comment MS-0119-4: I believe that the EIS has underestimated the evacuation time. I have seen people park their vehicles either inside or outside the impact zone. These people did not come back to their vehicles for a week.

Response: See response to comment TK-0003-3.

Comment MS-0120-1: The plan to evacuate drop zones with helicopters is absurd not to mention very noisy and intrusive in these proposed wilderness study areas.

Response: See response to comment TK-0024-1.

Comment MS-0123-1: This plan endangers fragile desert environments, irreplaceable archaeological sites and people who inhabit the area and visit it.

Response: Thank you for your comment.

Comment MS-0130-4: I fail to see the logic in keeping Highway 211 open during drop events if Wind Whistle Campground, Newspaper Rock, and residential buildings at Dugout Ranch are in the "impact zone" and are evacuated. I think it is unsafe to travelers to keep the road open.

Response: See response to comment TK-0001-4.

Comment MS-0130-6: The proposed three days notice in local papers is insufficient and will be ineffective for notifying people who are not local. Many recreational users are there for a week or more and would have no opportunity to read the notices. It is unlikely that many of these independent, self-reliant people would go by a visitor center many miles out of their way for information about the place they intend to visit.

Response: See response to comment TK-0020-5.

Comment MS-0130-7: You have not acknowledged the extensive system of county, Forest Service, and BLM roads. I question whether effective evacuation of some possible impact zones can be made due to the number of roads, the pattern of independent, self-sufficient recreational users, and the likelihood of recreational users not known or not understanding the evacuation order.

Response: See response to comment TK-0003-3.

Comment MS-0132-1: The basis of objection is the high popularity of the area, including the drop zones, with vast numbers of foreign and American tourists, plus the vastness of the canyon areas constantly frequented by hikers. A "sweeping" helicopter could not possibly find all of them!

Response: See response to comment TK-0024-1.

Comment MS-0132-3: The basis of objection is the high likelihood of injury, death, and/or damage inflicted by boosters as they near the earth's surface. The basis of objection is the high likelihood of error in firing a missile, an aborted launch, its direction, its course, and the variables associated with the separation of the booster let alone the interceptor procedures to the south.

Response: See response to comment TK-0001-4.

Comment MS-0132-4: The basis of objection is the tragic drive-by and other menacing shootings that have taken their toll of Americans and tourists. Must we look to the unreasonable, shameful alternative of requiring that the tourists bring their dollars, but also be sure to pack a helmet for head protection

Response: See response to comment TD-0002-2.

Comment MS-0134-2: PMDZ C1 encompasses Utah Highway 211 which is the only highway vehicle entrance into the Needles District of Canyonlands National Park and portions of the BLM Canyon Rims Recreation Area. Visitation at the Needles District for the year 1993 was 178,000. Virtually all of those visitors entered the park on Highway 211. Newspaper Rock State Park is also located on Highway 211 and in 1993 hosted 129,000 visitors. Canyon Rims Recreation Area hosted 28,000 visitors in 1993. We believe it would be extremely difficult and costly for the military to engage the manpower necessary to remove everyone from the drop zone or to prevent people from entering the drop zone even after it was closed during the test flight. Visitation in 1993 in the area of PMDZ C2 was 64,000 at Goosenecks State Park, 3500 at Grand Gulch Primitive Area, and an estimated 6200 in the Comb Ridge/Butler Wash area.

Response: See response to comment TK-0001-4.

Comment MS-0137-1: The Very Large Array (VLA) and Very Long Baseline Array (VLBA) radio telescopes are federal government and national astronomical research instruments without equal in the world. Any damage or operational degradation to these unique facilities would have a significant impact on this area of scientific research. The first concern is the level of risk to VLA personnel and facilities from a booster falling outside of Drop Zone C. The Supplement to the Draft EIS does not mention the consequences of boosters falling outside Drop Zone C. A Failure Mode and Effects Analysis (FMEA) and a Fault-Tree Analysis (FTA) by the Army could estimate the risk to VLA facilities and personnel. The probability of damage may be small, but must be weighed against the risk to life of VLA personnel and the costs of repair, replacement and degraded science. Each of the VLA antennas, including instrumentation, would cost about $6 million and take several years to replace. An assessment of the risks to the VLA from boosters falling outside Drop Zone C should be included in the EIS.

Response: The VLA facility is south of the proposed booster drop zones and, as such, would not be subjected to impacts from normal test activities. Therefore, an assessment of risks to that area will not be performed at this time.

Comment MS-0138-2: The Zuni Mountain Coalition (ZMC) Comments point out the Army has not complied with its obligation to analyze low probability/high risk events such as a malfunction of the flight termination system.

Response: See response to comment TD-0002-2.

Comment MS-0139-3: The moving of the test site drop zones from Grand County to San Juan County solves no problems in terms of human populations or natural systems. The boundaries of the drop zone seem improbable; adjacent to but not touching roads, towns, National Parks and reservations.

Response: Thank you for your comment.

Comment MS-0140-1: Launches from Green River will unavoidably threaten bodily harm to people and ecological harm to sensitive public lands, including National Park System areas.

Response: See response to comment TD-0002-2.

Comment MS-0140-2: The proposed closure and evacuation procedures are unworkable and inappropriate. They are unworkable because recreationists are widely dispersed in the popular backcountry areas that lie within the booster drop zones. Unavoidably, some people will fail to get proper notice of launches and many of those who do receive notice will misunderstand the location or times of closures and evacuations. There are just too many people traveling on wide-open public lands for the proposed procedures to work.

Response: See response to comment TK-0021-1.

Comment MS-0141-1: We oppose the proposal on the grounds that the benefits to national security do not outweigh the negative effects on regional security. While the Four Corners area may be sparsely populated, it is by no means unpopulated. Further, while the booster drop zones now exclude Canyonlands National Park, they still include important recreational and environmental sites. Just because it is a desert does not mean it is deserted.

Response: Thank you for your comment.

Comment MS-0142-2: According to the Supplement, the BLM has a pumper truck that could be stationed in the area. The BLM has stated that they do not have the people or resources to fight fires that may be caused by boosters falling on BLM administered lands. The Army obviously did not consult with the BLM prior to drafting the Draft EIS or Supplement. When the Army misrepresents liaisons and overlooks such obvious circumstances in order to reach a "No Significant Impact" conclusion, it creates mistrust of your entire effort. The Army has not been honest with the public in this EIS process.

Response: The Army is making every attempt to involve the local communities and the public affected by this proposed action and has held numerous public hearings throughout the affected areas.

Comment MS-0142-6: The Supplement did not address how the low-level helicopter flights used to "clear an area" will affect wildlife and recreationists in the area.

Response: See response to comment TK-0024-1.

Comment MS-0142-10: The Supplement does not include figures for the Debris Containment Corridors for the new flight paths. Given the hazards associated with early termination, it is critical that these corridors be clearly set forth in the EIS.

Response: A detailed presentation of the risk corridor is contained in the administrative record.

Comment MS-0142-11: The Supplement failed to use the Army's actual early termination statistics to determine the risks associated therewith, instead of basing early termination probabilities on statistically-assumed levels of risk.

Response: Each test vehicle has its own associated reliability and subsequent probability of early flight termination. There are no actual early termination statistics available for these vehicles. Therefore, engineering judgement was used to determine reasonable estimates of early flight termination probabilities. Testing conducted on WSMR, prior to population overflight, will provide actual data which can be used to assess the accuracy of the assumed levels of risk.

Comment MS-0142-16: The Draft EIS and Supplement do not adequately address the issue of ground fire containment. The Supplement's extra language on this issue is so poorly thought out that it can't be construed as adequate consideration of this issue.

Response: See response to comment TK-0001-3.

Comment MS-0143-2: I look forward to returning to those areas without competing with falling missile boosters or Army personnel telling me to evacuate.

Response: Thank you for your comment.

Comment MS-0143-3: You must realize that, for many people, possibly being evacuated is not an acceptable compromise. If there is any possibility that a firing will occur during their visit, many people would simply not visit.

Response: See response to comment TK-0003-3.

Comment MS-0145-1: There is a 2-3% expected error in your trajectory. How will this affect the school and community of Monticello should these errors occur? What is the emergency plan of action for the community?

Response: See response to comment TK-0001-4.

Comment MS-0145-3: I am concerned about Shay Mountain bombing and the fires that may be started with the leftover propellant. The BLM has indicated that they do not have the personnel or resources to fight these fires. BLM had said that they did not have any input in the original Draft EIS or even this supplement. I do not like the procedure you utilize which omits BLM and the Forest Service input. Perhaps you have a hidden agenda.

Response: See response to comment TK-0001-3.

Comment MS-0145-4: In this Supplement, you totally ignore addressing the Debris Containment Corridor for your new flight plans. I want to see the maps of this corridor and a full disclosure of the hazards of your early terminations.

Response: A detailed presentation of the risk corridor is contained in the administrative record.

Comment MS-0146-3: What are the positive guarantees that affected ranchers and inhabitants near the drop zones or along the flight corridors will be informed of each test in advance? The Magdalena Postmistress says that some ranchers come in to collect their mail only once or twice a year. This is rural country and the Army cannot rely on those methods of notification that work in the urban areas.

Response: See response to comment TKQ-0010.

Comment MS-0146-7: What historical data justifies a claimed failure probability of 1.4% for the boost portion of the target missile? For research and development flights similar to those proposed for TMD, the historical failure probability has been about 5%. This is a factor of more than 3 higher than that used in the Draft EIS. Most of those failures were guidance related. TMD does not plan to use Minuteman guidance system but rather a new guidance system from Coleman Research Corporation which has just recently entered the guidance market. There is no data to indicate that the Coleman Research guidance system will be any better than the existing Minuteman guidance system. One chance in twenty of the boost portion of the target missile failing is higher than the other national ranges will allow for flight over populated or inhabited areas.

Response: Final risk analyses have increased the missile failure probability to 4 percent. This brings the estimate in concert with historical figures. Testing conducted on WSMR, prior to population overflight, will provide actual data which can be used to assess the accuracy of the assumed failure probabilities. The decision to allow overflight of inhabited areas at national ranges is based solely on the expectation of casualty from such an overflight. The probability of missile failure is an issue only in that it affects the expected casualty.

Comment MS-0146-8: What is the hazard associated with the 10,000 psi helium tank on the boost portion of the target missile? This tank is not discussed in this Draft EIS at all. The energy associated with a 10,000 psi tank is substantial. Other national ranges such as the Eastern Range and Western Range require that such tanks not be allowed to reach the ground intact. This is usually accomplished by a destruct system of some sort. The tank needs to be described in terms of expected tank pressure when the boost portion of the target missile impacts the ground and the resultant shrapnel.

Response: See comment TD-0006-3.

Comment MS-0148-3: Knowing that the Army's "Mitigation Measures" state that they will "be partially mitigated by providing advance notice of testing activity locations" does not allay our fears.

Response: See response to comment TK-0021-1.

Comment MS-0149-2: We are outraged that the U.S. Army would propose to expose civilian populations to the risk of raining debris in order to merely gain better access in retrieving its space trash.

Response: See response to comment TK-0021-1.

Comment MS-0154-1: How can you "test" 1 ton missile boosters? Realistically can you assure the missile debris will not do harm?

Response: See response to comment TK-0021-1.

Comment MS-0156-3: There is almost no information provided in the SEIS on the new launch hazard area that is proposed due to the changes in the boosters flight trajectories, flight paths, and booster drop zones. Omission of detailed information on this is incomprehensible, and is reason enough to call for a supplement to the supplement! Due to this lack of information, there is no way for reviewers to assess whether the change in the launch angle really merits such a large reduction in the hazard area.

Response: See response to comment TK-0001-6.

Comment MS-0156-6: We note that the SEIS proposes no evacuations of booster drop zones, but only of booster impact areas. We question this change. It appears that this reduces the margin of safety for people in the vicinity with the gain being less disruption of activities in the area. We question whether this is a defensible trade-off.

Response: See response to comment TK-0001-4.

Comment MS-0161-1: The logistics of getting people out of the canyons before the missiles are dropped and the retrieval of the spent missiles were obviously planned by someone who has never hiked in the rugged canyons of this area.

Response: See response to comment TK-0003-3.

Comment MS-0166-1: I am sure "every precaution" will be taken, but we can all imagine the results of a booster fuel tank landing on say a school bus full of children returning from a field trip, or the residential areas of Blanding, Monticello or Bluff, Utah or the White Mesa Ute Reservation or the tourist meccas of Moab, Arches or Canyonlands.

Response: See response to comment TK-0001-4.

3.4.10 LAND USE

Comment TKQ-0009: What about Dolphin Springs and Buckboard Campgrounds west of Monticello and State Road 313 to Dead Horse Point and Islands in the Sky?

Response: There would be no impact on State Highway 313 or Dead Horse Point. Islands In The Sky, Dolphin Springs, and Buckboard Campgrounds are outside of Booster Drop Zone C1 and are not impacted.

Comment TKQ-0018: What does avoidance of Fish Creek Wilderness Study Area and Bridger Jack Wilderness Study Area mean?

Response: The Army will plan booster impact areas to avoid Wilderness Study Areas (WSAs), proposed wilderness areas, and conservation lands.

Comment TK-0001-2: The new booster drop zones contain two pristine Wilderness Study Areas with irreplaceable archeological treasures, including Newspaper Rock, as well as a section of National Forest. It will still block access to Needles Overlook and Wind Whistle Campground. And perhaps of greatest concern the new drop zones mean that missiles will now fly directly over Canyonlands National Park. If anything were to go wrong, burning debris would rain down on this national treasure.

Response: There would be no planned impacts of boosters in Wilderness Study Areas. In Section 2.2 of the Supplement to the Draft EIS, the development and definitions of booster drop zones are explained in figure 2-3 and in the text on pages 2-4 and 2-6. The required booster impact area would be evacuated prior to conducting each test. Only the booster impact area, not the entire booster drop zone, would be evacuated. Flight tests would not be approved unless the predicted boosted impact area were contained within the identified booster drop zone. The Army would perform comprehensive planning and studies prior to launch to ensure that the launch vehicle could be reliably and safely launched. The flight of the launch vehicle would be monitored throughout the entire flight by Range Safety sensors. Should these sensors indicate that public health and safety could possibly be endangered, a flight termination command would be issued to the launch vehicle, and the vehicle's flight would be terminated as described in the Draft EIS. Access to the booster impact areas via local roads may be interrupted for periods up to 70 minutes each. Visitors would be delayed but not blocked from access. The chances of flight mishap in which a missile breaks up in flight is extremely remote. Significant cooling of the booster would occur during its fall to the earth, which would reduce the surface temperature to near the temperature of the surrounding air.

Comment TK-0003-2: The plan says that recreation will not be impacted significantly. Use in this area is increasing dramatically. The numbers that you have used on Canyonlands visitation from 1992 are already obsolete. So your statement that Canyonlands National Park access would not be affected is simply incorrect.

Response: Highway 211, which provides access to Canyonlands National Park, is located in a booster drop zone but will not be closed if booster impact areas are selected in this area. Therefore, if visitation has increased, then access will still be available.

Comment TK-0005-2: The proposal to drop missile boosters in the C1 and C2 zones, as well as to evacuate all public land users for that sole purpose, is contrary to the BLM San Juan Resource Management Plan.

Response: Use of BLM land for missile testing would not qualify for a BLM special-use permit and would be in conflict with the BLM's San Juan Resource Management Plan (RMP). An amendment to the RMP would be required, which would include additional BLM environmental documentation and public involvement.

Comment TK-0005-4: Impacts to and conflicts with recreational users in zones one and two are of particular concern.

Response: Temporary loss of access to these areas would be inconvenient to the individuals affected. However, due to the relatively small number of tests expected and the short duration of the tests, the impacts are expected to be not significant.

Comment TK-0005-5: Zone C2 includes Comb Wash, Comb Ridge and Butler Wash, just to name a few of the notable scenic, recreational and cultural resource features. The proposal to drop boosters in these areas, along with the proposal to evacuate all public land users from such popular recreational areas, would result in an unacceptable conflict with BLM management goals and responsibilities. It may be very easy to say that these booster impact locations will be evacuated in advance of every missile launch. But BLM questions whether this is truly possible to do. Some of these users stay for prolonged periods in the back country. BLM would take no responsibility for evacuation of all these people from public lands.

Response: The Army has been regularly and routinely performing such evacuations around WSMR for years, without incident. The U.S. Army believes that the fact that such evacuations have been previously and successfully performed lends credence to the analysis that such evacuations can be performed elsewhere without significant adverse impacts on the residents' quality of life, health, and safety.

Comment TK-0005-7: Bridger Jack is located in zone C1, and Fish Creek is located in zone C2. The proposed action would be in conflict with BLM's non impairment standard for the interim management of these Wilderness Study Areas. Ground disturbance would be very contrary to this policy, as would helicopter recovery of booster debris in these areas.

Response: See response to comment TKQ-0018.

Comment TK-0010-2: Irresponsible trail or mountain bikers or four-wheelers will do far more damage in an afternoon to the pristine environment of the booster drop zone than all booster impacts for the entire launch program.

Response: Thank you for your comment.

Comment TK-0011-4: Your staging of helicopters right outside of the area to recover the boosters, there are a lot of us just outside of those areas, and that's not going to be any fun to have you folks there with the noise and all the folks there staged and ready and waiting to go in and pick up the booster. I think it's a significant impact on the recreational opportunities in that area to have this go on.

Response: Recovery team staging areas will be at various locations outside the booster drop zones. Staging areas for booster recovery efforts will be chosen to lessen the impact on people or wildlife in the area. Their locations will not be decided until a precise impact area has been determined. Noise from the evacuation and debris-recovery activities would come primarily from the use of helicopters. The use of helicopters at low levels to recover spent boosters would be infrequent and of short duration, consisting of hovering close to the ground for an estimated 10 minutes or less. These staging areas will be characterized by inactivity and relative quiet while waiting for test launches to occur.

Comment TK-0012-1: SUWA's clients consist of the wildlife of the Slickrock, the silence, the archeological resources, and the wilderness of Southern Utah's Canyon Country. Your proposal is to bomb and scatter missile debris on our clients. Our response to you is please evacuate permanently Canyon Country.

Response: Thank you for your comment.

Comment TK-0014-2: I'm sure that people who are planning their visits to Utah are not sitting around the table thinking "I can't wait until I do my vacation in Southeastern Utah. I wonder if I should call the Army first to see if it's going to interfere with my travel plans".

Response: Thank you for your comment.

Comment TK-0014-3: You mentioned a number of times you are going to be posting signs at trailheads. This sort of says to me that you guys probably haven't been down there too often visiting the place. Just quite frankly there aren't a whole lot of trailheads in Southern Utah. The fact is managing agencies on purpose don't put in trailheads because they don't want everybody

going to one spot. It's interesting to note that this year's Utah Travel Council spent a lot of time telling people "Don't just visit our National Parks, go to BLM areas".

Response: Public notification of test launch activities will be conducted in many ways. Private land owners and local governments and agencies would be notified by mail 30 days prior to any scheduled test. Private land owners will also be notified by courier 3 days prior to any launch. Announcements will also be made in local newspapers and on radio/television station regarding road and public area closings. Information regarding launch activities will be posted along affected roads, and local chambers of commerce and state visitor centers will be provided with test schedules.

Comment TK-0014-4: You need to look very hard at the lands in HR 1500, which is the primary vehicle right now moving through Congress for designation of additional lands outside of even what the Wilderness Study Areas are that are proposed by the Bureau of Land Management.

Response: Thank you for your comment.

Comment TK-0015-1: The military has already destroyed thousands of Utah acres. I'm talking particularly about the west desert area. And they have done this with total disregard for the archaeological sites, of which there are many out there, for the wildlife, and for maybe perhaps peculiar people like myself who happen to like to hike in the desert. And my plea is please don't waste anymore of this beautiful state.

Response: Thank you for your comment.

Comment TK-0017-2: What respect does the military have for the term National Park, National Forest, Wilderness Area, Primitive Area, Scenic Overlook, Scenic Byways?

Response: The Army understands the significance of these terms and is working closely with affected agencies to avoid unmitigible impacts on these areas.

Comment TK-0018-1: This is a bad idea. The area that you are proposing in Southern Utah to drop your rocket boosters is incredibly rich in culture resources, ecosystems, environmental resources, et cetera. Your EIS does not adequately address the negative impacts to any of these resources.

Response: Federal and state regulatory agencies have been consulted regarding environmental resources in the area which could potentially be affected. The EIS addresses impacts on resources (including biological, cultural, etc.) within the proposed booster drop zones and makes a determination of significance. This necessary legal and regulatory consultation will continue, and no testing activities can begin until this consultation is complete.

Comment TK-0020-1: Canyonlands National Park needs a buffer zone around it. It does not need a garbage dump next to it, which to me your proposal would be.

Response: Thank you for your comment.

Comment TK-0021-6: You said there's no significant impact on hikers or back country users because of the short duration that any of these events would take place. Well if you can get to the back country once or twice a year, being prevented from going into the area is a significant impact. Even if it's a short duration it's the only duration we have.

Response: Temporary loss of access to these areas would be inconvenient to the individuals which are affected. The infrequency of tests and their short duration would affect a small portion of the overall recreational use of all public lands in the area. However, we acknowledge your belief that the impact would be significant.

Comment TK-0021-8: I object to your statement that benefits result from the C1 and C2 zones because Canyonlands remain open and rafting on the Green River would not be restricted. That's not a benefit; it already exists.

Response: Thank you for your comment.

Comment TK-0026-1: The new areas are rich in archaeological and scenic resources, which many of us find great value in visiting for a vacation. These vacations must be scheduled far in advance, and the wild card of missile launches would make these plans unpredictable.

Response: Thank you for your comment.

Comment TTQ-0002: People come for hiking and recreation from all over the United States. How would all of them be notified in order not to impact their vacations?

Response: Before a test in this area, advance notification would be provided to the BLM, the U.S. Forest Service, and other agencies to facilitate public notification. The closures for evacuated areas would be minimal a 12-hour maximum time range and up to 70-minute road closures. Impacts on visitors will be minimized where possible.

Comment TT-0002-7: In terms of wilderness, you've now managed to cover 2 wilderness study areas. You have no consideration of the international guidelines that the BLM require be followed to maintain these areas. There are 6 additional wilderness areas also within these drop zones. Also, Shay Mountain Wilderness Area will also be included in these drop zones.

Response: See response to comment TKQ-0018.

Comment TT-0002-9: In terms of recreation, you've documented claims of recreation being minimal in these areas. We would call it an excessive amount of recreation.

Response: Thank you for you comment.

Comment TT-0002-15: You haven't described things like what you mean by a road; it hasn't been defined. Do you intend to construct those. I'm talking about the two-lane paths across this country you would need for heavy equipment if you decide not to use helicopters to evacuate the area.

Response: No heavy equipment would be used to evacuate the booster drop zones. Any vehicle used during debris recovery or evacuation would be restricted to existing roads. These roads would be those that are normally used for vehicular traffic.

Comment TT-0005A-1: I don't think a wilderness experience involves boosters falling out of the sky. I don't think of it as having to be chased out of the wilderness experience by military helicopters.

Response: Thank you for your comment.

Comment TT-0005A-2: These places you are choosing are rich in wildlife, beauty and archeological sites. To me, it is totally absurd to consider such a place for booster drop off zones.

Response: Thank you for your comment.

Comment TT-0006-3: Scars to the wilderness area. I don't think that any little impact of any missile is going to be anything like the ravages of Mother Nature.

Response: Thank you for your comment.

Comment TT-0008-1: The Bureau endorses the application of the ecological process to select the best alternative. We are concerned that the drop zones, C1 and C2, may not be the best alternative. The San Juan Resource area encompasses some of the most outstanding federal public land resources in the entire nation. From Comb Ridge and Bridger Jack Mesa to Butler Wash and Newspaper Rock, the cultural recreation, scenic and biological resources in this area are internationally known. Intense public interest is focused on this resource area because of these unique and irreplaceable resources. The two booster drop zones, C1 and C2, are both in areas well known for their recreational, scenic, cultural, and wilderness value.

Response: Appropriate mitigation measures will be used to manage this program in an environmentally sound manner.

Comment TT-0008-2: The proposal to drop missile boosters in the C1 and C2 zones, as well as to evacuate all public land users for that sole purpose, is contrary to the BLM San Juan Resource Management Plan.

Response: See response to comment TK-0005-2.

Comment TT-0008-5: Impacts to conflicts with recreational users in zones C1 and C2 are a grave concern to the Bureau. The C1 zone is located in the canyon range special recreation management area. Utah Highway 211, which traverses the C1 zone, has been designated as a state scenic byway. This area receives an estimate of 50,000 visitors or more per year to the public lands. Zone C2 includes Comb Wash, Comb Ridge and Butler Wash. The proposal to drop boosters in these areas, the proposal to evacuate all public land users from such popular recreational areas would result in an unacceptable conflict to the Bureau's management goals.

Response: See response to comment TKQ-0018.

Comment TT-0008-8: Most of the proposed drop zones include wilderness study areas, areas recommended by BLM for designation by Congress as wilderness. Ground disturbance would be contrary to this policy, as would be helicopter evacuation and the use of helicopters for recovery of booster debris.

Response: See response to comment TKQ-0018.

Comment TT-0010-1: The proposal designates an area north and south of my home and business for a missile dump for 100 missile booster rockets over a 5 year period. I'm even more concerned for setting a precedence that the lands north and south of my home is waste land and to be used at the discretion of military planners. For this presumes there are no religious rights, no cultural resources, no recreational or economic interests.

Response: Thank you for your comment.

Comment TT-0011-1: The military of the United States is there to protect us. If we don't give them the opportunity to protect us, we won't have anybody to protect us, and we won't have any wilderness areas.

Response: Thank you for your comment.

Comment TT-0012-1: The map of the drop zone has been changed since the Forest Service has been asked to comment on it. The drop zone now appears to include Dalton Camp Grounds and also a very important communications site.

Response: Initial discussions with the U.S. Forest Service included a preliminary map of the booster drop zone. The current configuration is based on initial agency input, target program considerations, and the desire to avoid closing Highway 211 and access to Canyonlands National Park for an extended period of time. Based on the Forest Service map of the area, there are no campgrounds within the booster drop zone. We currently do not have the location of the communications site; however, the probability of impacting the site during booster drop is extremely low.

Comment EK-0001-2: The new booster drop zones contain two pristine Wilderness Study Areas, irreplaceable archaeological treasures including Newspaper Rock, as well as a section of National Forest. They will still block access to the Needles Overlook and Wind Whistle Campground. And of perhaps greatest concern, the new drop zones mean that missiles would now fly directly over Canyonlands National Park. If anything were to go wrong, burning debris would rain down on this national treasure.

Response: See response to comment TK-0001-2.

Comment EK-0003-2: What respect does the military have for the term National Park, National Forest, Wilderness Area, Primitive Area, Scenic Overlook, Scenic Byways?

Response: See response to comment TK-0017-2.

Comment ED-0001-1: It has come to my attention that populated areas of Quemado, Datil and Pie Town were not even noted in the U.S. Gov't survey map used for this study.

Response: Thank you for your comment.

Comment MS-0001-1: We are vehemently opposed to any sort of weapons testing on or over public lands. It is immaterial whether the land is designated wilderness, proposed wilderness, or simply public lands. The government has been too lenient in granting access to these areas by organizations who have no regard to the perpetuation of the natural state of the land, but care only about their particular agenda.

Response: Thank you for your comment.

Comment MS-0003-1: We love our canyons far too much to allow your 1100 lb. boosters dropping havoc on them.

Response: Thank you for your comment.

Comment MS-0004-1: This new proposal spells undesirable intrusions for both people and wildlife on at least two public-land Wilderness Study Areas (WSA's).

Response: See response to comment TKQ-0018.

Comment MS-0005-1: The supplemental EIS still does nothing to address the effects on proposed wilderness areas, wildlife and archaeology.

Response: See response to comment TK-0018-1.

Comment MS-0008-1: I wish to register my strong opposition to the USASSDC proposal to drop missile booster rockets in the Butler Wash-Comb Ridge area of southeastern Utah. This area includes designated wilderness study areas (Bridger Jack and Fish Creek) in addition to several areas of proposed wilderness.

Response: See response to comment TKQ-0018.

Comment MS-0010-1: This area includes proposed and designated wilderness study areas, is a very popular hiking and backpacking area, and is home to hundreds-if not thousands-of prehistoric archaeological sites.

Response: Obviously temporary loss of access to these areas would be inconvenient to the individuals which are affected. However, the numbers of people affected in these areas would still be considered not significant compared to the overall recreational use of all public lands in the area.

Comment MS-0020-4: Public lands make up a large part of the corridor. If assess to the area is restricted because of a launch, they won't really be public lands any more, will they? It seems like the corridor will turn into a military reservation.

Response: There are no plans to turn the corridor into a military reservation.

Comment MS-0022-1: More areas need to be set aside as wilderness recreation areas rather than military target zones.

Response: Thank you for your comment.

Comment MS-0025-2: Regarding area C1 in Grand County, please do not allow this to be a drop zone for the boosters. First, visitation to and use of the Needles district of Canyonlands, and the surrounding BLM land (in the proposed drop zone) is skyrocketing.

Response: See response to comment MS-0010-1.

Comment MS-0027-11: The supplement lacks accurate maps so that the public can know which canyons and mesas would be affected.

Response: Information not in the figures in the Supplement to the Draft EIS is contained within the written descriptions of the proposed areas.

Comment MS-0027-15: There is no analysis of impacts to the Bridger Jack and Fish Creek Wilderness Study Areas (WSA) values, nor to the political effect on future designation of these areas as wilderness if they are included within a drop zone. The supplement ignores BLM's duty to protect the wilderness values of these areas under its interim management protection guidelines. P. 4-11.

Response: See response to comment TKQ-0018.

Comment MS-0027-16: The drop zones also include five additional HR 1500 wilderness areas. Yet there is no discussion of the impacts on the wilderness values of these areas, including noise intrusion. There is no consideration given to BLM's obligation to protect the wilderness nature of these lands under section 302 of FLPMA.

Response: Coordination with the BLM is a part of this process, and as the manager of public lands, the BLM participates in the review of this document. Wilderness areas and laws protecting or regulating them will be followed.

Comment MS-0027-17: Further, on the National Forest the Shay Mountain roadless area would be hit. There is no discussion of this area.

Response: All areas affected are detailed in the land use section (pages 4-10 to 4-13) of the Supplement to the Draft EIS.

Comment MS-0027-22: The supplement erroneously claims that recreational use in the C-2 drop zone is minimal. Actually, the C2 drop zone includes areas where recreation use has put on a permit system in order to control excessive recreational use.

Response: Thank you for your comment.

Comment MS-0027-28: Which areas would be closed in advance to hikers and hunters to avoid having civilians walk into the area during firing? How long would these areas be closed?

Response: Only the selected booster impact area will be closed for up to 12 hours at the time of each missile test.

Comment MS-0031-6: Because a potential land use conflict would exist with a wilderness study area and a booster impact area, additional coordination with the BLM would be required. What does this mean? What will happen?

Response: See response to comment MS-0027-16.

Comment MS-0031-7: I do not really believe that the Army understands the true nature of NEPA or the true nature of the unique landscape in southern Utah.

Response: Thank you for your comment.

Comment MS-0032-1: Don't mess with southeastern Utah's pristine wilderness, Indian rock art and irreplaceable archaeological sites.

Response: Thank you for your comment.

Comment MS-0035-2: Cutting off use of the booster impact zones (i.e. evacuation) infringes on the public's right to use public lands and establishes a precedent for more infringement to occur.

Response: See response to comment MS-0020-4.

Comment MS-0035-3: Wilderness Study Areas are impacted. There is no accountability for controlling booster retrieval and we cannot ensure that these lands will be left undisturbed.

Response: See response to comment MS-0004-1.

Comment MS-0037-5: Page 3-40; paragraph 1 (Recreational Land Use) - there are probably six to eight deer hunters per day during the November deer hunt, not six or eight per season, as stated.

Response: Thank you for providing this information.

Comment MS-0037-6: The use of Monument Rock by climbers is minor in comparison to the rock climbing activity in Thompson Canyon, which is also out of the drop zone, but closer to it than is Monument Rock. Probably a dozen or more climbers per week use the Thompson Canyon site during good weather.

Response: Thank you for your comment.

Comment MS-0037-7: Page 4-27; paragraph 5 (Land Use) - the reference for firewood cutting dates is "Salas," not "Sales," as indicated.

Response: This correction has been made in the Final EIS.

Comment MS-0037-8: Page 4-28; paragraph 1 (Land Use) - the reference for firewood cutting dates is "Salas," not "Sales," as indicated.

Response: This correction has been made in the Final EIS.

Comment MS-0037-9: Paragraph 2 (Recreational Land Use) - six to eight hunters per season should be changed to indicate six to eight hunters per day, for the seven day season in mid-November. In addition, there would typically be 50 to 100 elk hunters in portions of the drop zone during September archery season, and an equal number in October muzzleloading season. Perhaps two dozen hunters may be using parts of the drop zone in the April-May turkey season.

Response: Thank you for providing this information. It will be considered in the final document.

Comment MS-0038-1: Regarding land closures, the revised plan merely relocates the zone to be closed. The lands affected are still areas possessing substantial wilderness and scenic qualities. Many people utilize the booster drop zone for low impact recreational pursuits. The launch proposal would interfere with this use and would disrupt the aesthetic experience being sought by visitors.

Response: Thank you for your comment.

Comment MS-0039-3: I am offended and disgusted that the U.S. Army feels that it has the right to label my land as wasteland and designate it for destruction.

Response: No land has been labeled as wasteland or designated for destruction.

Comment MS-0043-1: The missile test areas include several of our National forests and park lands as are reservation lands. These lands belong to the taxpayers and residents and are not dumping grounds for rocket boosters.

Response: Thank you for your comment.

Comment MS-0043-2: As an outfitter/guide on National forest land, my responsibility is to operate as a minimal impact guide and teacher. I subscribe to the LEAVE NO TRACE concept. The USASSDC has an equal responsibility to guard and defend the safety of not only the people of this

nation, but also the quality of continuing life on this planet. The policy being considered is in NONCOMPLIANCE with federal guidelines which demand the national forest and parks be free of litter.

Response: Thank you for your comment.

Comment MS-0045-2: The U.S. Army already has a "Berlin Wall" around nearly 3000 square miles, almost 2 billion acres, in Utah. (This is exclusive of Forest Service, BLM and Park lands). Now it is proposed to periodically tie up more space.

Response: No land will be "tied up" as part of this proposed program. The booster impact area will be evacuated for only short periods of time on the test day.

Comment MS-0045-5: We know there will be damage to the fragile areas proposed for the drop zones. Road building, use of trails by power vehicles, the invasion of noisy helicopters, and the need for other machinery to locate and remove the debris cannot be carried out and still preserve the tranquility and beauty.

Response: No roads will be built as part of this proposed program nor will machinery be required (other than helicopters). Helicopter noise will be short-term and periodic. Vehicles will only be used on established roads.

Comment MS-0046-2: These areas are places where people and nature are trying to live - as well as being recreation areas.

Response: Thank you for your comment.

Comment MS-0051-2: I would strongly object to the use of national parks or proposed wilderness areas for booster drop zones. This seems a very poor use of national resources. The precedent of using such areas for military experiments is most inappropriate and does not suit the intent of the American people in establishing these areas.

Response: National parks and proposed wilderness areas are not proposed as booster impact areas. While proposed wilderness areas are within proposed booster drop zones, a decision on the booster impact area is yet to be finalized.

Comment MS-0054-2: The proposed Drop Zone 2 includes both a wilderness study area and proposed wilderness areas. This area has some of the most spectacular and unique archaeological sites in the region that will most certainly be impacted or destroyed either by the landing of the spent boosters weighing up to 3000 pounds or by the Army personnel who try to retrieve the boosters.

Response: See response to comment TKQ-0018.

Comment MS-0055-4: The impact zones include areas such as the Bridger Jack and Fish Creek Wilderness Study areas which are currently being considered for wilderness designation under Utah's Wilderness Bill H.R. 1500.

Response: See response to comment TKQ-0018.

Comment MS-0061-1: Much of this area is made up of U.S. Forest Service and BLM lands. Several wilderness areas are also included in this "zone." They will hardly stay pristine wilderness when

covered with huge craters made by rocket boosters. How do endangered plants and animals know to "get out of the way?" There are also many spectacular ruins that stand sentinel to a culture that lived in touch with the natural environment. How can these fragile structures made of wood and earth withstand the onslaught of 3,000 lbs. falling from the sky. Present-day Native Americans also live in the area near this drop zone. They are in fear of what the U.S. government is doing to them. As in the past, it appears the Army is totally ignoring their concerns and treating them as "expendable" members of our society.

Response: The Army is working with resource agencies to identify and avoid known sensitive areas and to minimize impacts on unknown resources.

Comment MS-0062-1: I am writing to protest the plan to use Southern Utah as "Drop Zone 2." Several of the areas included are used for recreation by many people, some are used for livestock grazing and all are beautiful pieces of real estate. Many of the area towns would be impacted in a negative way.

Response: Thank you for your comment.

Comment MS-0072-1: It is already a designated Wilderness Area under study.

Response: See response to comment TKQ-0018.

Comment MS-0072-3: It is used by backpackers and hikers. Recreational use for LaPlata and Montezuma Counties.

Response: Thank you for your comment.

Comment MS-0075-1: This proposed drop zone would not only threaten two wilderness study areas (Fish Creek and Bridger Jack) but also the preservation of nearly a thousand documented archaeological sites in that area.

Response: See response to comment TKQ-0018.

Comment MS-0078-2: Within the Army's "Drop Zone 2" there are three wilderness study areas. "Drop Zone 1" is near other WSAs. These areas are remote and vehicular use is prohibited to preserve their special environments.

Response: See response to comment TKQ-0018.

Comment MS-0079-2: Disrupting access to the area would be of great inconvenience to me personally.

Response: Thank you for your comment.

Comment MS-0084-1: A booster drop zone as you propose would have a negative impact on this environment. We have little wilderness areas left untouched.

Response: Thank you for your comment.

Comment MS-0088-1: The proposal designates an area north and south of my home and business for a missile dump for 100 missile booster rockets over a 5 year period. I'm even more concerned for setting a precedence that the lands north and south of my home is waste land and to be used at

the discretion of military planners. For this presumes there are no religious rights, no cultural resources, no recreational or economic interests.

Response: Thank you for your comment.

Comment MS-0103-1: This area is widely used by many people in both Utah and Colorado for hiking, backpacking, and mountain biking. To think of Butler Wash, Comb Wash, and Cedar Mesa being destroyed by free falling rocket boosters is unthinkable.

Response: Thank you for your comment.

Comment MS-0114-2: Before proceeding consider the increased use of this corridor for both recreation and scientific studies.

Response: Thank you for your comment.

Comment MS-0115-1: This area is one of the few wilderness areas left, and its desert environment is extremely fragile.

Response: Thank you for your comment.

Comment MS-0125-4: Do the Bureau of Land Management, the National Park Service and the Forest Service condone the proposal?

Response: See response to comment MS-0005-1.

Comment MS-0130-2: Drop zones should not include Wilderness Study Areas. Disturbances which are caused by man do not belong here.

Response: The Army will plan a booster impact area which does not occur within a Wilderness Study Area.

Comment MS-0130-5: You describe land use for zones C1 and C2 as "primarily devoted to livestock grazing." You do not recognize the extensive and intensive recreational use. You apply recreational use statistics for Canyonlands National Park and Wind Whistle Campground to other areas without recognizing that these other areas are separate destinations in their own right.

Response: Thank you for your comment.

Comment MS-0131-3: Most of the drop zones are areas currently managed as wilderness study areas or areas proposed for future wilderness designation. Attempting to close off these areas in advance of missile shots and flying around with helicopters to search out debris would have serious affects on the solitude of the immediate and surrounding areas.

Response: See response to comment TK-0005-4.

Comment MS-0139-2: The federal agencies in charge of the land you target have been working for years to get the backing of the American public to treat public lands carefully - be careful with matches; and now the US military wants to make a farce out of this by landing boosters in remote area, then proceeding to recover them.

Response: See response to comment TK-0018-1.

Comment MS-0140-3: The proposed procedures are inappropriate because the proposed booster drop zones (C1 and C2) are public lands that are in close proximity to three National Park System areas. People seeking the solitude and release of backcountry recreation should not be subjected to threats of debris crashing on them or to the noise and other disruptions of booster recovery efforts. Closures or evacuations in the C1 drop zone will limit or discourage visits to the Needles District of Canyonlands National Park. This area is one of the most popular backcountry recreation areas in Utah.

Response: See response to comment TK-0021-6.

Comment MS-0143-1: I am strongly opposed to such a plan. The fact that even the BLM opposes the plan sends a strong signal to me, since in my opinion the BLM's stewardship of its lands has often been questionable and short-sighted.

Response: Thank you for your comment.

Comment MS-0148-1: I cannot believe the Army concludes they will do no harm to areas such as Canyonlands, etc. Reality seems to have been misplaced when the Army believes a 3-ton booster fuel tank will not do any damage.

Response: See response to comment TT-0008-1.

Comment MS-0148-4: I quote, "This would help reduce the unavoidable impacts on recreational use of the affected areas." This clearly says they will damage recreational areas as well.

Response: See response to comment TT-0008-1.

Comment MS-0152-2: "3:18 Land Use. A measure of impact to the recreation industry to this part of Utah is the number of motel and hotel rooms." This is not a valid measure of area use because so many never interact with facilities.

Response: Thank you for your comment.

Comment MS-0152-3: "Table 3-2 Number of campers in drop area." The campground is no measurement for number of visitors. Many never enter an official campground.

Response: Thank you for your comment.

Comment MS-0153-2: The fact that proposed drop zones C1 and C2 contain wilderness study areas already is a source of conflict. The Supplement states that the disturbance caused by booster impacts in these areas could be contrary to the nonimpairment doctrine of the BLM and would require "additional coordination." Booster impacts are definitely contrary to the lawfully mandated management of wilderness study areas and questions arise about what is meant by "additional coordination" and how it is expected to solve the problem of nonimpairment.

Response: See response to comment TT-0002-8.

Comment MS-0156-4: We note that the SEIS states that "areas where agreements with landowners are unattainable would be eliminated from the booster drop study area." We do not recall this being presented in the Draft EIS. Is this a change in proposed program policy?

Response: No, we have always stated that we would only evacuate areas where we had mutual agreements with the affected landowners.

Comment MS-0163-1: I find it ironic that this same government wants to drop 3000 pound pieces in places where hikers are told not to set foot.

Response: See response to comment TT-0008-1.

3.4.11 NOISE

Comment TT-0002-8: You've settled on what's acceptable as 93 decibels. These are wilderness areas. Ninety three decibels is essentially the sound of a lawn mower. A helicopter is 78 up to 86 decibels. That's the sound of a garbage disposal at 3 feet. That's not acceptable in this area. The amount set here by the National Parks is 60 decibels as a limited activities for decibels on a logarithm scale. That's quite a magnitude below what you've determined as acceptable.

Response: A short-term maximum noise exposure of 92 dBA has been suggested as a threshold for noise impacts on wildlife. The use of helicopters to recover spent boosters or other debris would be of short duration and would occur infrequently. Also, helicopters would not necessarily be used for all recovery operations depending on the area and specific agreement with landowner or manager for recovery activities.

Comment MS-0027-21: The document does not explain how the decibel level of 93 or less was chosen as an acceptable level of noise for this area. It is predicted that the helicopter noise would be limited to 73-86 decibels. p. 4-5. How can the Army claim this level of noise is acceptable within these canyons? The Park Service prohibits use of any device making 60 decibels of noise at 50 feet in the nearby Canyonlands National Park. 36 CFR 2.12. The Army should adopt this level, or alternatively explain why it has chosen another level. Further, the supplement fails to acknowledge that many of the canyons in the C1 and C2 drop zones are slick rock canyons with little vegetation to absorb noise. Operating helicopters in these canyons will have an even greater effect than if in a forested area, for example.

Response: See response to comment TT-0002-11.

Comment MS-0027-31: Would there be any limit to the size of helicopter which would be used, and to the decibel level of helicopters used? How many helicopters would be used?

Response: Recovery helicopters are UH-1's with a sound level between 75 and 86 decibels. One to two helicopters would be used for recovery operations.

Comment MS-0119-2: Cattle and horses are kept penned in anywhere from Nov. May. It would be impractical and at times impossible to evacuate these animals. The noise from the booster rocket and the retrieval of the rocket could cause the penned-in animals to panic and could result in injury.

Response: See response to comment TT-0002-8.

Comment MS-0142-3: The Supplement did not address the issue of specific noise levels in Canyonlands National Park.

Response: See response to comment TT-0002-8.

Comment MS-0142-5: Using helicopters to recover debris creates additional significant noise impacts on an area that currently experiences rare incidents of low-level aircraft flight.

Response: See response to comment TT-0002-8.

3.4.12 SOCIOECONOMICS

Comment TK-0005-6: BLM questions what impacts to local economies might result when the potential visitors to the region hear that they may be evacuated during their visit to Newspaper Rock, Wind Whistle Campground, Indian Creek, Fish Creek, or the back country.

Response: While access roads to various campgrounds may be closed for up to 70 minutes, the campgrounds themselves would not have to be evacuated.

Comment TK-0010-3: There are four possible areas for the conduct of this testing. White Sands Missile Range and Southeast Utah will receive some economic benefit if the program is conducted here.

Response: Thank you for your comment.

Comment TK-0020-7: You are seriously considering closing the Tooele Army Depot, and there's been some talk of even closing Hill Field. So again, economically this would make no sense either.

Response: Potential base closures are beyond the scope of this document.

Comment TK-0025-4: I really am concerned with some of the economic effects it would have on some of the towns down there. Certainly it would impact visitation to these areas. I think there are more impacts there than what a lot of people have looked at.

Response: Many visitors will probably not realize that missile testing takes place in the area. Some visitors, while cognizant of the test activities, will be undeterred; witness the popularity of county beaches on and adjacent to Vandenberg AFB in California. Other visitors may be concerned and may schedule their visits to avoid launch times. Only a very small number of visitors are likely to be dissuaded from visiting an area due to the fact that missile tests are conducted nearby. It is also expected that a small number of visitors would be attracted to an area just to watch missile launches. Overall, the impact from test activities on tourism in the area is considered to be not significant.

In some cases, hunters could be prevented from hunting within booster impact areas or nearby areas for up to 12 hours. This impact could be mitigated by not launching missiles during the hunting season. The impact on businesses from closing roads is expected to be minimal. The affected roads would only be closed for up to 70 minutes for a maximum of four times per month. Traffic would be delayed by the road blocks but not shut off entirely. For those businesses that depend on the traveling public, this would mean that potential customers would typically be delayed, not turned away.

Comment TD-0004-5: Magdalena is growing, and we expect tourists and visitors will increase. But I'm afraid that we will become a city under siege, for an unknown number of years, a number of years that you can't commit to, and that we'll be waiting for bombs to fall; and instead of being known for our beauty and our history, we'll be known as the "drop zone." And people won't want to come here, and our opportunity to grow and to thrive as a community will be damaged.

Response: Thank you for your comment.

Comment TD-0004-8: I was wondering how you figured the cost of a ranch, livestock, vehicles, if you have to replace anybody's things?

Response: The Army would be liable for any damage associated with the drop of boosters and would assist private individuals to expedite any reimbursement. The fair value of damages or repairs would be paid.

Comment TD-0004-9: I was wondering how much you guys gave McDonald for his farm? His was made a good part of White Sands.

Response: This information is beyond the scope of this document.

Comment TD-0004-14: What about life insurance or house insurance; will our insurance rates go up?

Response: Proposed activities should not affect insurance rates.

Comment TD-0007-1: In this state, hunting permits are issued either by week or by hunting days, 2 or 3 days, 24 hours a day. We go to lotteries to get them; we file for permits to get them. You're impacting them heavily here, and you're also impacting the tax base and the tourist base, by saying you're going to close it down for 12 hours, because they can't recover from that. They stay in motels and they buy food. They pay taxes. They buy the permits. And I know that Fish & Wildlife probably said, "Go ahead and do this." But economically-wise, I don't think they understood this is a country; there are people living here.

Response: The Army appreciates the fact that recreational pursuits such as hunting are important to the region and would make every attempt to avoid conducting testing activities during the hunting days that attract that tourist base.

Comment TD-0007-2: What the people who live here bring to this place and this country, every day, is their efforts, their sweat, and they live here. And you'll be gone, and you'll leave nothing here but a bad memory and a haunting perspective that you'll be back again with another project. Or you'll bring clones, like the Corps of Engineers, that are blowing holes in the mountainside back there. That didn't bring value either, except to the guy that owned the mine.

Response: Thank you for your comment.

Comment TD-0012-2: My concerns are, number one, that your socioeconomic study, that's supposed to take in environmental impacts and economics - go to the couple of motels here in town, go to the restaurants, find out how much impact the hunters have. If you mess with the hunting, you're going to mess with a couple of the motels; you're going to mess with some of the restaurants, which means you're going to mess with some people's profits, and that's not good.

Response: See response to comment TD-0007-1.

Comment TAQ-0001: If something were to fall off one of these boosters, accidentally come through my roof, damage my barn, and my insurance company says that they will not pay for it, what are my options? Who's going to pay me, and how am I going to get reimbursed?

Response: The Army would be liable for any damage associated with the drop of boosters and would assist private individuals to expedite any reimbursement.

Comment TA-0003-2: How is White Sands Missile Range established and when? It was established after World War II. The ranchers in the Tularosa basin were asked to allow the missile range to be established there. The landowners, or the ranchers, were asked to sign contracts. The Army would lease the ranches. The ranchers would be paid. They'd be allowed to run their cattle; and just as in this plan, they would have periodic episodes of being evacuated from their land. And the lease was for a finite time, after which the ranches or the land was supposed to be turned back over to them in the same or in better condition than when the lease was initiated. What has happened? The lease period ran out. The government extended the lease. Eventually, they told the ranchers, "You have to get your cattle off." So the ranchers had to leave the land with their cattle. What eventually happened; the Army essentially condemned the property. The ranchers were not reimbursed. Ranches that had been in the family for years and years, no longer in the family, and there was not compensation for the loss. The same thing could happen in this particular case. If it's going to be for a five-year period from 1995 to 2000, what if the Army wants to extend? They'll extend. And I see the possibility of people in the trajectory losing their land to the White Sands Missile Range Extended Range.

Response: The Army has no plans to make the Extended Test Range area a permanent range. The Army foresees no need to acquire any private land.

Comment TA-0004-4: My concerns over the significant impact statements concerning USAKA. Significant socioeconomic impact on Kwajalein. A lack of housing for support personnel. The Army's got millions of tents that these folks could live in.

Response: This is outside the scope of the Supplement to the Draft EIS which deals only with activities in Utah and New Mexico.

Comment TT-0002-10: There is no economic analysis here for the problems you're going to create for the recreation based businesses in southeastern Utah when you declare this is going to be a bombing zone.

Response: Southeastern Utah will not be declared a bombing zone. For business that depend on the traveling public, potential customers may be delayed but not turned away.

Comment TT-0003-1: I think that you're just telling me that tourists are going to come and put up with just being put off for an hour or two or a half a day or a full day. If they know about it, they won't come in the first place. If they do come, they are probably going to go back and tell their friends about this area and what's happening here.

Response: See response to comment TK-0025-4.

Comment TT-0003-3: I'm not really concerned about the financial sacrifices of my store.

Response: Thank you for your comment.

Comment TT-0003-5: I would like to talk about the psychological impact of this type of testing. My wife grew up in Germany as a child. Now, if she hears anything missile or anything else, right away with her it's like nothing that you or I can imagine. She said that if the sites are coming here, she's moving, whether I'm going with her or not. How do you say what this is worth to someone. Three years ago, we lost our health insurance. If she requires to go into a hospital or counseling,

this could literally cost us thousands of dollars. This would come out of my pocket. The government is not going to pay me per diem to leave this site for an hour or two or pay me mileage. There's thousands of dollars plus the emotional strain on our marriage, because these missiles are coming out here, safe or not safe.

Response: An in-depth analysis of psychological impacts related to the fears and anxieties of those who reside under the flight corridors or near the launch hazard and booster drop areas is outside the scope of this document. However, the Army recognizes that some residents may have these fears and anxieties.

Comment TT-0004-1: There's a few errors in your studies. There are more residences, part-time or temporary residences in the area than you're claiming. That inaccuracy in your process bothers me a little.

Response: The numbers of residences within the booster impact areas, as shown in the Supplement to the Draft EIS, have been checked and are considered accurate.

Comment TT-0004-2: Another thing that bothered me is in the video, it said that if something happened to some of my private property, that White Sands Missile Range would assist me in filing a claim. I want to be guaranteed I'm going to be paid. I don't want assistance that I might get paid.

Response: The Army would be liable for any damage associated with the drop of boosters and would assist private individuals in expediting any reimbursement.

Comment TT-0004-3: Six to ten launches per year from Green River with the possibility of a hundred could work a real economic hardship on those of us who are trying to make a living in that area. I'm concerned of what this is going to do to my outfitter business because the guests are booked a year ahead of time. If it's a three-day pack trip and we have to stay off 12 hours, we would just have to cancel the whole trip. I want to be assured that not only will you pay for loss of the trip, but that you'll pay me for the loss in damage of people not coming, because this might happen. And, I don't know how you're going to measure that.

Response: The Draft EIS states that "the Army would enter into agreements with private landowners and affected Government agencies with both the Launch Hazard Areas and booster drop areas" (p. 2-52, paragraph 1, line 7). These agreements would be negotiated before the proposed action was implemented and before any Launch Hazard Area or booster drop area could be activated.

Comment TT-0004-4: If you make an agreement with the government agency on this federal land, I feel that those of us with private improvements on these federal lands be it livestock, miners, oil people or whatever they are, they should be included in those agreements, because the government does not own all the stuff on federal land. That's a documented fact. The economic impact in your studies, I find severely lacking, because you do not address economic impact to me and individuals in my situation.

Response: The Army will negotiate agreements with landowners and tenants within booster impact areas. These owners may be Federal agencies or individuals.

Comment TT-0005-3: I really want to focus on the potential for damage to southern Utah's tourist economy from this operation. From 1990 to 1993, the average annual tourism in southeastern Utah increased 8.1%. During this same period, direct local tax income from tourism spending rose at a

7.2% annual rate. Travelers and tourists spent almost 34 million dollars in San Juan County in 1993. Tourism and recreation related employment in San Juan County rose at an annual rate of 4.1% from 1990 to 1993. Tourists don't travel from all parts of the globe to San Juan County so they can be stuck at a road block waiting for a piece of debris to fall out of the sky. Tourism is clearly a primary player in San Juan County's economic growth.

Response: See response to comment TK-0025-4.

Comment TT-0005-4: Forest and range fires are a constant seasonal problem in this area. The Supplemental Draft EIS clearly states that San Juan County will derive no significant economic benefit from the cleanup crews. Why would any thinking citizen, knowingly increase their potential for forest fires? I never heard of a tourist spending money to go see a burned out forest. With the exception of a few agreements made with private parties who own land in the proposed drop zones, who in San Juan County would possibly benefit enough from this to offset the risk of entire county's economic health.

Response: Activities associated with proposed test activities are not expected to result in forest fires or create a negative economic impact within the region.

Comment TT-0006-4: We aren't very densely populated.

Response: Thank you for your comment.

Comment TT-0006-5: Tourism was 3% of the personal income of San Juan County. Although it's a growing industry, the impact of tourism is significantly minimal. It's certainly not near the value of the defense of America and the defense for the right for everybody to stand up here.

Response: Thank you for your comment.

Comment TT-0007-2: Now, for programs, we run about 37 of them using this part of the country, and we plan our programs more than a year in advance, about two years, because we send out catalogs and we advertise, and we are going to have to drop southeastern Utah if this happens. We can't take the responsibility for bringing people here and having vacations interrupted and our programs interrupted. So, you know, maybe tourism isn't very big around here, but we like to think that Pro Canyon has used a number of Monticello facilities, of Bluff, of Blanding, and that's all going to go.

Response: See response to comment TK-0025-4.

Comment TT-0008-7: We question what the impact of local economy might be when the potential visitors to this area hear they may be evacuated during their visit. Potential impact to local economy should be more thoroughly analyzed in the subject document.

Response: Evacuation of booster impact areas is expected to be minimal. While access roads to various campgrounds may be closed for up to 70 minutes, the campgrounds themselves would not have to be evacuated.

Comment TT-0009-1: We lead educational, archeological, and geological expeditions throughout the region. The proposed C2 impact area lies in the middle of the region. Hundreds of archeological sites and thousands of geological and other natural phenomena lie in this area. We schedule these trips months and sometimes years in advance. If the proposed impact sites are authorized by the

United States Army, it could mean a significant loss of business. If roads are closed up to 4 times a month for 12 hours as the proposal states, many of our guests would never make it to Bluff where they might discover our business and many of the other businesses, hotels, restaurants, and trading posts that exist in Bluff. It would be a terrible blow to the life blood of our town.

Response: See response to comment TK-0025-4.

Comment TT-0009-2: I've conducted a very informal, completely unscientific survey among our guests. Our guests have told me that if the C2 impact area becomes a concern for this vicinity, they would simply go to someplace else.

Response: Thank you for your comment.

Comment TT-0009-3: For the most part, the BLM maintains a sensible mandate in regards to the impact of humans on the land it administers. Now it seems like a government agency of colossal proportions is about to take advantage of our business. I urge the USASSDC to conduct its tests at a site where impact on the local economy will not be so great.

Response: Thank you for your comment.

Comment TT-0010-2: These proposed tests violate my home, my business, and the jobs of the employees who operate that business. In a time when San Juan County acknowledges that 20% decrease in revenue, the citizens of this county cannot allow the further decrease because of the impact of this firing on tourism.

Response: Thank you for your comment.

Comment MS-0008-2: Many professional backcountry groups rely on access to these areas to make a living.

Response: See response to comment TK-0025-4.

Comment MS-0010-2: What may not be as clear to someone not familiar with the area is the impact that such a program will have on recreation and the local economies. (Moab, Monticello, Blanding, Bluff).

Response: See response to comment TK-0025-4.

Comment MS-0012-1: Many of us make a living guiding hunters in this area. This action would completely devastate the fine sport hunting in this area. Many of us make our living for the year during this fragile time. Closing roads, even once or twice during the month would be fatal for the local economy.

Response: See response to comment TK-0025-4.

Comment MS-0012-3: You must not be aware that Catron County is in the forefront of a legal battle in federal court due to federal rangeland reform. Ranchers are so enraged at the federal government already that I seriously doubt that you will recover any boosters anyway. I can guarantee that thy will be uncooperative with any federal agency, especially the U.S. Army.

Response: Thank you for your comment.

Comment MS-0013-1: The proposed Booster Drop Zone would seriously impact hunting activities if the area was closed for extended periods of time during the months of Oct., Nov., and Sept.

Response: See response to comment TK-0025-4.

Comment MS-0022-4: We think you realize how important tourism is in the Four Corners region and the impact such a move by the Army will affect the local economy.

Response: Thank you for your comment. Potential impacts were addressed in the EIS.

Comment MS-0027-7: There is no real analysis of the impacts to the values of the area.

Response: Thank you for your comment.

Comment MS-0027-23: The supplement fails to describe the adverse economic impacts on tourism from closing roads and the publicity that this area will be periodically closed for bombings.

Response: See response to comment TK-0025-4.

Comment MS-0029-1: One of our main businesses, in the State of Utah is tourists.

Response: See response to comment TK-0025-4.

Comment MS-0029-5: People have jobs here, as archaeologists, and museum curators, school teachers, and related work. You will restrict entry into those areas, and destroy what is there.

Response: Entry into the area chosen as a booster impact area will be limited for a short period of time. Minimal impact on the area is expected.

Comment MS-0035-1: Southeastern Utah supports a thriving tourist and outdoor use industry which is just beginning to bring economic benefits to the area. Missile testing would severely compromise the public's perception of the area as being an attractive wilderness destination.

Response: See response to comment TK-0025-4.

Comment MS-0042-2: This land in southeastern Utah around Butler Wash and Comb Ridge and part of Cedar Mesa serves multipurpose use for ranchers, hunters, and recreation people. By denying these people access, the surrounding communities of Bluff, Blanding, and Monticello would suffer adverse economic impacts.

Response: See response to comment TK-0025-4.

Comment MS-0048-1: I know that this country is a hiker's paradise. It is also used extensively by cattle.

Response: Thank you for your comment.

Comment MS-0060-1: Errant or "off course" missiles that must be detonated during the first stage flight or second stage flight have not been addressed as to what their socioeconomic impact might be.

Response: Thank you for your comment.

Comment MS-0065-2: As a homeowner, I am concerned about the possible effects on property value in the area due to the fact that Patriot missiles could be flying overhead several times a month and dumping giant booster rockets out of the sky.

Response: Thank you for your comment.

Comment MS-0066-1: The local economies could be severely affected by such a plan.

Response: See response to comment TK-0025-4.

Comment MS-0070-1: In an area so dependent on tourism, any negative press on any activity causes big impacts. Not only will people avoid this great hiking, camping, 4X4 area during launches, misinformation will keep them away even when you aren't closing the area. How can you think there will be minimum impact when missile debris drops in our backyard?

Response: See response to comment TK-0025-4.

Comment MS-0072-2: It is used by the Ute Mountain Tribe for grazing cattle.

Response: Thank you for your comment.

Comment MS-0085-2: This site has art spanning many centuries, and it is completely wheelchair accessible--unlike most Anasazi sites. I know of no other place where disabled persons are able to approach and study such a panel of art.

Response: Thank you for your comment.

Comment MS-0086-3: In addition to the detrimental effect it would have on the land, it would also impact greatly on the economic welfare of the communities of Blanding, Bluff, and Mexican Hat. People do not visit these areas to observe spent pieces of rockets being dropped into and destroying areas of this beautiful corner of our great country.

Response: See response to comment TK-0025-4.

Comment MS-0088-2: These proposed tests violate my home, my business, and the jobs of the employees who operate that business. In a time when San Juan County acknowledges that 20% decrease in revenue, the citizens of this county cannot allow the further decrease because of the impact of this firing on tourism.

Response: Thank you for your comment.

Comment MS-0090-1: Specifically, the off-range missile launches from Fort Wingate, NM and Green River, Utah pose multiple unwarranted hazards to the four-corners area. The real impact will not be confined to the drop zones, local inhabitants, back country visitors, archaeological sites, or ranchers. In addition the very existence of the testing program will present a negative impact upon the entire four-corners area. The economic impact upon tourism will be widely felt. Your program will discourage visitation to our area by citizens. Your proposed disregard for the economic recovery presently underway in this area is shocking.

Response: See response to comment TK-0025-4.

Comment MS-0091-5: White Sands is fighting for the same dwindling defense budget as other institutions, bases, and interests. And I'm sure that it will bring a few more jobs into the state. But it will kill this community. Our main source of income is tourism. We rely on the interest of out of state and international tourists. We also rely heavily on hunting. Hunting seasons extend throughout the autumn, winter, and spring.

Response: See response to comment TD-0012-2.

Comment MS-0092-1: It would hurt the small tourist industry here that many peaceful people depend on.

Response: See response to comment TK-0025-4.

Comment MS-0115-3: The Comb Ridge area is a major attraction for tourists to visit the Four Corners, and if missile boosters are to be dropped, visitation to towns such as Bluff, Blanding, Monticello, and Mexican Hat will be drastically affected.

Response: See response to comment MS-0008-2.

Comment MS-0119-1: I am the only private land owner in the C2 impact area. There are five artesian wells, two partly buried storage tanks and 3 water pipelines on my ranch. These water improvements are on my private land and on my BLM and state leased land. If a booster rocket would hit a well or storage tank it would place a hardship on my ranch.

Response: See response to comment TAQ-0001.

Comment MS-0121-2: The negative impact on people who are in the area for recreation and the businesses that rely on tourism for their profits would be very significant.

Response: See response to comment MS-0008-2.

Comment MS-0122-2: Will you be paying to restore the land and compensate business for lost revenue due to the fact that no one will be stopping in Mexican Hat or Bluff on their way to visit this wilderness area.

Response: See response to comment MS-0008-2.

Comment MS-0123-2: Threatening these resources (desert environments and irreplaceable archaeological sites) of course undermines the local tourist based economy.

Response: See response to comment MS-0008-2.

Comment MS-0125-3: When vacationers learn of such unconscionable destruction of irreplaceable antiquities they could easily omit parts of the Southwest from their travel plans. The loss of tourist dollars alone in the Four Corners area should be of major concern to government and business officials in Utah, Colorado, Arizona and New Mexico.

Response: See response to comment MS-0008-2.

Comment MS-0129-2: The economic impact upon tourism will be widely felt; this program will discourage visitation to our area by citizens of the entire country, and by foreign visitors as well.

Response: See response to comment MS-0008-2.

Comment MS-0131-1: This plan would have serious detrimental effects on the local economy and negative impacts upon the unique cultural resources. The EIS and the Supplemental EIS severely failed to consider these impacts.

Response: See response to comment TT-0003-1.

Comment MS-0131-4: The economy of San Juan County has been turning more and more to a tourist based economy. If people knew that missile debris could fall out of the sky and that certain areas would be temporarily closed at any time they probably would plan their itineraries to go to other areas.

Response: See response to comment MS-0008-2.

Comment MS-0132-2: The basis of objection is these visitors cannot be expected to interrupt their activity, move themselves and all of their gear out, and return the next day. This will certainly result in massive unfavorable impact on the tourism industry that is so vital to the State of Utah.

Response: See response to comment TT-0003-1.

Comment MS-0134-1: This board believes that flights directly over any community are dangerous and evacuation will be disastrous to the economic stability of Monticello. The size and speed of the boosters leads us to believe that damage caused by their striking the earth would be significant and could expend already thin fire suppression monies creating further damage and further impacting the county's resources. We believe that temporary evacuations will be significant in that folks on vacation will not take lightly to being moved from their desired location and will stop coming to San Juan County for recreation. We do not know how the test dates would be announced, but it is our belief that long range notification would be necessary in order to give people advance warning of the firings. We also believe that once potential visitors know about the testing such notification would change their minds about coming here at all.

Response: See response to comment MS-0008-2.

Comment MS-0134-3: The project could also have a negative economic impact on the Native American Foundation Historical Center to be built in 1995 at the intersection of Highways 191 and 95.

Response: See response to comment TT-0005-3.

Comment MS-0134-4: This board believes that the issues of impact on the area's cultural resources and the economic impact of the project were not addressed in the EIS. More than 200 cultural sites may exist within a square mile within PMDZ C2. There is presently no way of knowing how important this cultural heritage will be to the future economic well being of San Juan County, but we believe it is foolish to damage this resource before its value to the surrounding communities is known. In keeping with this mandate we are not in favor of PMDZ C1 or C2. We believe it would be difficult to surmount the negative publicity surrounding the drop zones. To bring this kind of negative economic impact to an already economically needy area could destroy the tourist industry. That industry is one of the few that is available to the population in San Juan County.

Response: See response to comment MS-0008-2.

Comment MS-0139-1: I do not agree that because an area is empty of human inhabitants that it is appropriate to drop military debris there.

Response: Thank you for your comment.

Comment MS-0142-1: Movement of the drop zones renders moot the economic analysis on the closure of I-70. The new drop zones, however, are located in a heavily touristed area of San Juan County. Even if the actual effects of booster drops on the local environment were safe, the perception of "bombing" Southern Utah WILL have negative affects on the local economy.

Response: See response to comment TT-0002-10.

Comment MS-0142-7: Changing the drop zone location resolves the concern of its affect on the commercial boating community on Green River.

Response: Thank you for your comment.

Comment MS-0145-2: Exactly what is the established method for compensating damages to private property owners? Closed businesses?

Response: See response to comment TT-0004-2.

Comment MS-0145-5: Tourists are absolutely not going to travel into an area that is considered unsafe for families. The perception will be that the Army is testing in a rural area because they realize there will be great danger to humans. The economic decline will be enormous! Newspapers and magazines that are ethically responsible, will publicize the dangers of visiting any area where missile boosters are dropping from the sky, helicopters are chasing out hikers and visitors, fires and left over propellant are on the land, four times a month.

Response: See response to comment MS-0029-5.

Comment MS-0146-4: Why weren't <u>all</u> land owners within the debris containment corridor/flight corridor informed of the public meetings on the Draft EIS? I know that I was never notified that my property is within the debris corridor associated with flight termination of the target missile.

Response: The Army is making every attempt to involve the local communities and the public affected by this proposed action and has held numerous public hearings throughout the affected areas.

Comment MS-0150-1: As a professional archaeologist and wilderness guide engaged primarily in outdoor education, I work within the boundaries of both proposed Drop Zones, C1 and C2, as well as in areas immediately adjacent to the designated zones. The proposed booster drops would limit the desirability, nature, and scheduling of my work, and adversely affect my productivity and perhaps income. It would also adversely affect those of the institutions for which I do this work.

Response: See response to comment MS-0008-2.

Comment MS-0151-4: Considering that the area's economy is based largely upon tourism (especially in the Bluff community), which is strongly tied to recreational land use, the draft supplement's conclusion that the socioeconomic and land use impacts are expected to be nonsignificant are absurd. The motel and restaurant industries will be affected, as well as those industries associated with outfitting and tour guides. Vendors of art and crafts, food, and gasoline

also depend heavily upon tourists that pass through the area. If, as a result of the booster drops, the perception of the area changes to be detrimental to hiking, biking, river running, or otherwise traveling through the area's fine outdoor setting, how can it be determined that testing is not detrimental to either land use or socioeconomics?

Response: Potential impacts were addressed in the Draft EIS. For businesses that depend on the traveling public, potential customers may be delayed but not turned away.

Comment MS-0156-7: We note that the changes proposed in the SEIS do not alter the fact that there is little or no economic benefit from this program to the people living in the affected area.

Response: Thank you for your comment.

Comment MS-0158-4: The proposed testing will only jeopardize, inconvenience, and economically hamper residents of San Juan County; it will disappoint hundreds of thousands of tourists who come from all over the world to revel in the delights southern Utah has to offer.

Response: See response to comment TK-0025-4.

3.4.13 INFRASTRUCTURE AND TRANSPORTATION

Comment TK-0011-3: You propose that this area is superior to the original proposition because you don't have to close highways. We are not on the highways. We are out in the canyons and on those mesas. And I don't think that's an improvement.

Response: Thank you for your comment.

Comment TK-0020-4: I went out to Skull Valley to see the meteor shower because there is no light pollution there. So again this needs to be taken into consideration.

Response: Army TMD testing will not require the installation of any artificial light source in the booster drop zones. Booster and debris recovery will be done during daylight hours.

Comment TK-0026-6: First of all, road closures again was mentioned. Probably we don't need to travel those roads. Some of those roads, except for I-70. They have no way around them.

Response: Thank you for your comment.

Comment TD-0002-10: You state that fire service will be assisted by local communities. What's going to happen to our community when you take our one fire truck out to a drop zone? What happens when you block off roads with our policemen, who are supposed to be home in our community watching our homes?

Response: For the road blocks at the many access points to the LHAs and booster drop areas, military personnel would assist local law enforcement agencies in erecting road blocks if the local agencies do not have sufficient staff. In all cases, agreements would be negotiated with affected law enforcement agencies and fire service departments in advance.

Comment TD-0003-2: Our second major concern is with radio frequency interference. The prelaunch, the evacuation, the launch activities, and the recovery, all appear to be capable of creating considerable radio-frequency interference and involving extensive use of radio-emitting

equipment. We have some very serious concerns about the impact of all this on our operations, our ability to fulfill our mission of radio astronomy. In addition, coordinating with launch schedules and our observing schedules is not necessarily going to be a simple matter.

Response: The Army will only operate on authorized frequencies. These authorized frequencies along with the time-line used will be coordinated with the National Radio Astronomy Observatory well in advance of the proposed usages. Where alternative frequency uses exist, the Army will utilize those frequencies that have the least impact on the observatory.
The radio frequency activity in the booster drop area in the vicinity of the Very Large Array Facility will be kept to a minimum and would occur for only a few hours, approximately 6 to 10 times a year. All proposed activities will be scheduled well in advance and coordinated with the National Radio Astronomy Observatory.

Comment TD-0003-3: We feel it would be very bad to significantly degrade the productivity of this world-class scientific institution, by polluting the radio frequency spectrum in this area and damaging our radio-free, radio-quiet environment that is very much required for our operations.

Response: See response to TD-0003-2.

Comment TD-0004-7: I would think there would be some national rules concerning actions of this kind,in addition to using local law enforcement officials, fire departments, and volunteers, for projects that you plan, not for projects that we plan.

Response: See response to comment TD-0002-10.

Comment TA-0004-3: My concerns over the significant impact statements concerning USAKA. "Significant infrastructure impacts on Kwajalein Island would result because waste water treatment facilities would be unable to handle the increased sewage." In this day and age, with composting toilets, I would hope that all of the services were using composting toilets in remote areas instead of trying to treat waste.

Response: This is outside the scope of the Supplement to the Draft EIS which deals only with activities in Utah and New Mexico.

Comment TAQ-0003: I'd just like to say that the draft EIS had a traffic-usage chart showing the traffic flow on I-70 adjacent to the Green River launch site; however, this exact same study was not presented for I-40, which is adjacent to Ft. Wingate. I think this was a serious omission, because stopping all that traffic is certainly a significant impact.

Response: I-70, in Utah, was originally in the closure or the launch hazard area. I-40 is not close enough to be considered in the launch hazard area. Any missile termination action at FWDA would occur and be contained far south of I-40. That is why I-40 is not discussed in the same manner and in the same detail as I-70.

Comment TT-0001-3: You said that it would take about thirty minutes for road closure. That's like a stop for a road repair.

Response: Thank you for your comment.

Comment TT-0002-11: The size of the drop zone is a little uncertain. On page 2-6, it says that there's 13 miles by 9.9 miles. On S2 it's 8.1 by 9.9 miles. We still don't have accurate maps so

we can figure out on a topographic map, what it is exactly you're planning on closing. You say Highway 211 probably won't be closed, but its still in the drop zone.

Response: The drop zone size is stated correctly on page S-2. Page 2-6 is incorrect because the miles and kilometer designation has been reversed. The correct size is 8.1 miles (13 kilometers) wide and 9.9 miles (16 kilometers) long. Thank you for bringing this to our attention. Although Highway 211 is in Booster Drop Zone C1, areas north and south of the highway provide sufficient space to select booster impact areas that allow Highway 211 to remain open.

Comment TT-0002-13: In terms of the evacuation plan, the roads that you're going to have to close are still not on the maps in terms of the secondary roads, Butler Wash, Comb Wash roads. You haven't explained how long those roads would have to be closed, just the main roads outside.

Response: Any roads located within a booster impact area will be closed when the area is activated for test purposes. These closures are expected to last up to 70 minutes per closure period.

Comment TT-0009-4: I urge the citizens of this region to forbid the USASSDC from regulating and restricting the places where we can drive our cars and walk.

Response: Thank you for your comment.

Comment EA-0003-1: Why isn't DOD using composting toilets in remote sites to supplement waste water treatment plants?

Response: See response to comment TA-0004-3.

Comment ED-0003-1: The border of the Booster Drop Zone C is less than a mile from the northern-most antenna station on the north arm of the Very Large Array (VLA) antenna array. A major concern is the safety of the antennas and rail system adjacent to the drop zone. Since the target missile passes right over the VLA, emissions as low as -110 dBW (1 hundredth of a billionth of a watt) effective isotropic radiated power (EIRP) in the Radio Astronomy (RA) bands between 1330 MHz and 1722.2 MHz may cause harmful interference, though the exact threshold must be determined by additional calculation and test. Harmful interference corrupts astronomical data, a significant impact on VLA observations.

Response: The Army will only operate on authorized frequencies. These authorized frequencies along with the time-line used will be coordinated with the National Radio Astronomy Observatory well in advance of the proposed usages. Where alternative frequency uses exist, the Army will utilize those frequencies that have the least impact on the observatory.

Comment ED-0003-2: Harmful emissions from the target missile have an expected duration of a few minutes but the evacuation of the booster drop zone and the booster recovery effort may cause a significant impact on the electromagnetic environment at the VLA over a period of several days.

Response: See response to ED-0003-1.

Comment ED-0003-3: The VLA was deliberately placed at its current location to avoid electromagnetic interference. NRAO therefore requests that the DEIS for the Extended Range operation be modified to include the information in this letter. NRAO further requests that emissions resulting from Extended Range operations not exceed the HPD in any of the RA bands and the HPPD

in any of the adjacent bands for the VLA. NRAO requests that where potentially harmful interference may occur, that NRAO receive 30 day advance notice of frequency and times through the WSMR Office of the Area Frequency Coordinator.

Response: See response to ED-0003-1.

Comment MS-0018-1: The border of the Booster Drop Zone C is less than a mile from the northern-most antenna station on the north arm of the Very Large Array (VLA) antenna array. A major concern is the safety of the antennas and rail system adjacent to the drop zone. Since the target missile passes right over the VLA, emissions as low as -110 dBW (1 hundredth of a billionth of a watt) effective isotropic radiated power (EIRP) in the Radio Astronomy (RA) bands between 1330 MHz and 1722.2 MHz may cause harmful interference, though the exact threshold must be determined by additional calculation and test. Harmful interference corrupts astronomical data, a significant impact on VLA observations.

Response: See response to comment ED-0003-1.

Comment MS-0018-2: Harmful emissions from the target missile have an expected duration of a few minutes but the evacuation of the booster drop zone and the booster recovery effort may cause a significant impact on the electromagnetic environment at the VLA over a period of several days.

Response: See response to ED-0003-1.

Comment MS-0018-3: The VLA was deliberately placed at its current location to avoid electromagnetic interference. NRAO therefore requests that the DEIS for the Extended Range operation be modified to include the information in this letter. NRAO further requests that emissions resulting from Extended Range operations not exceed the HPD in any of the RA bands and the HPPD in any of the adjacent bands for the VLA. NRAO requests that where potentially harmful interference may occur, that NRAO receive 30 day advance notice of frequency and times through the WSMR Office of the Area Frequency Coordinator.

Response: See response to ED-0003-1.

Comment MS-0019-2: Sect. 4.2.11 Infrastructure and Transportation, 2nd sub-section "Transportation", first paragraph identifies several public roads to be closed during testing. We do not recognize your names for any of these roads.

Response: U.S. Forest Service designations were used. The Army will correlate those designations with commonly used names for these roads for any public information notices.

Comment MS-0020-1: The path goes over our state's major north-south highway (Interstate 25). Are they going to close the freeway down for each firing?

Response: The proposed testing does not require the closing of Interstate 25.

Comment MS-0027-25: At p. 4-11, the supplement declares that Highway 211 will not be closed, yet the road is still included within the C1 drop zone. At the Monticello hearing, Army officials said Highway 211 would "probably not" be closed. This issue must be discussed in greater detail, and the public must be given a certain answer about the closing of this highway.

Response: The proposed testing does not require the closing of Highway 211.

Comment MS-0027-26: What definition of "road" is being used? Does the Army mean mechanically constructed and maintained roads? Or does the Army intend to utilize two lane tracks which run across mesas, which have been created merely by use and which have never been surveyed for archeological sites? If so, clearances must first be prepared.

Response: The Army intends to only use those roads currently being maintained by the Federal, state, or county governments.

Comment MS-0027-27: Which dirt roads both inside and outside the drop zones would be closed? Where would road blockades be located?

Response: The intent is to block all roads leading into the impact areas. These road blocks would be located at the border of the impact area.

Comment MS-0029-2: You may say that there are few roads there, but there will be roads in the future.

Response: Thank you for your comment.

Comment MS-0050-1: I support the changes that have been suggested. Closing I-70 and stopping boat traffic on the Green River are really not too practical. By eliminating these two problems, I believe the impact to populations, commerce and wilderness has been minimized.

Response: Thank you for your comment.

Comment MS-0091-6: They will use our meager roads, chew them up more than they are already, and leave us to repair them. They plan to evacuate areas around the drop zone and use our emergency services to put out their fires in the dry forest, our police to set up roadblocks, and our rescue personnel to handle victims.

Response: See response to comment TD-0002-10.

Comment MS-0091-8: Our scant service personnel are also untrained in the area of contract negotiation with the Army. They can't handle any real emergency and are not legally responsible for writing "Contracts."

Response: Thank you for your comment.

Comment MS-0131-2: These documents are extremely vague about specific locations of road closures and overall very superficial in their discussion of this project.

Response: See response to comment TAQ-0003.

Comment MS-0137-2: An area of concern, which the Supplemental DEIS does not mention, is the EMI impact of Drop Zone C activities on the Very Large Array (VLA) and Very Long Baseline Array (VLBA) antenna at Pie Town. Any prolonged increase in radio transmissions as close to the VLA as Drop Zone C could make a significant impact on our use of the land. An assessment of the impact of increased EMI owing to operations in Drop Zone C should be included in the EIS. The National Radio Astronomy Observatory (NRAO) requests that the impact area and/or the Drop Zone be moved further away from the VLA to reduce the risk to the instrument. We request that the USASSDC, through the WSMR Area Frequency Coordinator, notify NRAO at least six weeks in advance of all

pertinent planned activities and potential EMI; and promptly advise NRAO of all pertinent deviations from the plan.

Response: See response to comment TD-0003-2.

Comment MS-0146-5: Private dirt roads are not grated primarily to restrict public access. In cattle country, all roads (public and private) are grated to control the grazing range of cattle; they are not grated to control traffic flow.

Response: Thank you for your comment.

3.4.14 WATER RESOURCES

Comment MS-0068-2: I will not compromise the cleanliness of the water and soil upon which I grow my food for my family.

Response: Thank you for your comment.

Comment MS-0142-15: The DEIS and Supplement reach a "No Significant Impact" conclusion in their analysis of surface water contamination from unused booster fuel, but they do not analyze the possible health hazards to stock and wildlife if this fuel contaminates stock tanks.

Response: The boosters within the booster drop zones would contain no appreciable amounts of solid propellant.

3.4.15 EIS PROCESS

Comment TD-0004-12: And what happens to the minutes of the meetings, I wonder. I went to another meeting like this earlier, and I kept expecting to receive a copy of the minutes. I thought that I would get one, but I never did.

Response: Transcripts of all public hearings are recorded by a court reporter and are included in the Final EIS and kept as a part of the Administrative Record. They are not routinely sent to meeting attendees.

Comment TD-0015-1: I am concerned that the National Environmental Policy Act specifically mandates that we talk about cumulative impacts. And I feel that that's the biggest thing that's neglected in this document. I bet there's not very many people in this room that know that there's other missile-launching activities planned in Socorro County. I think it's time that we addressed those as a cumulative impact of what we're talking about in Socorro County.

Response: A cumulative impacts appendix has been added to the Final EIS (Appendix A). This appendix used additional information about other missile programs occurring in the region of influence to evaluate cumulative impacts. Undefined program actions, and the activities required to implement them, will be addressed in subsequent, tiered NEPA documents as appropriate. The subsequent, tiered documents would also address the potential for cumulative impacts when prepared.

Comment TA-0005-1 This additional booster drop zone is no improvement and not acceptable. The environmental process has been done piecemeal. There are no public hearings in the affected areas

on the programmatic EIS. These hearings yesterday and today focus only on one portion of the project. The launches from Ft. Wingate are an integral part of this new booster drop zone, and it must not be forgotten that the people who are on Ft. Wingate remain oppose.

Response: The public hearings held as part of the Supplement to the Draft EIS were held to discuss all aspects of the TMD Extended Test Range program. This includes activities at FWDA. Hearings pertaining to the TMD Programmatic EIS were not held in the area as the EIS was general in nature.

Comment TT-0002-1: The EIS is woefully deficient. The new supplement is equally as bad. It's thick; it doesn't say anything. You haven't addressed the public comments that have been raised in the past.

Response: The Army believes it has addressed public comments raised in the past by publishing the Draft EIS and the Supplement to the Draft EIS. It is now addressing additional comments in the Final EIS.

Comment TT-0002-3: You still haven't addressed the cumulative impacts. In Moab I was told you didn't have time to consider the cumulative impacts when you put out the EIS. You still haven't considered it. There's a lot of users out there, recreation, livestock, oil and gas. You haven't considered the cumulative impact of what you're going to do on wildlife, wilderness and archeology along with those other uses.

Response: See response to comment TD-0015-1.

Comment TT-0014-2: I got up and I said to you, "Thousands of people are going to come here, and they are going to protest. They are going to defuse this test." I asked that you consider that in your EIS and nowhere in the EIS do I see any mention to that.

Response: The Army understands that individuals may take part in civil disobedience acts. A discussion of these acts in the EIS is not part of the EIS process.

Comment TT-0014-4: I think you all are making a serious mistake. The draft EIS or the EIS is a sham. The BLM knows it, the Forest Service knows it, the people that write the EIS knew it.

Response: Thank you for your comment.

Comment EA-0005-1: This additional booster drop zone is no improvement and not acceptable. The environmental process has been done piecemeal. There are no public hearings in the affected areas on the programmatic EIS. These hearings yesterday and today focus only on one portion of the project. The launches from Ft. Wingate are an integral part of this new booster drop zone, and it must not be forgotten that the people who are on Ft. Wingate remain oppose.

Response: See response to comment TA-0005-1.

Comment EK-0005-3: The document is not informative, too many factors have been ignored and the conclusions appear to be preordained.

Response: Thank you for your comment.

Comment MS-0009-2: I am further concerned that the weighty format of the EIS renders most of its information opaque to readers.

Response: Thank you for your comment.

Comment MS-0027-1: The supplement fails to provide accurate maps of the drop zones, a meaningful explanation of how the evacuation of the drop zones and recovery of debris would proceed in this rugged canyon country, an adequate description of the existing environment, or any analysis of the impacts to the existing environment. Still, from our knowledge of these areas we conclude that the use of proposed drop zones C-1 and C-2 would result in significant impacts and this proposed action is environmentally unacceptable.

Response: The maps of the drop zones in the Supplement to the Draft EIS were prepared using U.S. Geological Survey maps. Appendices B and D provide explanation of the evacuation procedures and recovery of debris. Sections 3.0 and 4.0 of the Supplement provide descriptions of the existing environment and the impacts on the existing environment, respectively.

Comment MS-0027-8: There is absolutely no cumulative impact analysis of the impacts of this project on wildlife, wilderness, recreation or archeology, together with the impacts of other uses of these areas including livestock grazing, recreation, scenic overflights, and commercial filming.

Response: See response to comment TD-0015-1.

Comment MS-0031-4: The DEIS fails to meet the requirements of NEPA which state that the analysis develop and provide COMPREHENSIVE INFORMATION on the decision that provides the public with a true, INFORMED CHOICE. For example, p. 4-4 "With the implementation of appropriate mitigation measure, no impact on threatened and endangered wildlife species or their habitat is expected." No explanation is ever offered to explain to the public what these "appropriate mitigating measures" are. THE DEIS NEEDS TO ADDRESS THIS.

Response: Mitigation measures are discussed throughout the EIS.

Comment MS-0033-1: When you perform an "Environmental Impact Study" I think you leave out the most important thing, that is the people. I am firmly opposed to your booster drop site.

Response: Thank you for your comment.

Comment MS-0045-4: We realize that an EIS can be juggled to ignore and dodge the hard questions of environmental conservation.

Response: Thank you for your comment.

Comment MS-0045-6: The military might force its way into the area by claiming national need, and by falsifying and deceitfully slanting an EIS.

Response: The Army has prepared this EIS in an effort to fulfill the requirements of National Environmental Policy Act (NEPA) and has prepared it in conjunction with appropriate agencies and with input from the public.

Comment MS-0056-1: I am disappointed in the supplement and discouraged by the Army's inability to follow the procedures set forth in 40 CFR 1500, the implementing regulations for the National Environmental Policy Act. My concerns are specific to the proposal to launch target missiles from Green River, Utah and drop booster rockets in Grand and San Juan counties, Utah. The supplement fails to provide adequate disclosure of environmental consequences. This shortcoming violates the purpose of an EIS as cited at 40 CFR 1502.1.

Response: Environmental consequences are provided throughout Section 4.0 and are considered to fulfill the requirements of the NEPA.

Comment MS-0056-5: The examples clearly indicate the failure of the EIS as supplemented to disclose the irretrievable or irreversible commitments of resources (40 CFR 1502.16) which will occur, or to provide adequate mitigation measures (40 CFR 1508.20). It also illustrates the lack of discussion regarding the significance of direct and indirect effects (40 CFR 1508.8) of implementing the proposed action.

Response: A discussion of irreversible or irretrievable commitment of resources is discussed in Section 4.8 of the Supplement to the Draft EIS. Discussions of mitigation measures and significance are located throughout the document.

Comment MS-0063-1: I think it is a pretty bad idea to use wilderness areas for a drop zone for spent rocket boosters. I would hope that if the Army hasn't already done so, they consider public meetings so they could hear the opinions of their "bosses" who live in these areas.

Response: Public hearings were held in Magdalena and Grants, New Mexico, and Monticello and Salt Lake City, Utah, on August 23 and 24, 1994, to gather public input.

Comment MS-0105-3: The Army's EIS is a waste of paper; it dodges the hard questions like effects on wilderness study areas, wildlife, and archaeology.

Response: See response to comment MS-0056-1.

Comment MS-0108-1: As missile debris will damage land and water resources with damage to individuals and private property certain and such project is in actual violation of the National Environmental Policy Act.

Response: See response to comment MS-0045-6.

Comment MS-0133-3: In the event the proposed EIS requirements are NOT met or executable, then the EIS should include the stipulation that there would be no flights until those requirements could be met.

Response: All Federal and state laws and Department of Defense and Department of the Army regulations are being followed during the environmental impact analysis process for TMD activities.

Comment MS-0135-1: On page A-3 the document states, "For WSMR these impacts are as follows: 1) Significant land use impacts would occur... 2) Significant transportation impacts would occur" (page A-4). Therefore, I do not want the WSMR program implemented with missiles launched from Green River, Utah. To me the word significant means major impacts.

Response: The Army understands the significance of these terms and is working closely with affected agencies to avoid unmitigable impacts on these areas.

Comment MS-0138-1: The Zuni Mountain Coalition (ZMC) Comments identify the DEIS as being "so vague and indefinite that it defies the comprehensive environmental analysis required by NEPA." That the Army cannot really tell what the boosters might hit and that any mitigation will only come after any damage occurs becomes clear with the Army's admission that "some portions" of the drop zone have never been surveyed for cultural resources. Similarly, the Army can only promise "additional analysis" and "continual close coordination" in regards to the undeniable threat the falling

boosters pose to the Federally listed threatened and endangered species in the drop zone. Such vagueness makes a mockery of the NEPA process.

Response: Thank you for your comment.

Comment MS-0138-3: The Zuni Mountain Coalition (ZMC) Comments urge the Army to coordinate its other environmental reviews with the EIS process. Such coordination would allow the public to know whether the Army is taking the proper steps to comply with these laws. Yet the Supplement makes no effort to inform the public about the Army's compliance with other environmental laws or to coordinate its reviews as the NEPA regulations require.

Response: See response to comment MS-0045-6.

Comment MS-0138-4: The Zuni Mountain Coalition (ZMC) Comments explain that the Army must, in its analysis of the cumulative impacts of the proposed 100 missile flights, not just look at each launch in isolation; instead NEPA requires an analysis of the entire project, i.e., the cumulative impact of all 100 flights. Id. at 19-20. Unfortunately, the Supplement continues this insufficient practice.

Response: See response to comment TD-0015-1.

Comment MS-0138-5: The Groups urge the Army to remedy the defects in the DEIS and Supplement identified above and in the Zuni Mountain Coalition (ZMC) Comments and the Thornton Comments and to issue a new consolidated DEIS.

Response: See response to comment MS-0045-6.

Comment MS-0140-4: The DEIS Supplement does not recognize and analyze the national significance and ecological sensitivity of the scenic, recreational, wildlife, and archeological values of the proposed drop zones. We share the BLM's concern about adverse impacts to 1) recreational users, 2) desert bighorn sheep and other wildlife, 3) dense concentrations of archeological sites, and 4) potential wilderness areas which are subject to interim management protection under FLPMA. The DEIS and DEIS Supplement are clearly inadequate to meet the requirements of NEPA for a hard look at the affected environment and expected consequences of the Green River-White Sands alternative. The poor quality of the EIS and Supplement cause great concern about the sincerity of the Army Department's commitment to NEPA. It also raises fears that the Army TMD Program is more committed to getting early approval for use of the Green River Launch Site-White Sands Missile Range Alternative than it is to seriously weighing the program's negative human and ecological impacts.

Response: See response to comment MS-0045-6.

Comment MS-0145-9: The present EIS is not adequate. This is intentional deception of the citizens who live in these communities of Monticello, Blanding, White Mesa Ute, Bluff and the Utah Navajo Strip.

Response: See response to comment MS-0045-6.

Comment MS-0151-1: My community learned of this proposal via the small print in our local newspaper; we read there was a draft EIS available six days prior to a public comment meeting. As near as I can figure from the draft's poor maps (please include topography in future maps), my community of Bluff, Utah is less than five miles from the drop zone. The closest copy of the draft

available to the public was in a library 50 miles away. The Army has seemingly ignored the town of Bluff. In the future I hope that the Army will take the time to consult or notify the communities that it will impact.

Response: The Army is making every attempt to involve the local communities and the public affected by this proposed action and has held numerous public hearings throughout the affected areas.

Comment MS-0151-2: The Army has come to the easy conclusion that there would be "no significant impact" to all resources considered including biological, cultural, socioeconomic, health and safety, and land use. It seems obvious to me that little genuine work has been done for the supplement to the draft.

Response: See response to comment MS-0045-6.

Comment MS-0157-1: I have reviewed the information letting the City of Belen know that it is within the debris containment corridor for proposed missile flights from Green River, Utah to WSMR, NM. The City of Belen has not received information from USASSDC. WSMR was to hold a Public Meeting on Tuesday, 27 September 1994 at the Albuquerque Convention Center. We have received word that the meeting has been canceled.

Response: See response to comment MS-0151-1. Also, the USASSDC held a public meeting in Monticello, Utah, on 23 August 1994.

3.4.16 AMERICAN INDIAN ISSUES

Comment TK-0016-3: The area C2 happens to be one of the richest areas in the whole United States, probably on all of the new world, and really includes the ancestral home of the Hopi. I notice you didn't have the Hopi Indians down as one of the cultures that you consulted with.

Response: Ethnographic research indicates that neither the past nor present territorial boundary of the Hopi extends as far as Booster Drop Zone C2.

Comment TA-0001-1: We mailed a letter on the 31st of May indicating that the Pueblo of Zuni now favors the firing of missiles from Ft. Wingate.

Response: Thank you for your comment.

Comment TA-0007-1: I had to come here tonight to counter the propaganda the United States military is feeding us; and in doing so, I want to remind the Army of the treaty of 1868; a little history for the people who live in the area who will be facing evacuation, we know what you're going through. My question tonight, "when is the military going to begin to honor that treaty?" That land has to be returned to us, Dine'. That is our homeland. The Zunis also have claim to that land.

Response: Native American treaty compliance is outside the scope of this analysis.

Comment TA-0007-2: You're going to be contaminating the land, the land that we call our homeland. There's burial sites there. There's arc sites. There's homes that are crumbling right now in decay because of the evacuation they faced in 1918. We believe that our land is sacred.

Response: Your comment is acknowledged.

Comment TA-0008-1: It is history that if the government wanted something, they paid a large sum to my Indian friends, who I deeply respect, or they just took what they wanted. What did you pay the Zuni tribe?

Response: The USASSDC has made no payment to any interest group for endorsement of this project.

Comment TT-0002-16: You told us you consulted with the Navajo Tribe. The Navajo Tribe has voted against this project.

Response: Thank you for your comment.

Comment TT-0002-19: No Pueblo land, no reservation land should be sacrificed for this purpose.

Response: Thank you for your comment.

Comment TT-0013-1: I'm representing the Navajo Tribe. We're also opposing this missile launching testing over Navajo Reservation in our area. Most of my people, they don't know what a missile is. They don't know what a strategic weapon is. People don't know what's going on with the EIS, and you guys are saying that this isn't dangerous. Why can't you do it across a big city then? We would like to have more information. We don't have a diagram or a map that shows the route of the missile. All it says is C1, C2 locations, but we kind of don't know where it is.

Response: Details of the TMD program, including figures showing the missile flight path, are provided in the Draft EIS.

Comment TT-0016-1: Native Americans comprise over 50% of the population in San Juan county.

Response: Thank you for your comment.

Comment TT-0016-2: The Navajo Nation Council passed a resolution which had the unanimous vote opposing the testing of missiles.

Response: Thank you for your comment.

Comment TT-0016-6: He gave us the thick book, and it will probably take us a year to read that. We'll do whatever we can to translate information contained in that book to the people. We want to invite military to come to the chapter meetings to explain in detail as to what will take place with this missile testing.

Response: Thank you for your comment.

Comment MS-0003-2: We care too much for our Native American Navajos to have them endure the displacement this would cause.

Response: No displacement is required unless agreed to by the few landowners involved. This displacement would only be for a few hours per year.

Comment MS-0012-2: Many of the Indians in the proposed zone would be effected, possibly causing a legal suit in federal court. The Indians are being persecuted enough without the U.S.

Army interfering with their rights. And they will show up as mighty poor public relations in Washington.

Response: Thank you for your comment.

Comment MS-0017-2: Our major concern is that there has been very limited communication with the Native American community. We are hereby requesting a Public Hearing at Aneth Chapter or Red Mesa Chapter to hear their issues and concerns.

Response: Coordination through public hearings on the Draft EIS and consultation letters to address traditional use areas have been provided to the Acoma, Ute, Navajo, Laguna and Zuni. Continued communication with the American Indian community will be pursued.

Comment MS-0027-3: The supplement also claims consultation with Navajo Nation, p. 4-6, but in fact the Tribal Council voted unanimously against the project. The supplement should reflect this opposition.

Response: All comments received will be included in the Final EIS.

Comment MS-0027-34: There should be no bombing of public or tribal lands, period.

Response: No public or tribal lands will be bombed.

Comment MS-0123-5: We would like to point out that there are other areas of the Southwest designated as "drop zones" as part of this study. They include parts of El Malpais, Cibola National Forest, lands of Acoma, Zuni, and Laguna Pueblos, and Navajo. These areas are threatened in many of the same ways as Drop Zones C1 and C2, with an additional threat to a large Native American population. The entire project needs to be critically evaluated because the U.S. Army has not given serious consideration to the devastating impact their actions could have.

Response: See response to comment MS-0017-2.

Comment MS-0125-5: What do leaders of the Native American Puebloan people say about the threat to their ancestors' sites?

Response: Of the comments received from the Native American Puebloan peoples, some support proposed TMD activities and perceive no threat to their ancestors' sites; others are opposed.

Comment MS-0129-1: Native Americans have not had this proposal explained to them in an adequate way. Sending an almost unreadable document to them does not give them the knowledge they need to make an informed decision.

Response: See response to comment MS-0017-2.

Comment MS-0145-7: Navajo and White Mesa Ute people have not been considered.

Response: Consultation has been initiated with both the Navajo Nation and the Ute Mountain Ute (White Mesa band).

Comment MS-0158-3: Because of their continued spiritual value to local Native American communities, the conservation of these areas is of the utmost significance. At a time when the U.S. government is voicing concerns for fairness in its dealings with Native Americans, it seems

especially inappropriate to continue the unprecedented use of Native American lands, in this case Navajo and Ute, for such purposes as missile testing.

Response: Thank you for your comment.

3.4.17 OTHER

Comment TK-0014-1: I would just hope that next time you cut down your introduction a little bit.

Response: Thank you for your comment.

Comment TK-0023-1: Please respect and protect this area for it does not belong to us. It belongs to the plants and animals and culture that lives there daily.

Response: Thank you for your comment.

Comment TD-0010-1: I'm concerned with all the details the other people said before me, and I don't have to explain. And I'll write my other questions, before the time is over, and mail them to you.

Response: Thank you for your comment.

Comment TD-0013-1: I'd like to tell the good people from Magdalena that your concerns have been our concerns, and that we're trying to put together a citizens' group to take legal action, if this plan goes through, and hope that you'll join us.

Response: Thank you for your comment.

Comment TT-0002-2: You were told in Moab there would be civil disobedience, and there are a bunch of people in southeastern Utah that are mad about this, and they're mad that you haven't listened to what we've said and tried to ram this down our throat. And there will be civil disobedience, and you better plan for it.

Response: Thank you for your comment.

Comment TT-0002-17: You said that you have consulted with environmental groups on these drop zones. I can't believe that any environmentalist would ever agree to this project.

Response: The environmental groups you reference are the Federal and state fish and wildlife agencies and State Historic Preservation Offices. These agencies have been invited to comment on the EIS.

Comment TT-0005-1: There's a phrase in your video that said, "you are sensitive to environmental areas." If that's true, why are you even considering southern Utah?

Response: The Army is sensitive to environmental areas and issues when performing necessary actions. Southern Utah is only one of many areas under consideration for TMD test activities.

Comment TT-0005-4A: This area is a very sacred place. It's not a bombing area.

Response: Thank you for your comment.

Comment TT-0006-1: It's peculiar to me that we would threaten civil disobedience in the protection of trying to do away with something that would protect freedom.

Response: Thank you for your comment.

Comment EA-0004-1: I am concerned that Ballistic Task Force et all appear to be afflicted with anachronistic perceptive views of this region in general.

Response: Thank you for your comment.

Comment EA-0006-1: We of the National Contract Management Association, do wholly support to the proposal to conduct testing of theater missile in New Mexico, specifically from Ft. Wingate to White Sands Missile Range.

Response: Thank you for your comment.

Comment EA-0007-1: We of the Professional Aerospace Contractors Association of New Mexico, do wholly support the proposal to conduct testing of theater missiles in New Mexico, especially from Ft. Wingate to White Sands Missile Range.

Response: Thank you for your comment.

Comment ED-0002-1: We of the National Contract Management Association, do wholly support to the proposal to conduct testing of theater missile in New Mexico, specifically from Ft. Wingate to White Sands Missile Range.

Response: Thank you for your comment.

Comment MS-0007-1: I am supportive of missile testing at FWDA. Is it possible I could be rehired at FWDA for this foreseeable Missile testing? Is there any future employment with DOD at White Sands (especially Security/Fire Department functions)?

Response: This is beyond the scope of this document.

Comment MS-0011-1: DEIS Vol I, pg 2-34, Fig 2.2 gave big picture of WSMR, supplement doesn't. If superimposed on Sup. pg 3-12, Fig 3-6 it would have been useful!!

Response: Thank you for your comment.

Comment MS-0011-2: If environmental impacts are reduced through new booster drop zones C-1 & 2, why is Table ES-1, Vol 1, 5-4 & Table ES-1, Sup. A-4 identical?

Response: The information contained in Appendix A of the Supplement to the Draft EIS is a reprint of the Executive Summary from the Draft EIS. Therefore, it is identical.

Comment MS-0014-1: You are desecrating a sacred land with your killing machines.

Response: Thank you for your comment.

Comment MS-0014-2: I think I really understand how the American Indians felt when the white settlers trampled on their sacred ground. The Army wants to do the same thing to my sacred ground.

Response: Thank you for your comment.

Comment MS-0014-3: If you must conduct your tests, find a place that has no spirit and heritage your actions would defile and betray.

Response: Thank you for your comment.

Comment MS-0019-3: We support your project, and see no reason at this time why this should not be a simple, low risk operation.

Response: Thank you for your comment.

Comment MS-0023-1: I am writing this letter to let you know of my strong opposition to the use of Comb Ridge, Cedar Mesa and Butler Wash in southeast Utah as rocket drop zones by the U.S. Army. This is a proposed plan better known as Drop Zone 2.

Response: Thank you for your comment.

Comment MS-0024-1: Launching missiles and dropping boosters over Utah is unacceptable. Find another way or forget it.

Response: Thank you for your comment.

Comment MS-0026-1: Comb Wash, Butler Wash and Cedar Mesa areas are some of the most BEAUTIFUL and SPIRITUAL in the entire United States, and I do not want the Army to drop rockets on them.

Response: Thank you for your comment.

Comment MS-0027-2: The supplement should reflect that local citizens are heavily opposed to this project. According to a Desert News/KSL poll 63% of the residents of southeastern Utah are opposed to the project.

Response: Thank you for your comment.

Comment MS-0027-10: There is no discussion of how the Army will handle incidents of civil disobedience.

Response: Incidents of civil disobedience will be handled in conjunction with local law enforcement officials.

Comment MS-0031-1: Dropping booster rockets on these areas devalues our sense of wholeness, and destroys our innate sense of the inviolate.

Response: Thank you for your comment.

Comment MS-0031-9: Paying for and supporting missiles is not an activity I choose or support.

Response: Thank you for your comment.

Comment MS-0034-1: I attended the August 23 hearing in Monticello, UT, and most of the information presented, particularly the video, smacks of propaganda.

Response: Thank you for your comment.

Comment MS-0037-10: Page 5-3, references 6 and 7 - reference is "Salas," not "Sales," as indicated.

Response: This correction has been made in the Final EIS.

Comment MS-0039-1: I am an American, and I do not embrace the paranoid idea that our freedom rests on our ability to construct a monstrous defense system. Rather, I believe our freedom rests on our relationship to the natural world; surely the dropping of missile boosters on the fragile earth lends nothing to ideas of peace, balance, and harmony.

Response: Thank you for your comment.

Comment MS-0040-1: I am writing in regards to the Comb Wash being designated as a Zone 2. I do not want this area to be desecrated and dishonored in such an absurd manner.

Response: Thank you for your comment.

Comment MS-0044-1: Please reconsider - that area is beautiful - sacred - - untouched.

Response: Thank you for your comment.

Comment MS-0046-1: The Army's plan for dropping spent booster rockets on southeastern Utah is an abomination and a calamity.

Response: Thank you for your comment.

Comment MS-0052-1: I am writing to you to express my opposition to the Army's proposed testing of missile systems over Utah and New Mexico. I do not think that the need justifies the potential negative impact of dropping boosters and debris over these two states. The Army has not shown sufficient need and is opposed by many people including the BLM. This is another example of the Army being out of touch with the rest of the world.

Response: Thank you for your comment.

Comment MS-0053-1: We are strongly opposed to the proposed rocket drop zones in SE Utah and hope that you will encourage reconsideration of the use of these wonderful areas for this purpose.

Response: Thank you for your comment.

Comment MS-0089-1: I fully support these missile tests.

Response: Thank you for your comment.

Comment MS-0096-2: The Army is not trustworthy. Quit confusing defense with destruction, defense with offense.

Response: Thank you for your comment.

Comment MS-0097-1: I strongly protest the Army's plan to use this area for a drop zone.

Response: Thank you for your comment.

Comment MS-0098-1: The national forest and national parks were not created to become booster rocket dump sites for the military. Nor should the military have the right to intrude into the reservation or into the traditionally sacred areas of Native Americans. Comments such as "...the area comprising the new Booster Drop Zone C consists entirely of areas with no significant development or use aside from grazing, wilderness preservation and camping/hiking activities." reveal the utter ignorance and arrogance of military planners.

Response: Thank you for your comment.

Comment MS-0099-1: This plan is to send long range and defensive missiles whistling over the West without concern for human welfare or environmental impact. The launch and subsequent "landing" of long range missiles in this environment can mean nothing but harm. The balance of this eco-system is very fragile and repeated collisions with segments of missiles could destroy it. We cannot risk this possible outcome for the testing of seemingly worthless artillery.

Response: Thank you for your comment.

Comment MS-0100-1: If you are instrumental in desecrating the remains of an 800-year old civilization, in desecrating some of the most beautiful scenery in our country, in desecrating tranquility and calm in our country, DON'T!

Response: Thank you for your comment.

Comment MS-0106-1: I protest the Army's plan to drop booster rockets and fuel in the Comb Wash area of S.E. Utah (Drop Zone 2).

Response: Thank you for your comment.

Comment MS-0109-1: The proposal exhibits extreme disregard for this landscape, its archeological sites and the people who visit this area.

Response: Thank you for your comment.

Comment MS-0110-1: Tourism, archeological sites and my own peace of mind, traveling into remote areas and not-so remote areas in S.E. Utah and Colorado would be greatly affected by missile testing in that area. How can you make promises of "no problem" when there are obvious risks and new equipment to test. I would hope you find another area or better yet, stop testing.

Response: Thank you for your comment.

Comment MS-0111-1: I'm against your bombing us with booster canisters and I don't like the shabby treatment of us folks in the 4 corners.

Response: Thank you for your comment.

Comment MS-0136-1: There are no purely good projects. There is always a down side and tradeoffs. In this case, the balance is clearly in favor of the project.

Response: Thank you for your comment.

Comment MS-0149-1: In spite of changed drop zones and a supplement to the EIS that, not surprisingly, finds "no significant impacts" from any of the Army's planned activities, we are concerned about errant missiles, the effect of this "Star Wars" type testing on the strong tourist industry in the region, the noise factor on humans and animals, and the particulars of retrieval of targets and missiles alike as they are "destroyed" over some of the most scenic wild lands in the country.

Response: See response to comment TT-0005-1.

Comment MS-0151-5: The Comb, and the washes that run parallel to its length, Comb Wash and Butler Wash, are traversed by many creatures. The whole system is a wildlife corridor. The presence of prehistoric roads in both of these washes indicates that they were "roadbeds" for the prehistoric Anasazi as well. They exist now as psychological corridors for a great many people who still use them, sometimes as a means to "get away."

Response: Thank you for your comment.

Comment MS-0156-8: The SEIS changes do not resolve problems surrounding impacts on Native American sovereignty, cultural resources, recreation conflicts, airspace utilization conflicts, and other problems raised during the DEIS process - the SEIS only moves those problems around on a map.

Response: See response to comment TT-0005-1.

Comment MS-0162-1: Make a difference in your lifetime and do the right thing by eliminating all places associated with the Green River/White Sands test areas.

Response: Thank you for your comment.

Comment MS-0163-2: The military justification for this project strikes me as empty. Who would shoot missiles at the U.S.? Terrorists? If I were a terrorist with a bomb I would deliver it by suitcase, not missile.

Response: Thank you for your comment.

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4.0 INDEX TO COMMENTERS

This section contains the list of commenters from both the TMD Extended Test Range Draft EIS and the Supplement to the Draft EIS. Commenters are listed alphabetically by last name within Section 4.1 (those commenting on the Draft EIS) and Section 4.2 (those commenting on the Supplement to the Draft EIS). The specific comment number(s) are shown using the same coding system as discussed in Section 3.0.

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5.0 AGENCY LETTERS

Many Federal and state agencies have sent letters in response to the TMD Extended Test Range Draft EIS and the Supplement to the Draft EIS. Copies of these letters are reproduced on the following pages. They are separated according to the document commented upon and are ordered according to the date on which the letter was written.

Comments on the Draft EIS:

California Coastal Commission
Florida Department of State, Division of Historical Resources
New Mexico Environment Department
California Department of Toxic Substances Control
Utah Department of Natural Resources, Division of Wildlife Resources
Utah Department of Transportation
U.S. Department of Transportation, Federal Aviation Administration, Southwest Region
New Mexico Department of Fish and Game
U.S. Department of Agriculture Soil Conservation Service
County of Santa Barbara Planning and Development
U.S. Department of Agriculture, Cibola National Forest
Santa Barbara County Air Pollution Control District
Utah Governor's Office of Planning and Budget
Utah Department of Natural Resources, Division of Parks and Recreation
Navajo Nation Environmental Protection Agency
State of Florida Department of Community Affairs
National Aeronautics and Space Administration/Kennedy Space Center
U.S. Environmental Protection Agency
Navajo Nation Historic Preservation Department
State of Utah, Division of State History
Navajo Nation Office of Navajo Land Administration
U.S. Department of Transportation, Federal Aviation Administration, Headquarters
U.S. Department of Interior Headquarters

Comments on the Supplement to the Draft EIS:

U.S. Department of Transportation, Federal Aviation Administration, Southwest Region
Utah Department of Environmental Quality, Division of Air Quality
U.S. Department of Transportation, Federal Highway Administration, New Mexico Division
California Department of Toxic Substances Control
State of New Mexico, Office of Cultural Affairs, Historic Preservation Division
New Mexico Environment Department

STATE OF CALIFORNIA—THE RESOURCES AGENCY PETE WILSON, Governor

CALIFORNIA COASTAL COMMISSION
45 FREMONT, SUITE 2000
SAN FRANCISCO, CA 94105-2219
VOICE AND TDD (415) 904-5200

February 8, 1994

J.A. Van Prooyen
Brigadier General, U.S. Army
Dept. of the Army
U.S. Army Space and Strategic Defense Command
P.O. Box 1500
Huntsville, Alabama, 35807-3801

Re: Draft EIS, Theater Missile Defense Extended Test Range

Dear Brigadier General Van Prooyen:

Thank you for the opportunity to comment on the above-referenced project. We would appreciate being placed on your mailing list for all environmental reports or other documents regarding this project. Additionally, by this letter we wish to inform you that activities affecting the California coastal zone occurring under Alternative 3 (Western Range, California) would trigger the need for a consistency determination.

This regulatory requirement arises under Section 307 of the federal Coastal Zone Management Act (CZMA) (16 U.S.C. Section 1456, with implementing regulations at 15 CFR Part 930). The consistency determination should include a finding as to whether the project is consistent to the maximum extent practicable with the California Coastal Management Program and the necessary information to support that conclusion, including an analysis of the project's consistency with Chapter 3 of the Coastal Act. (See CFR Section 930.39 for a full listing of the information required for a complete consistency determination.)

Please also note the Draft EIS mischaracterizes the federal consistency process. The following clarifications are needed:

(1) P. 4-181: the California Coastal Commission, not Ventura County, is the state agency administering the CZMA. Consistency determinations must be submitted to our agency (at the above address), not the local government.

(2) P. 4-205: same comment, but with respect to Santa Barbara County. Again, consistency determinations must be submitted to the Coastal Commission, not the local government.

(3) P. 4-211 et seq. (San Clemente Island): For activities here, as with San Nicolas Island and Vandenberg AFB, consistency determinations need to be submitted for proposed activities affecting the coastal zone.

(4) P. 4-230 et seq. Sea Launch Area: For activities here, as with San Nicolas Island and Vandenberg AFB, consistency determinations need to be submitted for proposed activities affecting the coastal zone.

(5) The document appears to reflect a misunderstanding that the CZMA only addresses land use issues. We come to that conclusion because, on page 1-5, the CZMA is only mentioned under one area of concern: "Land Use." It should be listed either under "General" or, to be complete, "Air Quality," "Biological Resources," "Cultural Resources," "Noise," and "Water Resources." Under the CZMA, federal consistency review by the State agency is triggered if an activity affects land or water uses or natural resources of the coastal zone.

(6) Finally, the discussion on the CZMA in Appendix C is incomplete (p. C-8). This discussion mentions the funding aspects of the CZMA, but not the regulatory requirements contained in the CZMA.

If you have any questions about this letter or about preparation of a consistency determination, please contact Jim Raives, federal consistency coordinator for the Commission staff, at (415) 904-5280.

Sincerely,

MARK DELAPLAINE
Federal Consistency Supervisor

cc: Ventura Area Office
NOAA Assistant Administrator
Assistant Counsel for Ocean Services
OCRM
Governor's Washington D.C. Office

1967p

FLORIDA DEPARTMENT OF STATE
Jim Smith
Secretary of State
DIVISION OF HISTORICAL RESOURCES
R.A. Gray Building
500 South Bronough
Tallahassee, Florida 32399-0250
Director's Office (904) 488-1480
Telecopier Number (FAX) (904) 488-3353

In Reply Refer To:
Susan Kanaparian
Compliance Review
Section, DHR
(904) 487-2333

PTH: 940176

February 17, 1994

Commander, USASSDC
CSSD-EN-V
P.O. Box 1500
Huntsville, Alabama 35807-3801

RE: Theater Missile Defense Extended Test Range
Draft Environmental Impact Statement
Okaloosa and Gulf Counties, Florida

Dear Commander:

In accordance with the procedures contained in 36 C.F.R., Part 800 ("Protection of Historic Properties"), we have reviewed the pertinent sections of the referenced document. It is the opinion of this office that the Environmental Assessment has adequately addressed the concerns of this agency regarding the protection of historic properties. Provided that the procedures and guidelines outlined in the Environmental Assessment are followed, it is our opinion that the project will have no adverse effect on historic properties listed or eligible for listing in the National Register.

If you have any questions concerning our comments, please do not hesitate to contact us. Your interest in protecting Florida's historic properties is appreciated.

Sincerely,

for Laura A. Kammerer

George W. Percy, Director
Division of Historical Resources
and
State Historic Preservation Officer

GWP/Hsh

STATE OF NEW MEXICO
ENVIRONMENT DEPARTMENT

Bruce King
Governor

Judith M. Espinosa
Secretary

Rose Cleary
Deputy Secretary

February 25, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
ATTN: CSSD-EN-V
P.O. Box 1500
Huntsville, Alabama 35807-3801

RE:THEATER MISSILE DEFENSE EXTENDED TEST RANGE DRAFT ENVIRONMENTAL IMPACT STATEMENT, VOLUMES I&II, U.S. ARMY SPACE AND STRATEGIC DEFENSE COMMAND, JANUARY 1994

Dear Mr. Hasley:

New Mexico Environment Department (NMED) staff reviewed the above-mentioned document and have a number of concerns about the described/expected environmental effects in the state of the proposed action, namely, the testing of the Theater Missile Defense (TMD). These concerns relate to impacts on surface water, ground water, and air quality.

SURFACE AND GROUND WATER

Staff from the Surface Water Quality (SWQB) and Ground Water Protection and Remediation (GWPRB) Bureaus indicated concerns in the following areas:

1. All missile testing must comply with the Water Quality Standards for the Interstate and Intrastate Streams in New Mexico and the New Mexico Water Quality Control Commission Regulations. A specific section of the Regulation to be noted is Site Hazardous Substances General Standard 1.102. F. Degradation of surface and ground water by the TMD would be in violation of the New Mexico Water Quality Act and the Clean Water Act.

2. If early flight termination were to occur, solid propellant would still be present in the rocket and these fuels could impact surface water at White Sands Missile Range (WSMR). The possibility of this occurring, however, is not high because of the reduced area of surface water at WSMR.

   Perennial surface water at WSMR consists of Salt Creek, Mound Springs, Malpais Springs and Lake Lucero. Rio Tularosa and Lost River are ephemeral drainages that are only active during the rainy season. These water bodies are not near the

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interception zone; however, early flight termination could result in the deposition of solid propellants in surface water.

Solid propellants used in missiles for fuel can be poisonous and unspent portions of fuel supplies released into open air spaces after missile interception may have detrimental effects on water systems and biological communities. Nitrocellulose, nitroglycerin and cyclotetramethylene tetranitramine are all solid fuels used in missiles and have the potential to be harmful to the atmosphere and earth. Oxidizing compounds in the solid fuels may consist of ammonium perchlorate and/or ammonium nitrate. As these compounds are dispersed over the land, they could have a negative effect on surface waters.

Liquid propellants in missiles may consist of monomethyl hydrazine or unsymmetrical dimethyl hydrazine. Aerial distribution of these compounds after a missile interception may cause contamination of water systems. Composition of fuel types were obtained from Earth Technology Corporation, a consulting firm contracting for the U.S. Army.

Hydraulic fluids are an environmental concern because they are based on phosphate esters that form phenols when exposed to water. After interception, rocket fragments may contain hydraulic fluids and these substances could be transported to surface waters by rain storms or snow melt. Hydraulic fluids could degrade water quality at WSMR and be toxic to animals and plants inhabiting or consuming surface water.

3. The surface water at WSMR is inhabited by several sensitive and endangered aquatic organisms. Bird life and mammals also consist of several sensitive and endangered species. Not listed in the DEIS for the TMD are several species of aquatic insects that were collected in surface water at WSMR. These insects are rare in New Mexico and should be listed in the DEIS in the section on sensitive wildlife at WSMR, Volume II, page G-4.

   Because surface water at WSMR is very limited it is critical that the quality remains unaffected by the TMD and continues to support the numerous sensitive and endangered species that inhabit WSMR. Temporary or permanent alteration in water quality to the surface water at WSMR could alter or terminate the life histories of numerous species of mammals, birds, fish and insects.

   Guidelines established in the New Mexico Water Quality Act and the Clean Water Act will protect the surface water at WSMR during the testing of the TMD. Compliance with these state and federal regulations by the military during the testing of the TMD is essential for the protection of surface water and the biological communities associated with these water bodies.

4. Because surface water is limited at WSMR the potential impact or contamination from the TMD is low. The possibility for impact increases during the rainy season when surface water is expanded. At this time of year flows in Salt Creek are augmented and surface water may extend continuously to the south and contact Lake Lucero. During this period of high flow the potential is increased for rocket contaminates from the upper sections of the missile range to be transported to the lower sections of the missile range and accumulated in Lake Lucero. The Tularosa Basin is endorheic and because of this character the potential for the accumulation of possible toxic rocket hydrocarbon is escalated.

   Monitoring of surface water at WSMR has been conducted by SWQB and been entered into the national data base, STORET. Retrieval codes for these data are DA01AN.S-Lucero and DA02AO.N-Lucero. The data were collected in April, 1993, and can be used to determine base-line conditions at Lake Lucero. Other water quality monitoring has been conducted and published by the U.S. Geological Survey, Water Resources in the Basin-Fill Deposits in the Tularosa Basin, New Mexico, Water Resources Investigation Report 85-4219, 1986.

5. With respect to ground water, not enough information has been provided on the chemical triethyl phosphate (TEP), which will be used as a simulant in target vehicles. The document does not give the mobility characteristics of the chemical, nor information on the persistence or on breakdown products. A cursory check of the hydrologic properties yielded conflicting information. We also have been given reports indicating that TEP may be quite toxic and may breakdown into increasingly toxic products. These matters should be clarified and could be discussed in the TMD Lethality Program Environmental Assessment mentioned on page 2-10.

AIR QUALITY

Although TMD systems, and missiles in general, are not considered stationary sources, and stationary source thresholds are not applicable to missile emissions, the Clean Air Act also requires that Federal actions must not cause or contribute to the violation of ambient air quality standards.

Emissions from a missile in the flight corridor(trajectory) should have no impact on ambient air quality to the extent that the mayority of the flight corridor is above the troposphere and they have no opportunity to affectively mix back down to the surface layers of the atmosphere.

The emissions of concern during launch activities are hydrogen chloride and aluminum oxide. These emissions are generated in the ground cloud at lift-off and along the flight corridor. The short-term discrete nature of missile launches should allow for dispersion of emissions (assuming 24-hour or longer intervals between individual launches), without resulting in cumulative impacts to air quality. Public access must be restricted in the Launch Hazard Area (LHA), defined as a radius of 7 kilometers (4.3 miles). The ground cloud is extremely buoyant and disperses vertically, therefore during periods of strong surface inversion the launch should be rescheduled after inversion break-up.

We appreciate the opportunity to provide these comments. Please let me know if you have any questions.

Sincerely,

Gadi Cibas, Ph.D.
Environmental Impact Review Coordinator

cc: NMED File No.784ER

STATE OF CALIFORNIA—ENVIRONMENTAL PROTECTION AGENCY
PETE WILSON, Governor

DEPARTMENT OF TOXIC SUBSTANCES CONTROL
400 P Street, 4th Floor
P.O. Box 806
Sacramento, CA 95812-0806

(916) 324-0845

March 1, 1994

Commander, U.S. Army Space and Strategic Defense Command
Attention: CSSD-EN-V (David C. Halsey)
P.O. Box 1500
Huntsville, Alabama 35807-3801

Dear Mr. Halsey:

The Department of Toxic Substances Control (Department) has reviewed the Draft Environmental Impact Statement (DEIS) for the Theater Missile Defense Extended Test Range, dated January 1994. The Department has reviewed the environmental analysis of the hazardous waste and hazardous materials activities at the various sites within the Western Range Candidate Test Area.

The Department's review indicates that the DEIS has adequately identified all potential environmental impacts associated with hazardous waste and hazardous materials activities within the Western Range Candidate Area. The Department agrees with the conclusion that these impacts are not significant.

The Department requests notification of any changes to the project, facility operations or procedures that would impact the handling of hazardous waste and hazardous materials at the Western Range Candidate Test Area. If you have any questions, please feel free to contact me at (916) 324-0845.

Sincerely,

Frederick L. Moss

Frederick S. Moss, Chief
Office of Policy and
Environmental Analysis

cc: Mr. Bob Borzelleri
Special Assistant to the Secretary
Office of the Secretary
California Environmental Protection Agency
555 Capitol Mall, Suite 235
Sacramento, California 95814

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State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WILDLIFE RESOURCES

Michael O. Leavitt
Governor
Ted Stewart
Executive Director
Robert G. Valentine
Division Director

Southeastern Region
455 West Railroad Avenue
Price, Utah 84501-2826
801-637-3310
801-637-7381 (Fax)

March 4, 1994

David C. Hasley
Environmental Engineer
Attn: CSSD-EN-V
P.O. Box 1500
Huntsville, AL 35807-3801

Reason: Theater Missile Defense testing project

Dear David:

I appreciated the opportunity to discuss the above referenced project with you. The scoping letter that I mentioned several times in our meeting is enclosed. When I returned to my office I received confirmation that the state clearing house did not send a letter to you.

I continue to have concerns with the potential impact of your project. Detailed plans for clearing and securing the booster drop zone and for booster recovery activities will provide more information and possibly a certain amount of comfort. I hope that I can work closely with you on this in order to mitigate impacts.

When you need additional information, please call me (801) 637-3310.

Sincerely,

Kenneth W. Phippen
Habitat Manager

enclosure

State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WILDLIFE RESOURCES

Michael O. Leavitt
Governor
Ted Stewart
Executive Director
Timothy H. Provan
Division Director

1596 West North Temple
Salt Lake City, Utah 84116-3154
801-538-4700
801-538-4709 (Fax)

May 18, 1993

Ms. Carolyn Wright
Office of Planning and Budget
116 State Capitol
Salt Lake City, UT 84114

Subject: U.S. Army Strategic Defense Command: Theater Missile Defense (UT930408-030)

Dear Carolyn:

We have reviewed this plan. The following are our concerns.

We feel the Army needs to address the issues associated with both the launch site and booster drop zone. Potential disturbance to wildlife includes: noise at launch site and from sonic booms; retrieval of the booster section; securing the impact area; reconnaissance of the impact zone; and contamination from unexpended fuels. Time of year, method of retrieval, increase of long-term access to an area, reclamation of disturbed areas and methods used to secure and monitor the booster drop zone are issues to evaluate. Other issues include identifying hazardous materials associated with the launch site, booster section and tracking, and retrieval equipment.

Because of the inability to more precisely define the Region of Influence (ROI), we feel there is good reason to discuss the habitat and issues associated with the launch site and entire flight path. This entire area is subject to impact and should be considered part of the ROI. The Colorado and Green rivers are in close proximity to the launch site, booster drop zone and lie under the flight path. Species of concern that are associated with these rivers include wintering bald eagles, Colorado squawfish, bonytail chub, razorback sucker, humpback chub, roundtail chub and flannelmouth sucker.

Launch site

In the documentation, the Army should provide identification of baseline wildlife habitat information for the area of the launch site and surrounding the launch site. Is new construction planned that will destroy some wildlife habitat? Our data is limited for the Green River site. Our data show the surrounding area as potential year-long antelope habitat, but only a few antelope occur

in the vicinity. Potential ferruginous hawk habitat also surrounds the site. There may be other species in the area. The Army needs to provide that information.

Impacts from noise associated with launches should be discussed. Impacts could occur to nesting raptors, waterfowl using the Green River, wintering bald eagles and other species that may be identified as inhabiting the area. With the launch area in close proximity to the Green River, all hazardous materials should be contained on-site. Impacts to threatened, endangered or sensitive Colorado River endemic species should be considered.

Booster drop zone

The geographic areas of Hatch Point and Harts Point (identified booster drop zone study area) includes sage grouse strutting grounds; antelope fawning and critical winter habitat; critical and high priority deer winter range; desert bighorn sheep habitat, which should be considered critical habitat; as well as Mexican spotted owls, golden eagles, peregrine falcons, and red-tailed, Swainson's and ferruginous hawks. Raptor surveys conducted in 1992 included sightings of ferruginous hawks, golden eagles, peregrine falcons and red-tailed hawks.

The Division of Wildlife Resources Big Game Board authorizes Limited Entry Buck hunts in September, October and November in the Elk Ridge area and an antelope hunt on Hatch Point (mid-September for one week). Hunters are in isolated areas and may be difficult to locate for evacuation. Who's responsibility would evacuation be? Would there be compensation for people who's recreational activities are curtailed or prevented from this activity? For these particular hunts, hunters must hunt in specific areas during specific times.

The likelihood of a significant impact to the wildlife species mentioned depends on the activities associated with this project. Seasonal timing is an issue that can create short and long-term impacts. Short-term impacts may be to individuals. These individuals may be lost to the population for various reasons. Increased stress resulting in disease mortality, abandonment of critical habitats such as water, foraging areas, fawning or lambing areas and abandonment of nests causing mortality of egg or nestlings are examples of impacts due to disturbance. Lost individuals result in a long-term impact to the population due to reductions in the population's reproductive and recruitment capabilities. This type of impact could be significant in the case of threatened or endangered species. We recommend early formal or

informal consultation with the U.S. Fish and Wildlife Service concerning threatened and endangered species.

The methods used to secure the booster impact area, monitor the impact zone to determine the impact sight and retrieve the booster section will determine the severity of disturbance. These are issues that must be evaluated. Building new roads to access the impact zone would be the most severe disturbance. The use of helicopters could provide a short-term impact to some of these species. Repeated flights by helicopters could be an impact to the big game species; but, in general, deer, antelope and desert bighorn sheep will be less disturbed by this method than ground retrieval that might include building more roads or opening up snow-closed roads. In contrast, helicopters could be an impact to nesting raptors due to collisions with individuals or egg or nestling mortality due to nest abandonment. Knowledge of the impact/retrieval zone and surrounding wildlife habitat issues should dictate the use of the least impacting retrieval method. Impacts at the booster drop zone and ROI are not limited to the retrieval stage. If repeated flights are necessary to secure the booster drop zone or provide reconnaissance, then this would be a potential source of impacts.

The seasonal dates of most concern are as follows:

Species/season	Date
antelope/fawning	5-15 to 6-15
antelope/winter	severe winter conditions
mule deer/winter	12-1 to 4-15
desert bighorn/lambing	4-1 to 5-31
desert bighorn/summer	water sources are critical
desert bighorn/rut	11-1 to 12-31
peregrine falcon/nesting	2-1 to 8-31
ferruginous hawk/nesting	4-10 to 6-15
Mexican spotted owl/nesting	2-1 to 8-31
sage grouse/nesting & brooding	3-15 to 6-30

Guidelines to reduce the impacts of seasonal disturbances include 0.5-mile buffer zones for most raptor species and 1-mile buffer zone for peregrine falcon eyries. If activities are expected to occur between February 1 and August 31, nesting raptors will be an issue. Because of the potential for nest abandonment, surveys should be conducted prior to these activities occurring. The Division can provide guidance regarding these and other surveys if needed. Impacts to habitat within a two-mile radius of a sage

grouse lek should be considered significant. All water sources are considered critical habitat and disturbances should be avoided near these sources during the antelope fawning period and yearlong for desert bighorn sheep.

Indirect and direct impacts and cumulative impacts associated with this proposed action need to be thoroughly evaluated. Opening new access or improving access to this project area is an issue that must be addressed. Any retrieval method that would result in long-term increased access could cause significant impacts due to the sensitive nature of these species. A detailed analysis of direct and indirect impacts due to opening roads needs to be conducted. Impacts as a consequence of increased human activities can be reduced by reclaiming and reseeding new roads. No road construction would be the best means to minimize impacts. Reclamation of all disturbed areas should be a standard incorporation. Cumulative impacts associated with other activities occurring in the project area include oil and gas exploration and development, recreation activities and grazing.

Consideration should be given to mitigation potentials, such as: choosing less-damaging paths for the missiles to follow by looking at terrain and habitat types and avoiding highly sensitive habitats in the flight path; minimizing impacts by choosing low-impact retrieval methods as discussed above; minimizing disturbance by avoiding launches during critical seasons as listed above; conducting reconnaissance of expected flight paths immediately prior to launches to look for sensitive wildlife activities such as nesting, lambing, etc; doing some water or habitat developments to improve wildlife habitat, perhaps outside of the Region of Influence, and minimize some of the cumulative impacts to wildlife.

The Division is willing to work with the Army throughout this EIS process to provide any wildlife information we can. If GIS mapping is required, there will be a charge. For specific information, they should contact the Habitat Manager, Ken Phippen, in the Southeastern Region office at (801) 637-3310.

Thank you for the opportunity to comment on this action.

Sincerely,

Timothy H. Provan
Director

State of Utah
UTAH DEPARTMENT OF TRANSPORTATION

Transportation Commission
Samuel J. Taylor, Chairman
Wayne B. Winsborrow, Vice Chairman
Todd G. Weston
Jeanne G. Larkin
Ted D. Lewis
Shirley J. Ireman

Michael O. Leavitt, Governor
W. Craig Zeeck, Executive Director
4501 South 2700 West
Salt Lake City, Utah 84119-5998
(801) 965-4000
FAX: (801) 965-4338

March 10, 1994

CSSD-EN-V Commander David C. Hasley
U. S. Army Space & Strategic Defense Command
P. O. Box 1500
Huntsville, Alabama 35807-3801

Dear Commander Hasley:

Subject: Draft Environmental Impact Statement (DEIS) for the Theater Missile Defense (TMD) Extended Test Range Proposal

We acknowledge the receipt of the Draft Environmental Impact Statement (DEIS) for the Theater Missile Defense (TMD) Extended Test Range proposal and upon review of the document we offer the following general observations and comments:

- Utah Department of Transportation (UDOT) recognizes the importance of a strong national defense and wholeheartedly supports such a worthwhile cause.
- We do have a great deal of concern regarding the proposed closure of the Interstate-70, one of our major transportation facilities, for nearly 70 minutes during the launching period.
- Economic impacts due to such a closure on those involved in the transport of materials and goods will occur.
- In light of the many public interests at stake, it does not appear to be a practical or realistic move to close the Interstate-70.
- Section 3.1.2 - Green River Launch Complex (GRLC):

  Several segments of this section on air quality, noise, cultural, archaeological and biological resources, etc., are covered in general and briefly. We hope that extensive coordination with appropriate Federal and State agencies has taken place to arrive and confirm some of the findings of any potential impacts on these environmental resources and mitigation, if required.

An equal opportunity employer

- Plans for access road connections to any of our State highways, if necessary, must be coordinated with our District Four Permit and Encroachment Office in Price, Utah.
- In the event of any potential debris from launching of a flight missile or mishap that might land within the right-of-way of any of the state highways, the U. S. Army must be completely responsible and liable for damages to the highway, as well as cleanup of the debris. Routine cleanup must be coordinated with our Maintenance Engineer, District Four, Price, Utah.
- Section 4-1,2,3 Biological Resources - GRLC

  Section 4-1,2,5 Geology and Soil - GRLC

  Utah Pollutant Discharge Elimination System (UPDES) permit may apply for erosion from construction activities involving road improvements and borrow pits or spoil sites. We hope that the Utah Division of Water Quality has been contacted for their input.

We appreciate this opportunity to provide our input into the DEIS. For any assistance or questions, contact Dave Berg, Chief Environmental Engineer, at (801)965-4327.

Sincerely,

Howard Richardson
Assistant Director

HWR/JD/fjc

cc: Dyke LeFevre
P. K. Mohanty
Dan Nelson
Ken Adair
Dave Berg
Jay Devashrayee

U.S. Department of Transportation
Federal Aviation Administration

Southwest Region
Arkansas, Louisiana, New Mexico, Oklahoma, Texas

Fort Worth, Texas 76193-0000

MAR - 1 1994

Commander
United States Army Space
and Strategic Defense Command
P O Box 1500
Huntsville, AL 35807-3801

Dear Sir:

The Southwest Region of the Federal Aviation Administration has reviewed the Draft Environmental Impact Statement (DEIS) for the Theater Missile Defense Extended Test Range Proposal. We have concerns that the DEIS does not address several issues with sufficient specificity. In particular, issues such as impact of a terminated missile outside evacuated areas, and the rerouting of aircraft to avoid test activities, were not adequately addressed.

Final air traffic approval authority for this proposal rests with this agency under Mr. David J. Hurley, Director, Office of Air Traffic System Management. It is our understanding that Mr. Hurley will contact you about the above-discussed concerns as well as several others specific to air traffic.

Please provide this office with a copy of the Final EIS when available. Thank you for allowing us to review and comment on the proposed action.

Sincerely,

Dean A. McMath
Manager, Environmental Programs

- TOGETHER WE SUCCEED -

Return to Contents

GOVERNOR
Bruce King

DIRECTOR AND SECRETARY
TO THE COMMISSION
Bill Montoya

STATE GAME COMMISSION
JAMES H. LANNEN, ROSWELL, CHAIRMAN
SANTA FE
THOMAS P. ARVANS, D.D., VICE-CHAIRMAN
ALBUQUERQUE
BOB JONES
CROWN POINT
JIM TAYLOR, JONES
ALBUQUERQUE
BRUCE WILSON
MESILLA PARK
DAVID M. SALMON
LA CUEVA
ANDREA MARIE CHAVEZ
ARAVAJO DAM

STATE OF NEW MEXICO
DEPARTMENT OF GAME & FISH
Villagra Building
P.O. Box 25112
Santa Fe, N.M. 87504

March 14, 1994

Commander, U.S. Army Space and Strategic Defense Command
P. O. Box 1500
Huntsville, Alabama 35807-3801

Attn: CSSD-EN-V (David C. Hasley)

Dear Mr. Hasley:

The New Mexico Department of Game and Fish (Department) has reviewed the Draft Environmental Impact Statement (DEIS) describing the Theater Missile Defense (TMD) Extended Test Range proposal. The proposed action is to conduct extended range tests of target missiles, defensive missiles, and sensor systems at one or more of four alternative test range areas. One test area is White Sands Missile Range (WSMR). Launches from Fort Wingate, New Mexico, and from the Green River Launch Complex in Utah are included. Other candidate test ranges are in Florida, California, and the Republic of the Marshall Islands.

The DEIS states on page S-3 that significant impacts from TMD programs are anticipated for WSMR, and states on page S-5 that "For WSMR, the environmental impacts, including cumulative impacts, of all current ongoing and future programs will be addressed in the WSMR EIS, currently in progress."

The Final TMD Programmatic Life-Cycle EIS, published in September 1993, states on page S-14 that "Cumulative impacts could occur from the Proposed Action and would potentially include environmental impacts from each Alternative." It also states that the magnitude of the potential cumulative impacts cannot be determined at this time, and that lower tier programs or site-specific environmental documentation will contain such environmental analyses.

The WSMR Range-wide EIS, which this DEIS assumes (p. S-5) will contain an analysis of environmental and cumulative impacts, has not yet been produced. However, a preliminary draft of the WSMR EIS states on page 4-133 that "In virtually every category, insufficient data and previous analyses exist to sustain the comprehensive cumulative impact analyses necessary to reach determinative contrasts, comparisons, and conclusions in this EIS. Therefore, subsequent cumulative impact analyses, well beyond low-level nominal review, will be required for subsequent NEPA documentation tiered off of this EIS."

The preliminary draft of the WSMR EIS also states on page 4-134 that significant cumulative impacts have been identified for biological resources and for hydrological/water resources, that no effective mitigation strategy is currently in place to offset these impacts, and that project-by-project NEPA documentation in fact obscures the existence of significant cumulative impacts.

It is clear that a variety of NEPA documents produced by the US Army Space and Strategic Defense Command have charged the responsibility for analysis of cumulative impacts to some other document, at least one of which (WSMR EIS) has yet to be produced. Despite the contradictory statements cited above, an analysis of cumulative effects has not been accomplished, and the TMD Extended Test Range DEIS does not yet comply with NEPA.

An analysis of cumulative impacts sufficient to comply with NEPA must address additive effects of disturbance to wildlife, impacts to air quality, stratospheric ozone depletion potential, and release of a variety of toxic chemicals at WSMR that may result from multiple programs over a period of time. These impacts may be insignificant when examined from the perspective of one program, but may be cumulatively significant when considered in the context of multiple programs at WSMR. The Department looks forward to seeing this issue addressed. If you have any questions, please call Bob Wilson at (505) 827-7827.

Sincerely,

Bill Montoya
Director

BM/BW/mlm

cc: Jennifer Fowler-Propst (Ecological Services Supervisor, USFWS)
Craig Nordyke (Southwest Area Operations Chief, NMGF)
Dick MacCleskey (Assistant Director, NMGF)
Andrew Sandoval (Conservation Services Division Chief, NMGF)

United States Department of Agriculture
Soil Conservation Service

South National Technical Center
P.O. Box 6567
Fort Worth, Texas 76115

March 15, 1994

U.S. Army Space & Strategic Defense
Robert F. Shearer, Chief
Environmental & Engineering Office
Post Office Box 1500
Huntsville, Alabama 35807-3801

Dear Chief Shearer:

The South National Technical Center of the Soil Conservation Service, United States Department of Agriculture, has no comments on the proposed study.

Sincerely,

PAUL F. LARSON
Director

Enclosure

cc:
James Newman, Director, ESD, SCS, NHQ

The Soil Conservation Service is an agency of the Department of Agriculture

County of Santa Barbara

Planning and Development

John Patton, Director

21 March 1994

Commander, U.S. Army Space and Strategic Defense Command
Attention: CSSD-EN-V, Mr. David C. Hasley
Post Office Box 1500
Huntsville, Alabama 35807-3801

RE: Staff comments, Draft EIS, Theater Missile Defense Extended Test Range program

Dear Mr. Hasley:

Thank you for the chance to review and comment upon this DEIS. One of the possible sites for this program, Vandenberg Air Force Base (VAFB), is located within Santa Barbara County, California, and the potential impacts of the program at this possible site are of direct interest. The following comments are offered in the interest of assisting the Army to develop a more accurate and complete environmental document as a basis for future decision-making. These comments are supplemental to the statement of support and general DEIS comments contained in the earlier letter from the Santa Barbara County Board of Supervisors dated 15 March 1994.

I. WILDLIFE

In addressing impacts to wildlife in open waters in the Western Test Range, the DEIS generally concludes that there is a remote possibility of debris striking individual members of a threatened or endangered species. Additionally, the DEIS notes potential impacts to pinnipeds and birds during pupping and nesting periods due to falling debris and noise, but does not suggest these impacts to be significant nor suggest potential mitigation to make every reasonable attempt at scheduling test periods which avoid the pupping and nesting periods each year.

We suggest consideration of mitigation that requires all reasonable efforts to schedule test periods to avoid (1) the pupping season of pinnipeds, and the nesting season of the least tern and snowy plover, as first priorities, and (2) the migration period of California gray whales (second priority). This type of mitigation is standard procedure for other types of offshore uses such as exploration for oil and gas. The federal Fish and Wildlife Service and the National Marine Fisheries Service, as well as the California Department of Fish and Game, should be able to provide information on the specific periods of the year to avoid

123 E. Anapamu Street, Santa Barbara, CA 93101-2058
PHONE (805) 568-2080 FAX (805) 568-2030

testing. In general, the expertise and opinions of these agencies should be used as the primary criteria for assessing the significance of impacts, as well as the specific nature and effectiveness of proposed mitigation measures.

II. HEALTH & SAFETY CONSIDERATIONS

A. Offshore oil and gas activities not addressed.

Although launches from Vandenberg AFB largely occur over open waters, these open waters are not unpopulated. The federal government has leased several tracts offshore Vandenberg AFB to various companies for the purpose of developing offshore oil and gas. Some of these tracts currently are under development, while many others will be subject to developmental activities, particularly exploration and potentially production, prior to the year 2000. Both exploration and production occurs from both stationary vessels and manned platforms.

At a minimum, the EIS should identify the presence of oil and gas platforms offshore Vandenberg AFB, including their locations in relation to the test area flight corridors. A similar effort should be made to address future oil and gas activities on existing leases in these waters, including exploration and production. The attached projections of oil and gas activities address production platforms. You should contact the Minerals Management Service in Camarillo, California to determine projections of exploratory activities in these waters through the year 2000. The telephone number there is (805) 389-7800.

Previous federal Environmental Impact Statements for offshore oil development have identified falling debris from military launches to pose a risk of causing fatalities, injuries, and oil spills at offshore platforms (for example, see the Environmental Impact Statement/Report for Santa Ynez Unit/Las Flores Canyon Development and Production Plan, 1984, written by Science Applications Inc. for the U.S. Minerals Management Service, State Lands Commission, and County of Santa Barbara). Consequently, this EIS should explore reasonable mitigation to protect the health and safety of offshore oil workers, and to address any potential threat of an oil spill from existing and future offshore platforms that might result from falling debris. Vandenberg AFB currently has an agreement with the offshore oil producers that holds the base harmless from liability if the platforms are struck by debris, even if this results in fatalities, injuries, or release of oil in volumes sufficiently large to cause environmental damage. The DOD and DOI should coordinate on this issue.

B. Transport of hazardous materials to Vandenberg AFB.

Transportation of hypergolic propellant to the base (namely nitrogen tetroxide and Aerozine 50) has been a matter of public concern in California, resulting in special legislation to restrict the movement of trucks to less densely populated routes. Moreover, the USDOT has continuously made container requirements and many procedural requirements more restrictive for such shipments, which can only be permitted by special exemption. Considering the past attention given to this issue, the EIS should provide sufficient details on the shipment of hypergolic propellant to the base. At a minimum, these details should include: a) the increased number of trips over the present monthly or annual average, b) the risk that these materials pose to the general public in the event of an accidental release, and c) an acknowledgement that shipment of such hazardous materials, particularly nitrogen tetroxide, constitutes a significant cumulative impact no matter which project alternative is selected.

For the Vandenberg AFB alternative, specific mitigation is available and should be mentioned in the EIS. In Santa Barbara County, for example, we have a program to enhance safety on highways designated for shipment of hazardous materials by funding extra patrolling and inspections by the California Highway Patrol. Although several operating oil companies in the area contribute to this program, Vandenberg AFB does not. This program, which costs approximately $20,000 annually, is viewed by the California Highway Patrol as highly effective in reducing hazardous materials accidents along the designated routes. If these routes are used, then Army participation in the highway safety program should be explored. No matter how closely the particular hazardous material carrier adheres to regulations, there are several variables beyond the carrier's control that can cause a serious accident and subsequent release of materials (or explosion).

III. LAND USE & SOCIOECONOMICS: COMMERCIAL FISHERIES

Ocean waters offshore Vandenberg AFB, up to fifteen miles seaward, represent prime areas for several types of commercial fishing. Both sea urchin and abalone divers operate in shallower waters close to shore (including the shores of the Santa Barbara Channel Islands), as do lobster and crab trappers. Hook and liners, trawlers, and salmon trollers are active throughout this area. In federal waters (3+ miles seaward), deepwater rock cod gill netters and drift gill netters are active. Commercial fishermen from Morro Bay and Santa Barbara operate in this area.

Access to many of these commercial fisheries is limited largely by legally prescribed fishing seasons and weather. Additionally, waters offshore Vandenberg AFB are closed to fishing vessels during a period around rocket and missile launches from the base. Currently, we

are not aware of any currently significant socioeconomic impacts to commercial fishing due to temporary closures, given the current frequency of launches from the base. However, future increases in the frequency of launches from Vandenberg AFB due to new commercial space launching programs as well as future missile testing programs such as the one proposed in the current DEIS may have individually and cumulatively significant impacts on segments of the commercial fishing industry. Such impacts are likely if several launches were scheduled to occur over a short period of time that, due to lack of coordination with the commercial fishing industry, could cause several days of exclusion from fishing grounds, or the inability to transit across the range, during peak fishing season.

Consequently, the EIS should note the potential for a significant impact so that adequate mitigation is pursued. Mitigation should focus on timing the test program so that there are a minimum number of days in any month (or during specific fishing seasons) when access to fishing grounds would be precluded due to launch activities. Implementation of this mitigation would require coordination and consultation with the affected commercial fishing industry at the time when the schedule of launches is being planned.

IV. LAND USE: COASTAL ACCESS & RECREATION

Sec. 3.3.2.8, pp. 3-199 and 3-200: The description of the "affected environment" concerning recreation should include the fact that several coastal areas on VAFB currently are open to public use and enjoyment. Significant sandy beach areas open to the public extend approximately one mile west/north of Jalama Beach County Park, three and one-half miles south of Ocean Beach County Park, and one and one-half miles north of Ocean Beach County Park. These beaches are a very important recreational asset to the residents of northern Santa Barbara County, as well as to visitors. In addition, the Air Force allows limited access by permit, for surf fishing, along another three and one-half miles of primarily rocky coastline south of Purisima Point, immediately north of the previously-cited one and one-half miles of sandy beach area north of Ocean Beach County Park. These areas are displayed on the attached map labeled "Exhibit 13," which is taken from a 1982 California Coastal Commission staff report (with apologies for the poor reprographic quality, due to its being many generations removed from the original graphic).

Sec. 4.3.2.8, pp. 4-203 through 4-205: The DEIS should present more facts in order to justify its "conclusion that impacts to recreational use would be not significant" (p. 4-204, ¶ 5), regarding both program-specific and cumulatively impacts. Operational experience at both Ocean Beach and Jalama Beach County Parks indicates that substantially greater numbers of people would be affected than the 19-to-30 (Ocean Beach) and 10-to-81 (Jalama) asserted in the DEIS. Also, given Jalama's remote location and its use for

camping in addition to day use, closure and evacuation even for short periods of time is highly disruptive.

Other important facts which should be disclosed are the potential frequency and total number of public park and beach closures; any conclusion regarding impact significance must consider these variables.

Finally, the DEIS does not adequately describe the cumulative effects of federal activity on coastal access and recreation. The general public's use and enjoyment of coastal areas, including the public tidelands seaward of the mean high tide line, is greatly restricted in northern Santa Barbara County due to circumstances of geography and property ownership. Given such existing impediments, further restrictions could be considered significant in a cumulative context. Numerous ongoing and proposed activities at VAFB could affect coastal access and recreation; some are directly related to base operations (e.g., existing and proposed missile programs), while others are related to species and habitat concerns (e.g., proposed seasonal beach access restrictions to protect the western snowy plover). While a rigorously quantitative analysis of such cumulative effects would be a difficult and probably unproductive endeavor, the DEIS should include a "cumulative projects" list, accompanied by a descriptive analysis of potential coastal access and recreation effects and their potential cumulative significance.

V. LAND USE: EVACUATION OF PRIVATE PROPERTY

With regard to private property evacuations, the DEIS states that "no impacts to land use are anticipated" due to the existence of evacuation agreements with the "owners of parcels of land under the LF07 LHA that extends off base" (p. 4-203, last full ¶). The existence of such agreements does not obviate the physical reality and inconvenience of an evacuation, and such impacts should be estimated and disclosed.

VI. LAND USE: COASTAL ZONE MANAGEMENT ACT (CZMA) REVIEW

The DEIS also should be amended to correct its descriptions of the CZMA consistency review process. In California, it is the State Coastal Commission and not the local county which reviews a federal agency's findings of consistency with the California Coastal Management Program (CCMP). More information on the CCMP review process for federal projects may be obtained from either Mark Delaplaine or Jim Raives in the San Francisco office of the California Coastal Commission, (415) 904-5200.

Again, thank you for the chance to review and comment upon this DEIS. Please contact the undersigned at (805) 568-2080 if you require clarification or further information which would assist the Army in preparation od this important document.

Sincerely yours,

GREGORY MOHR, Planner/Review Coordinator
Comprehensive Planning Division

Enclosures (2)

cc (without enclosures):
Board of Supervisors
DOI, Minerals Management Service
Mark Delaplaine/Jim Raives, California Coastal Commission
Doug Anthony, County P&D/Energy Division
Claude Garciaceley, County Park Dept.

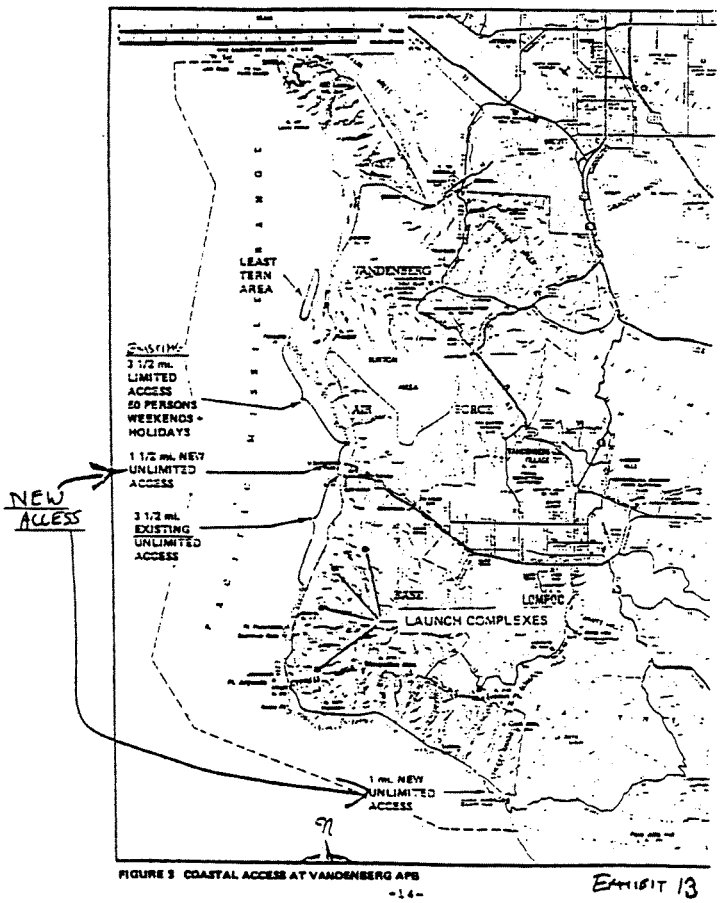


FIGURE 5 COASTAL ACCESS AT VANDENBERG AFB

EXHIBIT 13

GAS AND OIL PROJECTIONS FOR PACIFIC OCS EXISTING LEASES

August 2, 1991

Minerals Management Service

GAS AND OIL PROJECTIONS FOR PACIFIC OCS EXISTING LEASES

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LIST OF TERMS AND ABBREVIATIONS

AVERAGE BOPD * 1000	-	Average daily oil production, in 1000's of BOPD.
BOPD	-	Barrels (bbls) of oil per day; a barrel is approximately 42 gallons.
CHNL. IS. TOTALS	-	Channel Islands area; Santa Barbara Channel from Pt. Conception east, including area off San Pedro.
CNTRL. SMB.	-	Central Santa Maria Basin area.
CURR. APPRVD. NO. PRODUCING PLATFORMS	-	Number of currently producing platforms.
FLD-LSE TOTALS	-	Total for leased areas that are not in a unit. FLD-LSE means field on a lease.
KBOPD	-	1000's of BOPD.
MMCFPD	-	Millions of cubic feet of gas per day.
NORTHN. SMB.	-	Northern Santa Maria Basin area.
NO. FLD-LSE PROD. PLATFORMS	-	Number of producing platforms which are not in units.
NO. POTENTIALLY PRODUCING PLATFORMS	-	Number of anticipated platforms that may eventually be producing but are not currently installed. Does not include producing platforms.
NO. UNIT PROD. PLATFORMS	-	Number of producing platforms in units.
AREA	-	Geographical area on the OCS.
POCS TOTAL PLAT'S IN PLACE	-	Total number of platforms in the POCS Region (both producing and non-producing).
POCS TOTALS PROD. PLATFORMS	-	Sum of the currently producing platforms and potentially producing platforms.
POCS TOTALS	-	Pacific Outer Continental Shelf Region Totals.
POTENTIAL PLAT. TOTALS	-	Total platforms for areas that may eventually be developed; hydrocarbons have been discovered on an existing lease and a schedule of events leading to the commencement of production has been approved. However, no DPP has been approved.

PROD. & APPRV'D. DPP's TOTALS	-	Totals for all producing leases and for areas covered by approved Development and Production Plans (DPP's).
SALES GAS (MMCFPD)	-	Daily gas production that is measured and sold.
SMB. TOTALS	-	Totals for the entire Santa Maria Basin area (Northern, Central, and Southern).
SOUTH. SMB.	-	Southern Santa Maria Basin area.
UNIT TOTALS	-	Total for leased areas that are included in a unit. A unit is a group of leases that is unified for exploration, development, and production.

GAS AND OIL PROJECTIONS FOR PACIFIC OCS EXISTING LEASES

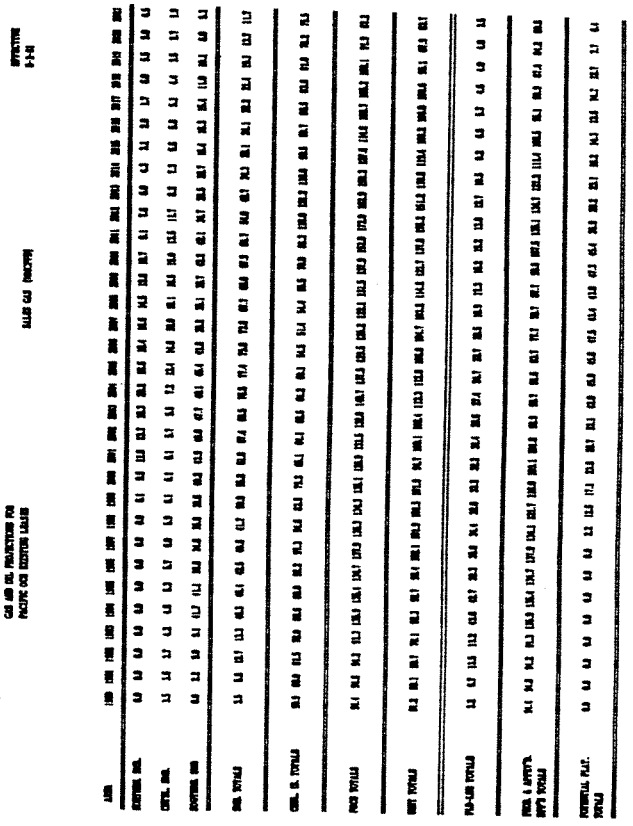
Introduction

The purpose of this report is to provide 30-year projections of gas and oil sales for the Pacific Outer Continental Shelf (OCS) Region. The scope of the report is limited to existing Pacific OCS leases; no future leasable lands are included. The existing leases have been been divided into four geographic areas: the Northern, Central, and Southern Santa Maria Basin Areas and the Channel Islands Area. The maps on pages 10 - 13 show the leases included in each area. Note that the Channel Islands Area encompasses all of the Santa Barbara Channel from Point Conception East to San Pedro offshore Long Beach.

The term "sales" is used to represent the volumes of gas and oil that are produced and sold. For oil, this is virtually the same as total production, i.e. all the oil produced is sold. For gas, however, sales and production are not synonomous. A portion of the gas may be used for fuel, flared or reinjected into the reservoir for pressure maintenance.

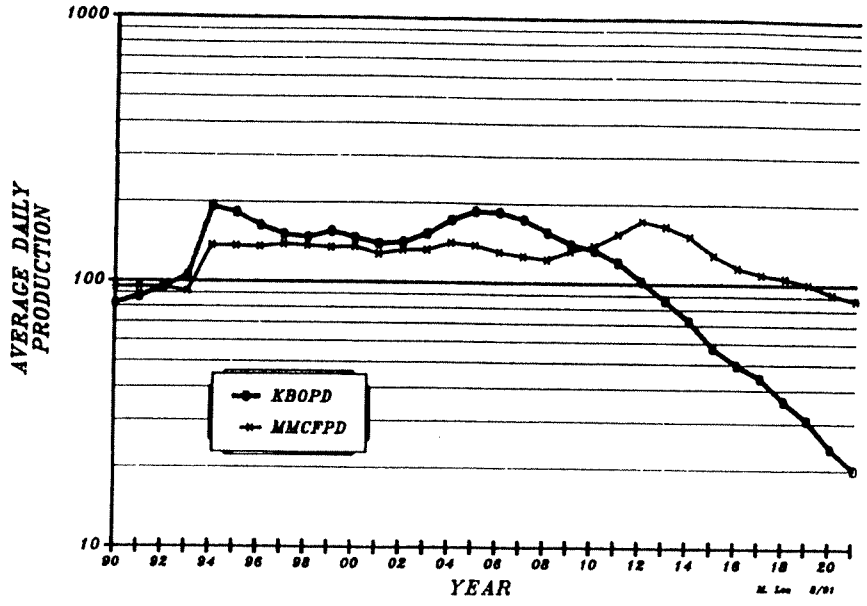
The platforms that are considered in the projections include existing, approved, proposed, and potential platforms for existing leases only. Definitions for each platform type are found in the map legend explanation.

This report consists of tables showing projected gas and oil sales and the number of platforms anticipated over the next 30 years. Also included are graphical presentations and maps displaying these data.



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POCS GAS AND OIL PROJECTIONS



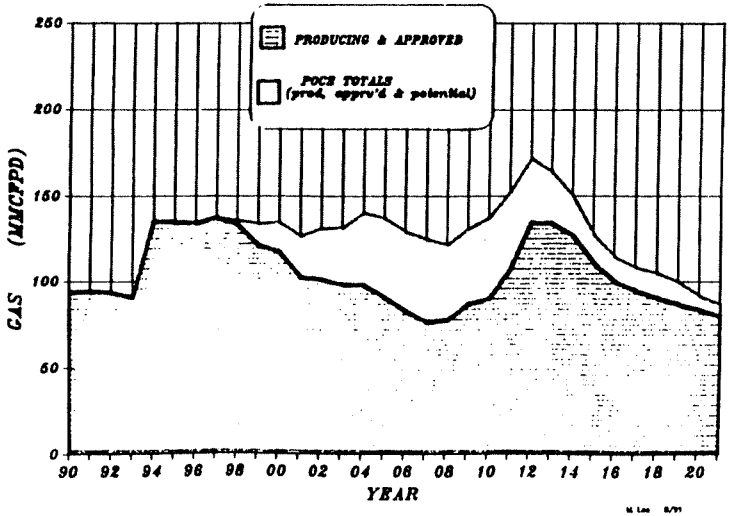
GAS AND OIL PROJECTIONS FOR
PACIFIC OCS EXISTING LEASES

AVERAGE BOPD + MCF

EFFECTIVE
8-1-91

AREA	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
SOUTHERN BASIN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	13.0	16.6	25.3	45.9	55.4	59.6	53.1	48.1	43.4	32.9	30.7	28.3	26.3	25.8	16.9	13.0	11.4	10.6	8.9	7.3	6.0	5.4
CENTRAL BASIN	16.3	16.0	14.7	13.3	10.5	8.1	7.7	6.7	5.9	5.3	4.6	4.3	3.6	3.3	16.3	25.6	27.3	28.2	26.0	23.6	16.5	14.0	11.3	9.7	8.4	7.2	6.2	5.6	4.1	3.4	3.0	2.7
SOUTH BASIN	6.6	6.0	19.6	20.0	17.1	19.2	16.3	16.9	16.1	16.1	17.5	15.6	13.8	13.0	17.7	15.7	15.3	14.3	14.0	13.7	13.1	15.3	16.6	16.7	13.5	20.3	15.3	14.4	13.1	9.7	7.5	
BASIN TOTALS	16.3	22.0	34.3	33.3	27.6	28.3	24.0	23.6	22.0	21.4	21.3	33.5	33.6	38.3	33.7	33.5	33.5	33.5	33.5	33.4	33.3	33.4	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3	33.3
CHANNEL TOTALS	65.7	64.3	65.1	71.7	65.0	64.0	65.1	65.5	65.0	65.3	71.5	71.0	64.2	65.0	65.0	65.0	65.4	65.2	65.1	64.0	65.0	26.3	26.1	25.3	22.5	15.0	13.0	26.1	6.9	5.5	4.3	5.1
POCS TOTALS	82.0	87.1	99.3	105.0	102.6	102.3	103.1	101.1	101.2	106.3	106.3	104.5	101.7	103.3	108.7	108.5	108.1	107.8	106.1	107.4	108.3	109.7	109.4	109.0	105.8	103.3	96.3	73.5	87.5	83.6	84.4	38.5	38.7	38.4	38.6
UNIT TOTALS	68.1	68.3	64.1	70.4	68.1	97.2	86.8	87.4	86.4	86.4	89.1	89.3	86.8	86.7	85.5	127.8	146.9	156.8	144.3	138.1	117.3	112.7	101.8	86.3	73.4	68.5	67.1	66.3	35.3	28.3	26.8	26.4	25.8
PLA-LAS TOTALS	12.9	17.8	20.1	20.6	24.3	46.6	72.3	63.7	66.8	61.2	65.6	68.3	61.8	65.4	64.7	28.4	24.3	28.7	28.3	23.8	28.8	17.5	15.8	13.8	12.8	10.4	8.3	8.1	7.8	6.1	5.7	5.8
PROD. & APPR'D. BOPD TOTALS	82.8	87.1	94.8	106.8	102.6	102.8	103.1	101.1	101.2	106.3	110.7	102.8	98.3	104.1	108.8	104.2	95.8	88.3	89.3	71.3	64.4	57.8	51.8	44.8	38.8	34.8	28.8	26.3	23.5	20.8	18.3	15.7
POTENTIAL PLAT. TOTALS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21.0	27.3	36.7	43.5	48.7	71.5	83.1	88.3	85.3	74.9	68.1	68.5	63.7	51.0	41.4	33.7	23.9	15.0	16.3	13.8	10.2	6.9	4.3

POCS GAS SALES PROJECTIONS



GAS AND OIL PROJECTIONS FOR
PACIFIC OCS EXISTING LEASES

PLATFORMS

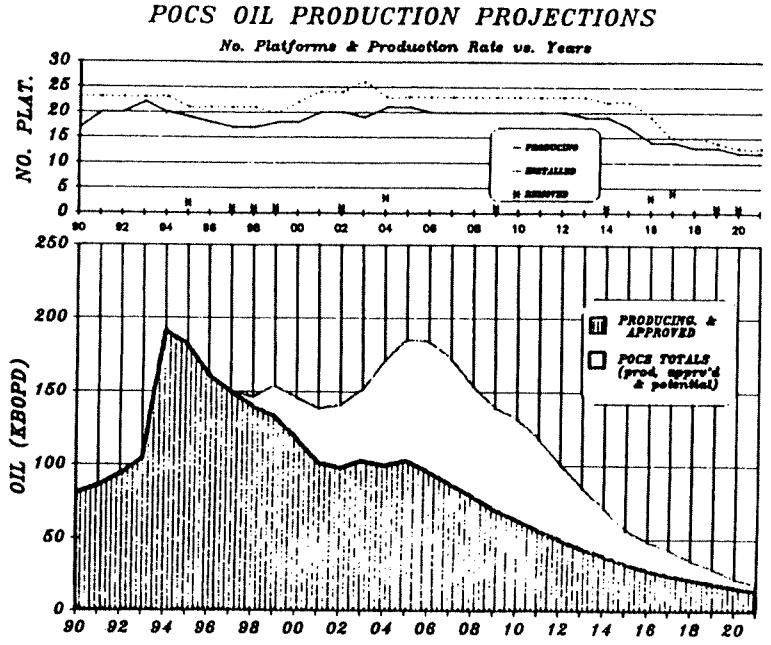
EFFECTIVE
8-1-91

AREA	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
CHNL APPRV. NO. PRODUCING PLATFORMS	17	19	19	22	20	19	18	17	16	16	16	16	17	15	15	15	15	14	14	12	12	12	12	12	12	11	9	9	9	9	9	9
NO.POTENTIALLY PRODUCING PLATFORMS	0	0	0	0	0	0	0	0	1	2	3	3	4	6	6	6	6	6	7	7	7	7	7	7	6	6	6	6	4	4	3	3
POCS TOTAL PROD. PLATFORMS	17	19	19	22	20	19	18	17	17	18	19	19	19	21	21	21	21	20	21	19	19	19	19	19	18	17	14	14	13	13	12	12
NO. UNIT PROD. PLATFORMS	10	10	10	12	12	11	10	10	11	12	12	12	13	15	17	17	17	17	16	16	16	16	16	15	12	12	10	10	9	9	8	8
NO. PLA-LAS PROD. PLATFORMS	7	10	10	10	8	8	8	7	6	6	6	7	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
POCS TOTAL PLAT'S IN PLACE	23	23	23	23	23	23	23	23	23	23	23	24	24	24	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23

EXISTING (YEAR)	APPROVED NOT INSTALLED (YEAR)**	PROPOSED (YEAR)**	POTENTIAL (YEAR)**
Southern Santa Maria Basin Area:			
Point Arguello Field 0315 Harvest 0316 Hermosa 0450 Hidalgo		Rocky Pt. Unit 0451 Hacienda (2001)	Bonito Unit 0446/0449 Chevron* (1998) Sword Unit 0322 Conoco* (2009)
Central Santa Maria Basin Area:			
Point Pedernales Unit 0441 Irene	Point Pedernales Unit 0440 Independence (#)		Purisima Point Unit 0427 Shell* (2004) Santa Maria Unit 0434 Shell* (2004)
Northern Santa Maria Basin Area:			
	San Miguel Field 0409 Shell* (2002)		Lion Rock Unit 0396 Shell* (1999) Point Sal Unit 0422 ORYX* (2003)
TOTAL PLATFORMS: 23 + OS&T	3	1	7

Year- anticipated start of production #- do not anticipate installation

* Operator (Platform Name Unassigned)
** Estimated numbers and start-up dates of platforms are revised as information becomes available.



PACIFIC OCS REGION PLATFORMS

EXISTING (YEAR)	APPROVED NOT INSTALLED (YEAR)**	PROPOSED (YEAR)**	POTENTIAL (YEAR)**
Channel Islands Area:			
Beta Unit 0296 Edith 0300 Ellen/Elly 0301 Eureka			Smugglers Cove Unit 0469 ARCO* (2001)
Santa Clara Unit 0205 Gail 0216 Gilda 0217 Grace			
Pitas Point Unit 0234 Habitat			
Dos Cuadras Field 0240 Hillhouse 0241 A, B, C			
Carpinteria Field 0166 Hogan, Houchin 0240 Henry			
Santa Ynez Unit 0188 Hondo/OS&T 0190 Harmony (1993) 0182 Heritage (1993)	Santa Ynez Unit 0193 Heather (2003)		
Hueneme Field 0202 Gina			

Explanation of Charts

Average Daily Production

This chart (page 4) shows the average daily for gas sales (MMCFPD) and oil production (KBOPD) projected over the 30-year period.

POCS Gas Sales Projections

This chart (page 5) shows the daily gas sales (MMCFPD) over the 30-year period. The volume of gas is divided into two parts:

1) Gas sales from producing, approved, and proposed platforms, and

2) Total gas sales from all producing, approved, and proposed platforms plus sales from potential platforms. The clear area on the chart represents the incremental sales anticipated from potential platforms.

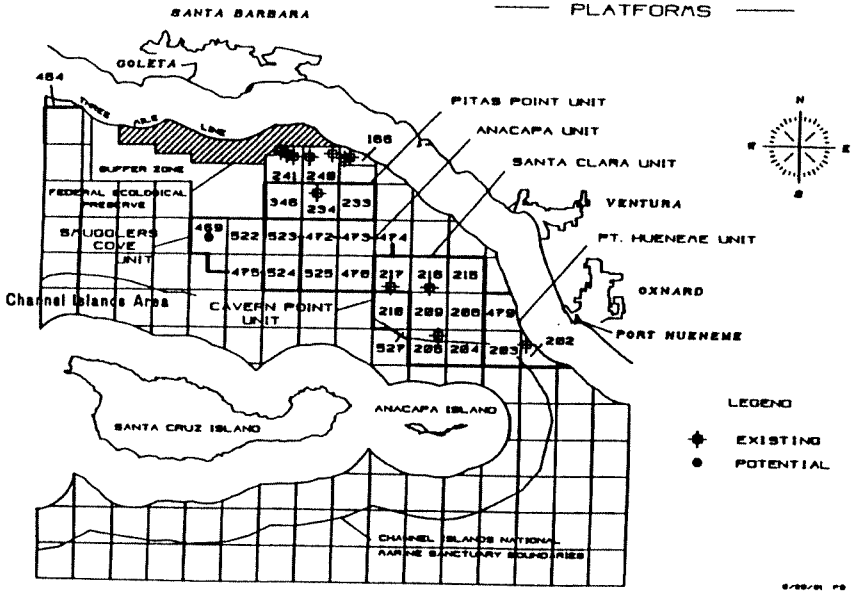
POCS Oil Production Projections

This chart (page 6) shows the relationship between the number of platforms projected to be in existence over the 30-year period and the daily volume of oil (KBOPD). The volume of oil is divided into two parts:

1) Oil from producing, approved, and proposed platforms, and

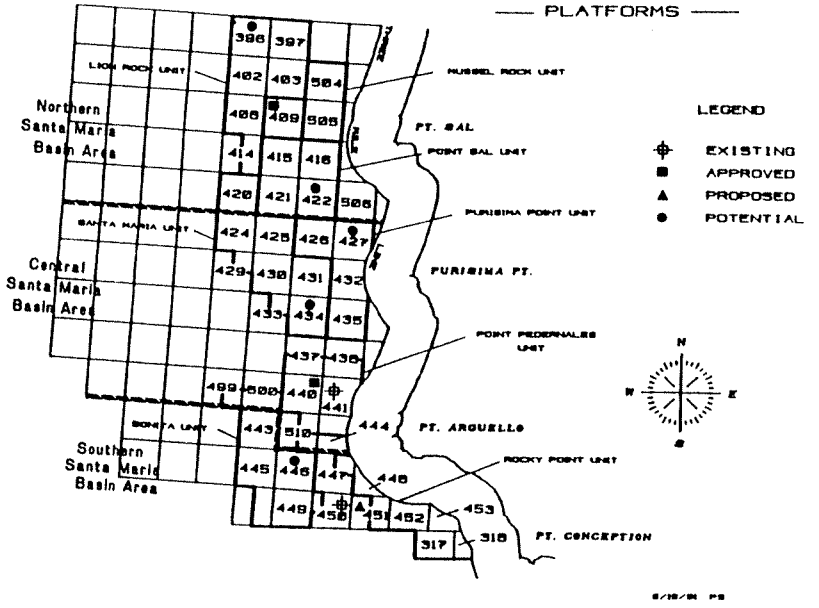
2) Total oil production from all producing, approved, and proposed platforms plus production from potential platforms. The clear area on the chart represents the incremental production anticipated from potential platforms.

EASTERN SANTA BARBARA CHANNEL
PLATFORMS



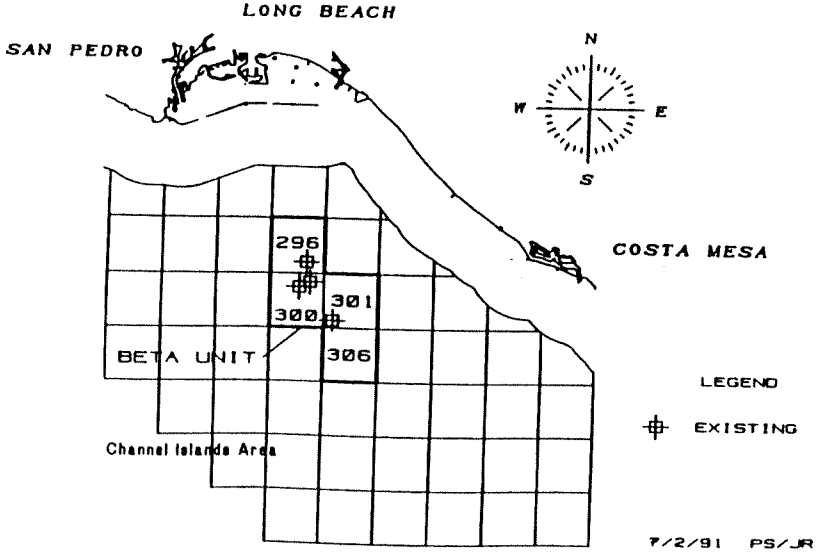
12

SANTA MARIA BASIN
PLATFORMS



10

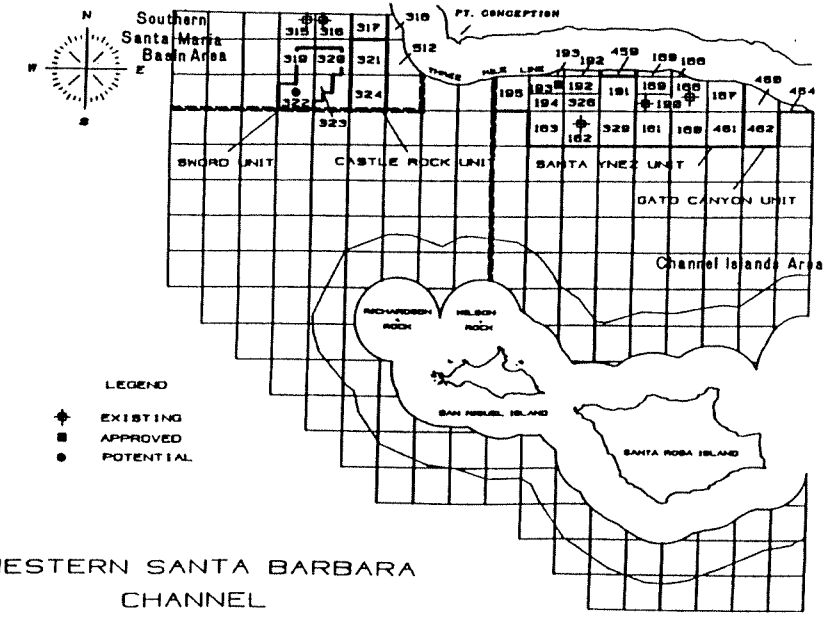
SAN PEDRO
PLATFORMS



7/2/91 PS/JR

13

WESTERN SANTA BARBARA CHANNEL



11

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Explanation of Map Legends

⌖	Existing Platform:	Currently installed and operating.
■	Approved Platform:	Platform is not installed but is covered by an approved Development & Production Plan (DPP).
▲	Proposed Platform:	Either a DPP has been submitted to the MMS but has not been approved, or a draft plan submittal is anticipated.
●	Potential Platform:	Hydrocarbon accumulations (liquid or gaseous) have been discovered on an existing lease and a schedule of events leading to production has been approved; however, no DPP has been submitted to the MMS.

United States Department of Agriculture | Forest Service | Cibola National Forest
2113 Osuna Rd NE, Suite A
Albuquerque, NM 87113
(505) 761-4650
(505) 761-4663 - FAX

Reply To: 1920

Date: March 22, 1994

Commander, U. S. Army Space and
ATTN: CSSD-EM-V (David C. Hasley)
Strategic Defense Command
P.O. Box 1500
Huntsville, AL 35807-3801

Dear Mr. Hasley:

The following comments are regarding the Theater Missile Defense Extended Test Range Draft EIS and are pertaining to National Forest System lands of the Cibola National Forest in New Mexico, adjacent to Ft. Wingate Depot.

1. Page 3-74, Threatened and Endangered Species. The Mexican spotted owl is described as possibly occurring occasionally on Ft. Wingate as a transitory species. Mexican spotted owls are not transitory and remain within a few miles from summer habitat to winter habitat. A Mexican spotted owl is known to winter near the Ft. Wingate Work Center located 1/2 mile from the Depot, with summer nesting occurring on Ft. Wingate. Substantial suitable and capable habitat is located on National Forest System lands and extends into the Depot.

Zuni fleabane is described as a federally endangered species and should be corrected to read that it is a federally threatened species.

Zuni milkvetch is described as a federally threatened species and should be corrected to read that it is a category C3 species, is a Regional Forester's sensitive species, and is due to be delisted in the future.

2. Page 3-77, Hazardous Materials/Waste. The region of influence should be expanded to consider the adjoining National Forest System lands in and adjacent to the flight path. Our concern in this area would be possible hazardous materials, in the event of a misfiring, unspent fuel and other materials might be spread over a wide area, probably not within the narrower flight path assumed during normal firings.

3. Page 3-78, Health and Safety. The region of influence should be expanded to consider the adjoining National Forest System lands. Ft. Wingate Work Center is adjacent to the Depot and Quaking Aspen Campground are within the missile launch hazard area and McGaffey Recreation Area is within a booster drop zone.

4. Page 3-81, Infrastructure and Transportation, Infrastructure, Fire Services. The Forest Service provides fire protection to National Forest System lands and in cooperation with the State Forestry Department for private lands within and adjacent to the Forest.

It is estimated that approximately 10,000 acres of private lands have been logged over during the last two years with a large accumulation of red slash existing over much of this area. Approximately 2,500 acres of this hazardous condition exists within the alternate first stage booster drop zone in the Zuni Mountains.

5. Page 4-76/77, Environmental Consequences, Biological Resources, same error as noted on page 3-74 under item 1. Aerial and ground retrieval of missile booster parts and debris as well as fire suppression operations could impact Mexican spotted owl and goshawk nesting activities. These operations will require close coordination with Forest Service and Fish and Wildlife Service personnel.

6. Page 4-76/77, species omitted from the list of threatened and endangered Category 1 and 2 species (additional species that occur, Table 0-4, see item 8) should be addressed in this section.

7. Page 4-82, Health and Safety. The Ft. Wingate Work Center, adjacent to the Depot, might have to be evacuated in the event of an unsuccessful launch. The Forest Service stations a fire protection crew at the Center, and it serves as a public contact point for firewood permits and information center. In addition there are three year-round resident families living at the Center.

The area designated as a missile launch hazard area and booster drop zone includes developed recreation sites and areas used for dispersed recreation. Turkey hunters frequent these area from mid to late April and then big game hunting occurs from August through early March. Evacuation of these widely dispersed recreation areas would be difficult due to limited resources of local law enforcement agencies.

8. Appendix, Table 0-4. Sensitive Species Known to Occur at FWDA. The heading of this table should be changed to, "Threatened, Endangered, and State Sensitive Species Known or Expected to Occur at Fort Wingate Depot Activity and Booster Impact Zones."

The following corrections should be made to this table:

Southwest willow flycatcher, show as C1 (scheduled to be listed as endangered during July, 1994)
Zuni milkvetch, show as C3

The following additions should made to this table:

Peregrine falcon, Falco peregrinus, Federal Endangered
Ferruginous hawk, Buteo regalis, Federal C2
Mountain Plover, Charadrius montanus, Federal C2
Spotted Bat, Euderma maculata, Federal C2

Occult little brown myotis, Myotis lucifugus occultus, Federal C2
Zuni bluehead sucker, Pantosteus discobolus yarrowi, Federal C2
Texas horned lizard, Phrynosoma cornutum, Federal C2

Add footnote that there might be potential black-footed ferret habitat on FWDA which may be historic range, however none have been recorded in recent history.

In past launch operations from Ft. Wingate, additional temporary tracking stations were required to be located on National Forest System lands. If any of these stations are needed that involve ground disturbing activities, additional NEPA analysis, biological evaluations, and cultural resource clearances would be required.

Sincerely,

JEANINE A. DERBY
Forest Supervisor

cc:
Mt. Taylor RD

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Santa Barbara County
Air Pollution Control District

March 23, 1994

Commander, U.S. Army Space and Strategic Defense Command
Attention: CSSD-EN-V – David C. Hasley
P.O. Box 1500
Huntsville, Alabama 35807-3801

RE: Draft Environmental Impact Statement for the Theater Missile Defense Extended Test Range

Dear Mr. Hasley:

The Santa Barbara County Air Pollution Control District (APCD), as the agency with jurisdiction over the air resources of Santa Barbara County, appreciates the opportunity to comment on the above-mentioned environmental document.

General Comments

1. Flight preparation and flight support activities may require equipment that need to be permitted by the APCD as well as require the application of Best Available Control Technology (BACT) and offsets. Such equipment might include, but is not limited to, fuel storage tanks and transfer systems, propellant storage tanks and transfer systems, diesel-fired engines and generators, paint spray booths, boilers, and use of solvents. The emissions resulting from the proposed project must be regulated in accordance with the Memorandum of Agreement (July 19, 1991) between Vandenberg AFB and the APCD.

Specific Comments

2. **Page 3-180, Regional Air Quality.** Santa Barbara County has been designated an attainment area for the State Hydrogen Sulfide (H_2S) standard.

3. **Page 4-191, Cumulative Impacts, second paragraph, second sentence.** Please clarify the pollutants associated with construction activities (i.e., NO_x, PM_{10}, and/or ROC).

Douglas W. Allard — Air Pollution Control Officer
26 Castilian Drive B-23, Goleta, CA 93117 Fax: 805-961-8801 Phone: 805-961-8800
A Division of the Department of Agriculture and Environmental Management

Again, the APCD appreciates the opportunity to comment on the draft EIS and looks forward to reviewing the responses in the final EIS. If you have any questions regarding these comments, please feel free to contact me at (805) 961-8838.

Sincerely,

Frances Gilliland

Frances Gilliland
Air Quality Specialist
Interagency Review Section

[illegible]

cc: Dave Romano, APCD Engineering Division
Project File (U.S. Army: TMD Extended Test Range at VAFB)
TEA Chron File

GOVERNORS OFFICE OF PLANNING AND BUDGET
Resource Development Coordinating Committee

Lynne N. Koga, CPA
Brad T. Barber
Rod D. Miller
John A. Harja
116 State Capitol
Salt Lake City, Utah 84114
Phone: (801) 538-1027
Fax: (801) 538-1547

March 25, 1994

U.S. Army Space and Strategic Defense Command
ATTN: CSSD-EN-V (Mr. David Hasley)
PO Box 1500
Huntsville, Alabama 35807-3801

SUBJECT: U.S. Army Strategic Defense Command: Theater Missile Defense
State Identifier Number: UT930408-030

Dear Mr. Hasley,

The Resource Development Coordinating Committee, representing the State of Utah, has reviewed this proposal. Comments received from state agencies are as follows:

Division of Wildlife Resources

We feel the Army needs to address the issues associated with both the launch site and booster drop zone. Potential disturbance to wildlife includes: noise at launch site and from sonic booms; retrieval of the booster section; securing the impact area; reconnaissance of the impact zone; and contamination from unexpended fuels. Time of year, method of retrieval, increase of long-term access to an area, reclamation of disturbed areas and methods used to secure and monitor the booster drop zone are issues to evaluate. Other issues include identifying hazardous materials associated with the launch site, booster section and tracking, and retrieval equipment.

Because of the inability to more precisely define the Region of Influence (ROI), we feel there is good reason to discuss the habitat and issue associated with the launch site and entire flight path. This entire area is subject to impact and should be considered part of the ROI. The Colorado and Green rivers are in close proximity to the launch site, booster drop zone and lie under the flight path. Species of concern that are associated with these rivers include wintering bald eagles, Colorado squawfish, bonytail chub, razorback sucker, humpback chub, roundtail chub and flannelmouth sucker.

Launch Site

In the documentation, the Army didn't provide identification of baseline wildlife habitat information for the area of the launch site and surrounding the launch site. Is new construction planned that will destroy some wildlife habitat? Our data is limited for the Green River site. Our data show the surrounding area as potential year-long antelope habitat, but only a few antelope occur in the vicinity. Potential ferruginous hawk habitat also surrounds the site. There may be other species in the area. The Army needs to provide that information.

Impacts from noise associated with launches should be discussed. Impacts could occur to nesting raptors, waterfowl using the Green River, wintering bald eagles and other species that may be identified as inhabiting the area. With the launch area in close proximity to the Green River, all hazardous materials should be contained on-site. Impacts to threatened, endangered or sensitive Colorado River endemic species should be considered.

Booster drop zone

The geographic areas of Hatch Point and Harts Point (identified booster drop zone study area) includes sage grouse strutting grounds; antelope fawning and critical winter habitat; critical and high priority deer winter range; desert bighorn sheep habitat, which should be considered critical habitat; as well as Mexican spotted owls, golden eagles, peregrine falcons, and red-tailed, Swainson's and ferruginous hawks. Raptor surveys conducted in 1992 included sightings of ferruginous hawks, golden eagles, peregrine falcons and red-tailed hawks.

The Division of Wildlife Resources Big Game Board authorizes Limited Entry Buck hunts in September, October and November in the Elk Ridge area and an antelope hunt on Hatch Point (mid-September for one week). Hunters are in isolated areas and may be difficult to locate for evacuation. Who's responsibility would evacuation be? Would there be compensation for people who's recreational activities are curtailed or prevented from this activity? For these particular hunts, hunters must hunt in specific areas during specific times.

The likelihood of a significant impact to the wildlife species mentioned depends on the activities associated with this project.. Seasonal timing is an issue that can create short and long-term impacts. Short-term impacts may be to individuals. These individuals may be lost to the population for

various reasons. Increased stress resulting in disease mortality, abandonment of critical habitats such as water, foraging areas, fawning or lambing areas and abandonment of nests causing mortality of egg or nestlings are examples of impacts due to disturbance. Lost individuals result in a long-term impact to the population due to reductions in the population's reproductive and recruitment capabilities. This type of impact could be significant in the case of threatened or endangered species. We recommend early formal or informal consultation with the U.S. Fish and Wildlife Service concerning threatened and endangered species.

The methods used to secure the booster impact area, monitor the impact zone to determine the impact sight and retrieve the booster section will determine the severity of disturbance. These are issues that must be evaluated. Building new roads to access the impact zone would be the most severe disturbance. The use of helicopters could provide a short-term impact to some of these species. Repeated flights by helicopters could be an impact to the big game species; but, in general, deer, antelope and desert bighorn sheep will be less disturbed by this method than ground retrieval that might include building more roads or opening up snow-closed roads. In contrast, helicopters could be an impact to nesting raptors due to collisions with individuals or egg or nestling mortality due to nest abandonment. Knowledge of the impact/retrieval zone and surrounding wildlife habitat issues should dictate the use of the least impacting retrieval method. Impacts at the booster drop zone and ROI are not limited to the retrieval stage. If repeated flights are necessary to secure the booster drop zone or provide reconnaissance, then this would be a potential source of impacts.

The seasonal dates of most concern are as follows:

Species/season	Date
antelope/fawning	5/15 to 6/15
antelope/winter	severe winter conditions
mule deer/winter	12/1 to 4/15
desert bighorn/lambing	4/1 to 5/31
desert bighorn/summer	water sources are critical
desert bighorn/rut	11/1 to 12/31
peregrine falcon/nesting	2/1 to 8/31
ferruginous hawk/nesting	4/10 to 6/15
Mexican spotted owl/nesting	2/1 to 8/31
sage grouse/nesting & brooding	3/15 to 6/30

Guidelines to reduce the impacts of seasonal disturbances include 0.5-mile buffer zones for most raptor species and 1-mile buffer zone for peregrine

falcon eyries. If activities are expected to occur between February 1 and August 31, nesting raptors will be an issue. Because of the potential for nest abandonment, surveys should be conducted prior to these activities occurring. The Division can provide guidance regarding these and other surveys if needed. Impacts to habitat within a 2-mile radius of a sage grouse lek should be considered significant. All water sources are considered critical habitat and disturbances should be avoided near these sources during the antelope fawning period and yearlong for desert bighorn sheep.

Indirect and direct impacts and cumulative impacts associated with this proposed action need to be thoroughly evaluated. Opening new access or improving access to this project area is an issue that must be addressed. Any retrieval method that would result in long-term increased access could cause significant impacts due to the sensitive nature of these species. A detailed analysis of direct and indirect impacts due to opening roads needs to be conducted. Impacts as a consequence of increased human activities can be reduced by reclaiming and reseeding new roads. No road construction would be the best means to minimize impacts. Reclamation of all disturbed areas should be a standard incorporation. Cumulative impacts associated with other activities occurring in the project area include oil and gas exploration and development, recreation activities and grazing.

Consideration should be given to mitigation potentials, such as: choosing less-damaging paths for the missiles to follow by looking at terrain and habitat types and avoiding highly sensitive habitats in the flight path; minimizing impacts by choosing low-impact retrieval methods as discussed above; minimizing disturbance by avoiding launches during critical seasons as listed above; conducting reconnaissance of expected flight paths immediately prior to launches to look for sensitive wildlife activities such as nesting, lambing, etc; doing some water or habitat developments to improve wildlife habitat, perhaps outside of the Region of Influence, and minimize some of the cumulative impacts to wildlife.

The Division is willing to work with the Army throughout this EIS process to provide any wildlife information we can. If GIS mapping is required, there will be a charge. For specific information, they should contact the Habitat Manager, Ken Phippen, in the Southeastern Region office at (801) 637-3310.

State Lands and Forestry

A right of entry from the Division of State Lands and Forestry will be required if the Green River Launch Site is to be used. Our preference would be for a one time payment up front for all trust land acreage in the potential Final Drop Zone for 1994-1999.

The three to six mile radius of booster impact zones (page 3-37) likely will include state school trust lands. these lands are managed by the Division to generate revenue to support education in Utah. The assessment of significant impacts at booster impact zones resulting from launches at the Green River Launch Complex (GRLC) appear to focus on disruption of recreational pursuits (pages S-3, 2-96, 4-280). More that just recreation is occurring on land in booster impact zones. For example, the oil and gas exploration and development occurring in the Kane Spring area is an important revenue generating activity. This area includes Booster Impact Zone A (pages 2-36). The assessment of significant impacts would be more complete if Booster Impact Zones A and B were included in the Region of Influence for the discussion on land use for the GRLC (section 2.1.2.8, page 3-63). This would allow for an assessment of the impacts from disrupted mineral exploration and development activity.

Governor's Office of Planning and Budget - Demographic and Economic Analysis

The Governor's Office of Planning and Budget (GOPB) has concluded that the socioeconomic analysis does not provide sufficient information about either the economic impacts of or the magnitude of disruptions caused by launching missiles from Green River, Utah. The final EIS should be more comprehensive and inform decision-makers and the public about the broader economic, fiscal, and cultural issues associated with missile testing in Utah. Specifically, the draft EIS should include a more thorough discussion and analysis about, 1) the ultimate economic impact, 2) the effect on tourism activity in the area, and 3) the magnitude and character of the disruptions that will occur as a result of the testing. Each of these concerns is described separately below.

Economic Impact

The DEIS provides two measures of the economic impact of the testing: the direct restaurant and motel expenditures that would be made by launch personnel ($1.2 million) and the employment that would be generated from

construction of facilities (40 people over two months). While these estimates may be reasonable, they are incomplete and presented in a manner that denies readers and decision-makers a clear understanding of the true economic impact. The DEIS misrepresents the economic impact by ignoring tourist displacement and excluding the impacts of construction jobs, in-state construction purchases, ties with Hill Air Force Base for the shipping of missile components, and the indirect and induced impacts. The DEIS could be improved by incorporating the following:

1) Including only that portion of restaurant and motel expenditures that are made by missile testing personnel that are over and above expenditures that would occur during typical visitation. From an economic perspective, the only impact that is relevant is the new activity that will occur. This point is not made clear in the DEIS.

2) Recognizing in the economic impact section that testing that occurs in the prime tourism season will certainly crowd-out tourists. The DEIS notes that camping areas should help to minimize the competition between launch- and tourism-related demands (p. 4-67). During prime tourism season this is entirely incorrect, since most camping areas are already full. The notion of substituting camping for hotel accommodations also fails to recognize that many visitors that use hotels do not camp or may not be prepared to camp after they find no rooms are available.

3) Estimating the incremental earnings and employment that would be generated because of increased economic activity from the launch. The DEIS includes only expenditure and construction job measures of economic activity. These measures are inadequate because they don't show the total job and earnings impact on the impacted area. Construction impacts should include not only the anticipated jobs, but the effect of construction purchases, to the extent that they occur, in the local economy. Impacts should also include estimates of direct and indirect activity.

4) Expressing the economic impacts in a more straightforward manner. Readers should be able to look at one page in the environmental consequences section and find the total estimated expenditures, employment, and earnings from the proposed alternative. Currently, the construction job impacts are not even noted in the environmental consequences section, but are buried in the description of alternatives in Section 2.0.

5) Summarizing the fiscal impacts of the missile testing on the affected area. Local government budgets in Grand and Emery County have been significantly affected by the downturn in the natural resource industry. These counties are increasingly more dependent on tourism revenues. The missile testing will bring additional motel, eating and drinking, retail trade, and other economic activity. Much of this activity is taxed and should be quantified for the final EIS. These taxes include transient room tax, sales tax, property tax, eating and drinking tax, fees, and charges. The final EIS should specify whether the Army plans to directly compensate local governments for public safety or any other public service provided locally during launches. The final EIS should provide state and local government with information about any additional costs that government may incur because of missile testing.

6) Providing any other relevant information about economic impacts such as compensation that may be paid to private land owners and permittees affected by the launches, the impacts of re-routing air traffic during launches, and the oil and gas potential of state lands within drop sections.

Tourism Activity

While the DEIS notes the importance of the tourism industry to the impacted area and lists visitor counts in the Appendix, the role of tourism in the economy should be more completely described in the Affected Environment section and the future impacts on tourism should be more carefully analyzed in the Environmental Consequences section. The final EIS should make it eminently clear that certainly in Moab, and increasingly in Green River, tourism is a major contributor to the economy and culture of the area. This is extremely relevant since planning and decision-making in the area, including choices about the missile testing, must recognize the importance of tourism in the area.

Canyonlands and Arches National Park alone attracted 1.2 million recreation visits during 1992. Visitation at these two national parks has increased by 10% per year since 1981. Room rents in Grand County increased at a rate more than double the state average over the past decade. The travel, tourism and recreation industry is the largest provider of jobs in the Grand County economy, accounting for nearly 27 percent of all jobs. This is more than twice the share tourism represented a decade ago. The growth, popularity and/or success of mountain biking, foreign tourism, river recreation, marketing efforts, and the Utah Film Commission have all helped Grand County emerge as the second most tourism dependent county

in the state. Communities in close proximity to Moab, such as Green River, will likely experience similar changes over the next decade.

The point is that the DEIS must recognize this dramatic transformation and describe how missile testing adjacent to and within this tourism mecca will impact tourists and the local communities. Even if this relationship between tourism and missile testing cannot be precisely quantified, it should, at a minimum, be described and issues relating to the conflicts highlighted.

Magnitude of Disruptions

The DEIS inadequately describes and entirely understates the magnitude and character of community disruptions that will occur because of missile testing. Restricting recreational access to Canyonlands National Park, Dead Horse Point State Park, and adjacent lands is a significant disruption. The DEIS provides no estimates of how many travelers will be affected or analysis of the nature or character of the disruptions. The final EIS should more clearly describe how long disruptions will last; how visitors will be notified; how much advance notice people will receive; and how the public will have input on when disruptions occur. The final EIS could be improved by providing the reader with a likely disruption scenario that describes how tourists will be impacted.

Similar issues are relevant to the closure of I-70. How long of a wait will occur, how many vehicles will this affect, how will travelers be notified, and what will be the impacts on alternative routes? It is not entirely unreasonable for the public to expect the EIS to estimate the economic cost in terms of man-hours that will occur because of closing I-70. I-70 is a major east-to-west route for interstate and intrastate trade. The distribution of goods from regional economic centers such as Grand Junction, Salt Lake, Price, Richfield, St. George and others will be impacted during missile launches. The DEIS simply does not provide enough information about the nature and magnitude of disruptions because of road closures.

Governor's Office of Planning and Budget - Planning

In the Draft EIS, the Army evaluated four potential launch locations. Each having its own peculiar set of strengths and weaknesses. In the particular case of the Green River - Fort Wingate launch alternative there were significant land use and health safety impacts identified. Based on public

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comments received so far, the Army has indicated that they are evaluating two significant changes. One is to move the launch site location (and thereby reduce the launch hazard area) with the possibility of keeping I-70 open during a launch. The other is a change in the flight trajectory of the target missile allowing for a potential change in the stage 1 booster drop zones. Each of these changes is designed to mitigate significant impacts previously identified in the Draft EIS and public comment.

On the surface it appears that the Army is being responsive to the needs of the State and that this seems to be what the State wants. However, the problem with this approach is that the new launch site and booster drop zones have not been identified at this time. Consequently, state agencies and the public are not given the opportunity to comment on additional potential impacts.

Once the new alternative locations have been evaluated, the Army should republish the Draft EIS and conduct another comment period after the State has had the opportunity to study the new proposal and before publishing the Final EIS.

Governor's Office of Planning and Budget - Science Advisor

In the Draft EIS, little discussion of the probability and potential effects of non-routine type testing and errors was provided. For example, little mention was made of the cases proposed for later phase testing involving multiple target and/or defensive missile flights to validate specific defensive missile performance. What is the additional risk associated with multiple target firings and therefore misfires? If the decision is made to conduct these tests what data does the Army have of the trajectory and flight paths of multiple targets? Will significant statistical data be gained by the inclusion of these tests?

No data on the reliability of the models and therefore the predictability of the trajectory and flight path of the missiles was provided. The possibility of errors was given with planned early flight termination of the missile mentioned. What is the probability of the need for the flight termination system and what will be the destination of material which falls as a result of early termination? Do the current data validate that off course termination tests will not impact areas not defined as the ROI or flight path?

The same concerns are involved in the use of other extended range test flights with bomblets. The inert materials will still have effect on the destination location, i.e. in the case of the dispersion of simulant which may be necessary for early termination tests. Has testing or modeling of this dispersion be done? It has not been provided in the Draft EIS.

Has the potential for misfire or off course flight of the meteorological Viper IIIA rockets been included in the determinations of risk and impact?

The Committee appreciates the opportunity to review this proposal. Please direct any other written questions regarding this correspondence to the Utah State Clearinghouse at the above address or call Carolyn Wright at (801) 538-1535 or John Harja at (801) 538-1559.

Sincerely,

Brad T. Barber
State Planning Coordinator

BTB/ar

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Michael O. Leavitt
Governor
Ted Stewart
Executive Director
Courtland Nelson
Division Director

State of Utah
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF PARKS AND RECREATION

Dead Horse Point State Park
PO Box 609
Moab, Utah 84532-0609
801-259-2614

March 25, 1994

Commander
U.S. Army Space and Strategic Defense Command
Attention: CSSD-EN-V, David C. Hasley
P.O. Box 1500
Huntsville, Alabama 35807-3801

Dear Mr. Hasley:

Please except the following comments on the draft environmental impact statement regarding the proposed Theater Missile Defense Extended Test Range. My comments will deal strictly with the area effected by the Green River, Utah to White Sands, New Mexico flight path.

We are extremely concerned that no other land based alternative was found and included in the DEIS. The addition to the proposed flight path of booster drop zone A, just north of Dead Horse Point State Park and Canyonlands National Park, is of great concern to the Utah Division of Parks and Recreation. This drop zone was not mentioned during the scoping process. The use of this zone will have a significant negative impact on the recreational users of the area. Even though the visitation does drop off during the winter months, each visitor that is stopped during a closure, even for an hour, may lose the only chance that they may have in their lifetime to visit these parks and recreation sites. Closures of up to 12 hours are unacceptable. Studies have shown that if a person has a negative experience, he or she will relate that negative experience to at least 10 other people.

Only 15 to 20 % of Dead Horse Point State Park's visitors come from within the State of Utah. Approximately 25% of the visitors come from Europe; the remainder come from all over the United States. Many of them come directly from their homes to the recreation sites. Because of this, I do not see how you can get them prior knowledge of closures. I would not consider a sign at a backcountry road or trailhead prior knowledge. The evacuation of people already in the area is a drastic circumstance. In section 3.1.4.8 of the DEIS, the importance of recreation to the area is discussed. The possible erosion of the area's image as a recreational destination needs to be considered.

These concerns are also valid for drop zone B. We recommend that other alternatives be found, so that this important recreation area will not be adversely affected.

Sincerely,

J. Rockford Smith
Park Manager
Dead Horse Point State Park

THE
NAVAJO
NATION

P.O. BOX 308 • WINDOW ROCK, ARIZONA 86515 • (602) 871-4941

PETERSON ZAH
PRESIDENT

MARSHALL PLUMMER
VICE PRESIDENT

March 28, 1994

David Hasley
U.S. Army Space and Strategic Defense Command
Attn: CSSD-EN-V
P.O. Box 1500
Huntsville, AL 35807-3801

Dear Mr. Hasley,

The Navajo Environmental Protection Administration (Navajo EPA) has reviewed the Draft Environmental Impact Statement (DEIS), for the Theater Missile Defense (TMD) Extended Test Range, dated January 1994. This DEIS considers four alternative test ranges, three of which are over-water ranges, and one over-land test range: the White Sands Missile Range (WSMR), that includes Navajo Nation lands. The purpose of a DEIS is to present a detailed, but objective, study of a proposed action and a detailed, but objective, study of alternatives to this proposed action, so that decisionmakers can select the action that poses the least threat to the public health and the environment. In order to help the agency select the route of least damage, the text of a proper EIS shall consider every *significant* aspect of the environmental impacts of the proposed action and its alternatives. By not rigorously considering any alternatives to the WSMR proposed action, the TMD has failed to consider all relevant environmental and social impacts, and has failed to meet the letter of the law.

The DEIS is Fatally Flawed

According to Title 40 Code of Federal Regulations (CFR) 1502.2 (g), the "(e)nvironmental impact statements shall serve as the means of assessing the environmental impact of proposed agency actions, rather than justifying decisions already made." The DEIS clearly states the need for an over-land range to collect missile performance data from recovered debris (Section 2.2, page 2-32 and Section 2.5, page 2-95). On page 2-32, the statement is made that in order to, "validate the effectiveness of interceptors and surface-to-surface missile systems, it is desirable to use overland test ranges for some, but not all, tests . . . The overland test range must be large enough to safely and effectively conduct these types of tests . . ." Clearly, TMD will select an over-land site in addition to, or instead of, any over-water range. According to 40 CFR 1502.14, the regulations require that the Affected Environments and the Environmental Consequences of the proposal and the alternatives should be presented "in comparative form, thus sharply defining the issues and providing a clear choice among options by the decisionmaker and the public." Since only one over-land site is presented, it is clear that the TMD has selected the WSMR proposed action. In this light, the DEIS does not comply with the regulations, and the document is a paper exercise to justify a decision already made. This failure to present any alternatives to the proposed action is a violation of the National Environmental Policy Act of 1969, as amended (NEPA), because Section 102 (2) (B) (iii) specifically states that alternatives shall be studied. In view of this violation of NEPA, which is a procedural law, the Navajo EPA, speaking for the Navajo Nation, concludes that the omission of overland alternatives in the DEIS is a fatal flaw.

The DEIS Does Not Discuss All Overland Alternatives

Title 40 CFR 1502.1 states, "(An environmental impact statement) shall provide full and fair discussion of significant environmental impacts and shall inform decisionmakers and the public of the reasonable alternative which would avoid or minimize adverse impacts or enhance the quality of the human environment." *Full and fair discussion* has not taken place due to the fatal flaw, because the public was not given the opportunity to evaluate, through the NEPA process, more than one overland site.

However, at a meeting on March 8, 1994, representatives from the Navajo EPA were informed by TMD representatives that other overland ranges are being considered, but are entirely within military installations. Title 40 CFR 1502.2 (e) states, "(t)he range of alternatives discussed in environmental impact statements shall encompass those to be considered by the ultimate agency decisionmaker." If other overland alternatives are being considered, they should be discussed within the DEIS, and not left to be discovered through casual conversation (Personal communication, David Hasley, March 8, 1994).

In this manner, the DEIS violates 40 CFR 1502.14 (b), which states that "agencies shall . . . devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits." If firing the missiles within WSMR is a DEIS alternative, then TMD should *devote substantial treatment* to that alternative, so the public and reviewers *may evaluate their comparative merits*.

The DEIS Does Not Adequately Discuss the Alternatives Eliminated From Further Study

According to 40 CFR 1502.14 (a), the DEIS should "rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed studies, briefly discuss the reasons for their having been eliminated." Five of the eleven initial

(over-land) alternatives are identified; however, the requisite brief discussions were lacking (DEIS, p. 2-95). This lack of information makes it impossible to compare the WSMR test range with the eliminated alternatives.

The DEIS Does Not Adequately Discuss the Significant Environmental Impacts

The Navajo EPA has determined that the WSMR alternative will conflict with Navajo traditional beliefs and culture, and will adversely impact the Navajo traditional lifestyle. Also, the WSMR alternative will jeopardize the public safety and welfare, economy, and environment of the Navajo Nation. These significant impacts were not reflected in the impact chart on page S-4.

Undue Risks and Public Safety Hazards: The WSMR alternative poses undue risks and public safety hazards that may cause fatalities from debris as a result of a flight termination in the proposed flight corridor, which begins north of Shiprock, New Mexico, and extends south of the Alamo Navajo Community. These tests are being conducted to discover how these missiles act under realistic conditions (DEIS, Section 2.1.1, p. 2-1). Since you can only speculate on the control that TMD has over these missiles, TMD cannot guarantee the safety of any of the local communities. In fact, the TMD would not have knowledge of the flight conditions until after launches of meteorological instruments. In Section 2.1.1.3, p. 2-12, each TMD target and defense missile shall be preceded by one or more weather rocket or balloon launches. These weather devices would then fall to the ground either within or outside of the LHA. There is no discussion of the environmental impacts of these falling weather device payloads. Since there is no discussion of such impacts, I conclude that TMD has no idea where the weather device payloads will crash, nor how people will be impacted.

The proposed booster drop zones also pose additional undue risks and public safety hazards from massive booster debris and residual fuel, which could potentially cause fatalities in or near the Ramah Navajo Community. As the United States of America is not at war, any civilian, or military, loss of life is unacceptable. At the March 8, 1994 meeting, you indicated that the drop zones could be moved. You also mentioned that TMD is honoring a Bureau of Land Management request to move the booster/debris drop zones away from wildlife conservation and wilderness areas. If TMD is so moved to conserve animal life, then the protection of human life should be an even greater impetus to move the drop zones far from human habitation. At Arches National Monument, the National Park Service has requested relocation of the booster/debris drop zones associated with the Green River Launch site. If the TMD is willing to relocate these zones to preserve Navajo Arch Rock formation, then the preservation of the Navajo people should be an even greater impetus. Since the Navajo Nation places a higher value on human life than on animals and rock formations, the drop zones should be moved.

Termination of a Flight shortly after Launch: Should a flight termination occur immediately after launch, the 4-6 second safety margin is hypothetically guaranteed by an automatic response system. However, the terminated missile and associated debris may continue along an undetermined ballistic trajectory. These materials could travel outside the LHA and into nearby communities; thereby, compromising the public safety. The DEIS fails to mention how much reaction time is needed to terminate an off-course missile travelling toward the town of Fort Wingate.

Termination of a Flight After It has Exited the Vicinity of the LHA:
The debris and aerosol plume could extend along the track of the prevailing wind as presented in Appendix E (DEIS, pp.E-10 and E-11).

Health and Safety at Fort Wingate Community: The DEIS fails to fully consider the community of Ft. Wingate – which is very close to Fort Wingate Depot Activity – an estimated three miles from the proposed launch site. In the DEIS states "[t]he ROI for health and safety at FWDA includes all of the facility and the immediate off-base areas which could potentially be affected in the event of a flight termination during launch activities" (Region of Influence) (page 3-76). The last paragraph on page 4-82 acknowledges the risk to the public health and safety of community residents. The DEIS fails to investigate and analyze the impact and consequences of air-borne chemical hazards (HCl) on adjacent schools.

The obvious kink shown in figure 2.2-12 illustrates that the LHA avoids the community of Fort Wingate. Should a termination occur during launch activities, the debris trajectory could continue beyond this artificial LHA boundary. It should be noted that 1225 students and 389 teachers and staff of the Fort Wingate Unified School District are well within a three mile radius from the proposed launch site. It should be noted that this community has three schools within the LHA *radius*, but not necessarily within the LHA *area*:

Ft. Wingate High School	700 students	200 staff
Ft. Wingate Elementary School	500 students	155 staff
Ft. Wingate Head Start School	25 students	4 staff

Please be aware that the Fall semester enrollment at the High School and Elementary School will increase by 100 students each. This area is predominantly populated by children. Telephone discussions with the Principal of each school have revealed that they take the safety of their pupils very seriously, and that they would not have the resources to evacuate all the children on short-term notice. The TMD does not realize that these are boarding schools, where the students are present during the day, the night, and sometimes on the weekends. The Elementary School sponsors six major community events: festivals, fairs, PTA Conferences and graduation; at which time friends and relatives come in from the outlying areas forming crowds of a couple thousand people.

Children are particularly sensitive to hazardous chemicals (such as HCl, DEIS, p. 4-83). Their immature immune systems are easily compromised by even small amounts of hazardous chemicals. Also, children are actively growing, so their cells replicate faster than those of mature adults, such that mutations and cellular damage are transmitted more quickly than in adults. The Navajo EPA would not want any citizen to be *accidentally* exposed to toxic concentrations of HCl.

Socio-Economics: The DEIS states that citizens located within the launch hazard areas and booster drop zones will be protected by evacuating them prior to the 80 to 100 planned launches. The Navajo Nation believes that repeated evacuation of its members and citizens will pose tremendous economic hardship resulting in economic loss. Singling out the Navajo people to bear the burden of this project will only create social stress and inflame racial tensions.

The Army intends to enter into some form of agreement with only those citizens within the booster drop zones. Others will probably have to relocate on their own at their own expense. I question how the Army intends to deal with citizens who refuse to enter into an agreement with the U.S. Army, and refuse to evacuate from the potential booster/debris drop zones. Would the launch activities proceed even if citizens refuse to move out of the potential drop zones? Would the military declare "eminent domain" and force people out of these areas, abandoning their homes to looting, their livestock to thirst and starvation, and their farms to drought? The tribe does not have the money to compensate members for looted and vandalized property, for dead livestock, or for withered food crops.

The tribal members rely on their homesite land and their grazing-permitted land to support the crops and livestock that are raised for their food. Federal Welfare, Food Stamp, and WIC programs are used extensively on the Navajo Nation to supplement the meager food supply that can be raised in these desert soils. Your proposed plan of action could indeed undermine the subsistence economy in the area and cause an increase in poverty, but this is not listed as a significant impact. The DEIS does not provide any cost-benefit analysis (40 CFR 1502.23) to prove this would not happen. The DEIS does not present any mitigation plan for this significant impact, nor is this reflected in the impact chart on page S-4.

Economic Loss: The use of the WSMR and the repeated evacuations would greatly impact and hinder further Navajo industrial and economic development along the proposed flight corridor route and the drop zones. The Navajo Nation relies heavily on the tourist trade for capital investments and individual cash income. Such trade would be disrupted due to 1) fear of accidental death or dismemberment on the part of tourists, and 2) reducing and hindering

transactions between the Navajo artists and craftsmen with customers eager to purchase genuine Navajo rugs, silverwork, art, etc. My staff noted that your launches will not occur during the Gallup InterTribal Ceremonials. This small concession does not recognize the fact that people need income during the other eleven months of the year. The DEIS has failed to consider the Navajo Nation Fairs along the flight corridor (also), as well as numerous Chapter fairs and religious ceremonials. Nor does the TMD recognize the fact that it is culturally acceptable for people to sell their merchandise out of the back of their vehicle or set up a booth along the roadside, at rest stops, and other places tourists frequent. Closing the roads and evacuating the people will significantly impact cash income from tourism upon which the Navajo people rely. Last year, tourists brought 3.2 billion dollars into New Mexico (breakdown by county not available). The TMD proposed action will reduce that figure. Since TMD did not do any cost-benefit analysis (40 CFR 1502.23) based on the public perception of a Public Bad (as opposed to Public Goods and Services) I do not know the economic loss in dollars. However, I do not need a resource economist to tell me that the TMD expects the Navajo Nation to absorb the *Social Marginal Cost* of your proposed action. These significant socio-economic impacts are not reflected in the impact chart on page S-4.

In addition, the price of land devalues due to a drop in *the willingness to pay*. This is tied to the insurance coverage policies: they will not insure for damage due to missile debris. This is also tied to bank mortgages: 1) banks would lose loan monies if the federal government declared eminent domain (which happened in the creation of WSMR), and 2) land values would fall, such that banks could not recoup the value of the loan.

Lack of Necessary Resources: The Navajo Nation believes that evacuation of its members and

citizens in the proposed booster drop zones would result in tremendous logistical resource requirements, which the Navajo Nation does not have. The proposed DEIS states that local resources and authorities such as rangers and police will be utilized to evacuate the people. The Navajo Nation is facing a 10% cut in its budget which will further reduce the number of FTEs for Tribal Rangers and Police officers. The Navajo Nation is unable to assist federal authorities in any evacuation due to extremely limited financial and human resources.

Hazardous Materials/Waste and Potential Human Impacts: Once hazardous materials are introduced into the environment, humans can be impacted through environmental and biological pathways. An accidental release of unburned solid propellant such as ammonium perchlorate would be an explosive event. An accidental release of hypergolic propellants such as hydrazine usually results in fire. The severity of an accidental release of oxidizers like nitrogen tetroxide is dependant upon the release location. Nitrogen tetroxide is hazardous to all forms of life at high concentrations.

These chemicals would likely concentrate on or near the soil surface, where they would be available for plant, crop, and animal uptake. The Material Safety Data Sheets (MSDS) indicate that some of these chemicals are carcinogenic and can concentrate in the liver and kidneys. Since the Navajo people eat their crops and animals, they would ingest these toxic (halon, hydrazine) and carcinogenic (hydrazine) chemicals. The amount ingested would vary with regard to water solubility, aeolian dispersal, plant biocompatability, and animal metabolism. Another pathway is the inhalation of hazardous chemicals adhering to dust. Inhalation occurs just by being in the immediate and adjacent areas. Farming and herding involve stirring up the soil, so Navajo people working on the land will inhale additional

amounts of these hazardous chemicals attached to dust and soil particles. The potential for ingestion and inhalation of hazardous chemicals by humans is a significant impact to the public health that is not reflected in the impact chart on page S-4.

Land Use: The Navajo Nation opposes the proposed use of the Fort Wingate Depot Activity as a launch site. The Navajo Nation claims the Fort Wingate Depot Activity as part of the its aboriginal land claim, along with other interested citizens and local communities intends to reacquire and utilize this land in the future. The proposed launch activities interfere and conflict with the local citizens' and Navajo Nation's practical interests. In addition, the proposed launch activities could adversely impact the land and environment in this area, possibly rendering this land unsuitable for future utilization in the traditional Navajo lifestyle: herding and farming.

Another concern raised at the recent public hearings held in the surrounding area, the Navajo EPA observed that every concerned citizen that had the opportunity to voice their concern adamantly opposed the proposed TMD project. The Ramah Navajo Chapter recently passed a resolution (number 029416) opposing this alternate missile range. The Navajo EPA does not support a project that the local citizens object to and do not want.

Cultural Resources: A significant number of Navajo cultural sites exist on the Fort Wingate Depot Activity. Revealing the locations of the sacred and prehistoric habitation sites, would merely provide a road map for looters and accelerate the plundering of our cultural heritage. Currently, the Navajo Nation is collecting archaeological evidence to prove our aboriginal claim to the Fort Wingate Depot Activity lands. Desecrating and looting prehistoric habitations will

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remove, for all time, invaluable artifacts that substantiate our land claims. Also, the Navajos, Zunis, and other tribes look forward to resuming the pilgrimage to the sacred Salt Site located on this land. Access to this site was denied by the military when Fort Wingate was created; this negative treatment of traditional native religious practices must cease. Impeding and denying access to this sacred site, and the other existing sites, will be a violation of federal law, when the U.S. Senate passes Bill 1021, the Indian Religious Freedom Act.

During each season, different ceremonies take place. Almost all of these ceremonies must take place at a specific time of year. These ceremonies are not randomly scheduled. They are scheduled according to a traditional rota, a fixed religious calendar/order. The DEIS does not acknowledge or assess any impacts on these religious rites. If the TMD interrupts or prohibits any of these ceremonials, the patient, his/her clan, and the local community are denied the spiritual benefits and nourishment of the religious rite. This will also be a violation of (Senate Bill 1021) the Indian Religious Freedom Act.

Biological Resources: The manner in which the endangered species on the Fort Wingate site are presented is inconsistent with the presentation of the other sites (40 CFR 1502.14). The presentation does not emphasize that the Fort Wingate Depot Activity is a raptor nesting area.

Soils: Due to the semi-arid (less than 11" annual rainfall) climate, propellant chemical contaminants would not leach to a great depth in the soil profile. Also, aeolian dispersal presents the potential for incorporation into the soil profile in the A Horizon (vesicular). On farm plots, plowing would mix these chemicals into the A_p Horizon (plowed), thereby, making contaminants available for plant uptake. I realize this does not coincide with the DEIS soil studies.

The DEIS soil leaching studies performed on these chemicals were conducted in Kaui, HI (personal communication, David Hasley, March 8, 1994). Due to the large difference in the climatic regimes, soil types, and underlying bedrock, there are vastly different amounts of precipitation, soil profiles and soil drainage, and hydraulic conductivities, respectively. The differences are so pronounced that data generated in Kaui cannot rationally be applied to Ft. Wingate. Therefore, the DEIS predictions of these chemicals in the soil are invalid. Our best estimate of the DEIS chemical behavior is based on the behavior and persistence of uranium tailings left over on the Navajo Nation from the Cold War. The Navajo EPA believes that there will be inhalation and ingestion pathways to human contamination. The DEIS did not sufficiently investigate the aeolian and dust-borne pathways. Mitigation should be a consideration.

Mitigation by soil-washing with solvents is unfeasible due to the large area being effected. Incineration is impractical due to the naturally-high clay content, and the extremely high cost of pre-incineration shredding. Without mitigation or remedial action these hazardous chemicals will contaminate the A Horizon. Since the local soils cannot be reasonably nor economically mitigated, I believe this is a significant cumulative impact to the local soils that is not reflected in the impact chart on page S-4.

Air Quality: Hydrogen Chloride (HCl) is one of the Hazardous Air Pollutants listed in Title III of the Clean Air Act, and has low toxicity levels, with a ceiling limit of 7.5 milligrams per cubic meter (mg/m^3). The DEIS states that the results from the air quality modeling indicated that the Short-term Public Emergency Guidance Level (SPEGL) for HCl would be exceeded for distances at 0.6, 1.9, and 3.1 miles from the launch site. The DEIS states that the public

would not be exposed to concentrations greater than 1.5 mg/m^3 of HCl if a 4.3 mile radius Launch Hazard Area (LHA) is maintained. If this 4.3 mile radius LHA is not maintained, due to unforeseen circumstances, then the potential for a significant impact to air quality exist, and public exposure to high concentrations of HCl is possible.

Similarly, Aluminum Oxide (Al_2O_3) has a low toxicity level with a time-weighted average exposure limit of 10 mg/m^3. High concentrations of Al_2O_3 will remain in or near the launch area after launch activities or as a result of a pad fire or misfire. Again, the concentration depends on the distance from the launch pad and the meteorological conditions. The DEIS does not specify what type of mitigation measures will be taken if such mishaps occur.

The DEIS indicates that the proposed TMD activity has the potential to release 6.0 tons of Freon 11482 (Halon 2402) into the atmosphere. Currently banned by the EPA, Halon 2402 is listed as a Class I, Group II, ozone-depleting chemical, with a ozone-depleting potential of 6.0. At our previous meeting, you stated that the military is not subject to the US EPA ban on CFCs. The DEIS proposed action would only use current stockpiles, and no new Halon 2402 would be manufactured. Regardless, any amount of Halon 2402 released as a result of launch activities contributes to further depletion of the ozone layer.

Noise: On page 4-85, the data on figure 4.1-4 indicates that the 1,200 students at the Fort Wingate Schools will be subjected to at least 100 dB during a target missile launch. An analogy would be exposure to a gasoline-powered lawnmower, or just a bit quieter than a jet flyover at 1000 feet. Since these are boarding schools, the children could be in residence for

the four-year duration of the testing. These children could be subjected to weekly impacts to their hearing. Mitigation by evacuation of these 1,200 children would be a logistical and financial nightmare, due to the lack of vehicles/buses at these schools. This is not fully studied or explained on page 4-82.

Transportation: I-40 and a Santa Fe Railroad artery run along the northern boundary of the Fort Wingate LHA. The windroses supplied on E-10 and E-11 indicate the prevailing winds blown from SW to NE. When these windroses are superimposed over the Ft. Wingate LHA, the wind flow cuts across both the interstate and the railway. Air-borne debris and chemical aerosols could be blown across these nationally important West-East transportation routes. Since there are no reasonably close alternate routes, commercial and domestic traffic would halt or be turned back. If I-40 and state road South 53 are closed, all reasonable access from western New Mexico into eastern Arizona is closed. Closing these roads will disrupt, and possibly halt, the flow of goods and services from the southwest to the west coast. In the worst case, this disruption could affect the West-East transportation of goods and services.

The number of vehicles that would back up or be forced to return is not known, because the I-70 vehicle impact table (Table 3.1-16, p.3-68) created for the Green River Launch Site was omitted for the vehicle impact on I-40. Not only is this inconsistent treatment of *comparable alternatives* (40 CFR 1502.14), but this avoids mitigating the impact on thousands of vehicles that use I-40. Until this omission is corrected, it cannot be determined whether this proposed action significantly impacts transportation

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Statement of Position

Based on the material in the DEIS, and the data omitted from the DEIS, the Navajo EPA and the Navajo Nation strongly oppose the White Sands Missile Range alternative utilizing either launch site, and therefore recommend to Ballistic Missile Defense Organization to remove the over-land range alternative described in the proposed TMD DEIS from further consideration. As stated in 40 CFR 1500.1(c), "The NEPA process is intended to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment." We believe that the TMD Draft Environmental Impact Statement does not live up to these goals as stated in NEPA.

Recommendations:

The Navajo EPA recommends that the TMD WSMR alternative be eliminated from further consideration, because there are significant adverse, unmitigatable impacts on the public health and the environment of the Navajo Nation. If you should have any questions, please contact myself or my staff at (602) 729-4152.

Sincerely,

ENVIRONMENTAL PROTECTION ADMINISTRATION

Sadie Hoskie, Director

cc: Honorable Peterson Zah, President, The Navajo Nation
Honorable Nelson Gorman, Jr., Speaker, Navajo Nation Council
Honorable Robert Yazzie, Chief Justice, Navajo Nation Supreme Court
Honorable Elmer Milford, Chairman, Navajo Resources Committee
Honorable Karan English, Representative, Arizona
Honorable Bill Richardson, Representative, New Mexico
Honorable Daniel Inouye, Senate Indian Affairs Committee Chair, Senator, Hawaii
Honorable Sam Coppersmith, Representative, Arizona
Honorable Jeff Bingaman, Senator, New Mexico
Honorable Pete V. Domenici, Senator, New Mexico
Honorable John McCain, Senator, Arizona
Honorable Bill Orton, Representative, Utah
Distribution

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STATE OF FLORIDA
DEPARTMENT OF COMMUNITY AFFAIRS

2740 CENTERVIEW DRIVE • TALLAHASSEE, FLORIDA 32399-2100

LAWTON CHILES
Governor

LINDA LOOMIS SHELLEY
Secretary

March 31, 1994

Mr. David Hasley
Department of the Army
P.O. Box 1500
Huntsville, Alabama 35807-3801

RE: Joint Military Operation - Draft Environmental Impact Statement - Theater Missile Defense Extended Test Range - Eglin Air Force Base, Florida
SAI: FL9402020066C

Dear Mr. Hasley:

The Florida State Clearinghouse, pursuant to Presidential Executive Order 12372, Gubernatorial Executive Order 93-194, the Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464, as amended, and the National Environmental Policy Act, 42 U.S.C. §§ 4321, 4331-4335, 4341-4347, as amended, has coordinated a review of the above-referenced project.

The Department of Environmental Regulation (DEP) notes concerns regarding potential environmental and safety impacts and road closings at the St. Joseph Peninsula State Park. Please refer to the enclosed DEP comments.

Based on the information contained in the above-reference Environmental Impact Statement and the applicant's satisfactory inclusion of measures recommended by DEP, as enclosed, the state has determined that the above-referenced project is consistent with the Florida Coastal Management Program.

Very truly yours,

for Linda Loomis Shelley
Secretary

LLS/rk

Enclosure
cc: Lynn Griffin, Department of Environmental Protection
Lt. Col. Tom Thacker, Eglin AFB

EMERGENCY MANAGEMENT • HOUSING AND COMMUNITY DEVELOPMENT • RESOURCE PLANNING AND MANAGEMENT

Florida Department of
Environmental Protection

Lawton Chiles
Governor

Marjory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Virginia B. Wetherell
Secretary

March 21, 1994

Suzanne Traub-Metlay
State Clearinghouse
Executive Office of the Governor
The Capitol
Tallahassee, Florida 32399-0001

Dear Ms. Traub-Metlay:

Re: Draft Environmental Impact Statement
Theater Missile Defense Extended Test Range
SAI FL 9402020066C

The Department has reviewed the referenced draft environmental impact statement (EIS) and offers the following comments. The Air Force proposes to conduct missile flight tests from Eglin Air Force Base using launch sites on Santa Rosa Island and Cape San Blas. Off-range missile launches from a platform in the Gulf of Mexico will also be conducted. Missiles will be launched from mobile platforms. No infrastructure or permanent facilities will be constructed at the launch sites.

Department staff raised significant concerns for the use of the Cape San Blas site because of the necessity to close the access road into St. Joseph Peninsula State Park during launches. Launch activities could disrupt recreational activities and lead to long-term changes in the land use character of the area. Staff recommended that Santa Rosa Island or a site at Tyndall Air Force Base be used instead of Cape San Blas.

In response to these concerns, the Air Force met with the Department and provided more clarification of the activities being proposed. Approximately 100 launches at four sites around the world are planned over a four year period beginning in 1997. Two of these sites, Eglin and the Western Range in California, are expected to conduct most of the launches, with Eglin conducting the majority. The Air Force estimates that 1-2 launches/month could be conducted at Eglin, the majority of which will take place at Santa Rosa Island. Although it will not be used as often, the Cape San Blas site offers a different geometry than Santa Rosa Island

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and cannot be dropped from the test program. A site at Tyndall AFB was investigated but was determined not to be feasible.

Road closures are expected to last around 30 minutes under normal circumstances. Notices are provided 48 hours in advance to allow for appropriate notification of area residents and businesses. Cape San Blas launches will be planned for mid-mornings, Monday-Thursday, and avoid holidays and summer peak use periods. It is possible that night launches could be conducted so that park use conflicts are avoided entirely. If the road is needed for emergency purposes, the launch will be delayed. The Air Force agreed to meet with staff at the St. Joseph Peninsula State Park to discuss these issues further, since no direct consultation had been conducted with them.

Another point was raised regarding the potential environmental, safety, and road closure impacts which could result under hang fire conditions. The Air Force agreed to evaluate these circumstances in the final EIS. We also recommend that more attention to public safety be paid in the final EIS, particularly to ensure that sufficient warning signals are apparent to boaters and other persons who may be in the launch area.

Based on the assurances provided at this meeting and continued consultation with park personnel, the Department has no objections to the proposed missile testing program as described in the draft EIS. We agree that the test program is consistent with the Department's statutory authorities in the Florida Coastal Management Program.

If there are any questions concerning these comments, please contact me at 488-0784.

Cordially,

Lynn Griffin
Environmental Specialist

LG/l
cc: Mike Ashey
Mark Gleason
James Mock

National Aeronautics and Space Administration

John F. Kennedy Space Center
Kennedy Space Center, Florida 32899

NASA

Reply to Attn of DE

APR 1 1994

Department of the Army
U.S. Army Space and Strategic Defense Command
Attn: Mr. David Hasley/CSSD-EN-V
P.O. Box 1500
Huntsville, AL 35807-3801

Subject: Invitation to Comment on the Theatre Missile Defense Extended Test Range Draft Environmental Impact Statement (DEIS)

Thank you for the opportunity to comment on the subject Draft Environmental Impact Statement. Kennedy Space Center offers no comment at this time.

Robert L. Crippen
Director, John F. Kennedy Space Center

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

APR 4 1994

OFFICE OF ENFORCEMENT

Mr. D. R. Gallien
US Army Space and Strategic Defense Command
CSSD-EN-V
P.O. Box 1500
Huntsville, Alabama 358-7-3801

Dear Mr. Gallien:

The Environmental Protection Agency (EPA) has reviewed the U.S. Army Space and Strategic Defense Command's "Draft Environmental Impact Statement (DEIS) Theater Missile Defense Extended Test Range." This review was conducted in accordance with our responsibilities under Section 309 of the Clean Air Act (CAA) and the National Environmental Policy Act (NEPA).

The proposed action is to conduct extended range tests of target missiles, defensive missiles, and sensor systems at one or more of four alternative test range areas. Locations for conducting these missile flight tests and intercepts are White Sands Missile Range (WSMR), New Mexico (with launch sites originating at Green River, Utah); Eglin Air Force Base, Florida; Western Range, California; and Kwajalein Missile Range, U.S. Army Kwajalein Atoll, Republic of the Marshall Islands.

EPA commends the efforts of your staff in preparing this document. The DEIS, combined with the programmatic EIS preceding this effort, was very useful in describing the project despite its complexity. Our detailed comments are enclosed. Concerns included: confusion in the presentation of alternatives; insufficient information to back up impact analyses and mitigation measures; little to no assessment of cumulative impacts at each alternate site; and concerns regarding: noise, hazardous waste, safety, water quality and resource issues.

Based on our review, we have assigned an EC-2 rating (Environmental Concerns-Insufficient Information) to the draft. A copy of the EPA rating system summary is enclosed. We appreciate the opportunity to review the draft. If you have questions, please contact me at 202-260-5053 or Marguerite Duffy at 202-260-8799.

Sincerely,

Richard E. Sanderson
Director
Office of Federal Activities

Enclosure

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Detailed Comments

Alternatives Analysis--The DEIS states that no single range analyzed can satisfy all test needs and that a combination of test ranges (alternatives) would be required. The document presents each range as a separate alternative. If this is the case, the alternatives should have been built around discrete activities using multiple ranges rather than a discrete range with a variety of activities. As presented, the reader could be misled to presume that all actions are to occur at one range selected through the environmental analysis process. The statement that "all alternatives may be used at some point" is not an analysis. Tables are often useful in depicting myriad activities and sites. Analysis of the Theater Missile Defense (TMD) alternatives would benefit with discussion of economic considerations between each of the alternatives, e.g., the costs of using utility helicopters for debris recovery or the costs of clearing public lands.

Cumulative Impacts--We recommend that the FEIS include an analysis of the cumulative impacts of both the proposed project and other planned or contemplated projects for each of the test areas.

Mitigation--We believe that the mitigation sections should contain more supporting information. As an example, the DEIS considers WSMR and Fort Bliss. However, other areas are involved, specifically, McGregor Range, buffer zones and the overshoot areas to the north of WSMR. Mitigation should consider current land management practices, e.g., the use of small-wheeled vehicles may not be practical if their use is restricted in wilderness areas. Another example is on page 4-215, where more detail is needed on the type of mitigation that will support existing captive breeding programs.

Noise/Land Use--We believe that the discussion on page 3-44 should include the impacts to tribes, e.g., the Navajo, Acoma, Zuni, Ramah. Further, we suggest adding adobe homes to table 3.1-11.

Hazardous Materials/Waste--We recommend expanding the discussion to support conclusions. For instance, page 4-199, regarding Vandenberg, states that, "Proposed TMD uses of [hazardous] materials would represent only a small increase in the total usage of hazardous materials at Vandenberg AFB...." Data should be included on what amounts presently exist, what "a small increase" is, what cumulative impacts there may be, and how waste will be handled at Vandenberg. The DEIS states, "proper management of TMD hazardous materials and waste will preclude any impact due to their accumulation in the environment as a result of routine usage (p. 4-220). This statement needs supporting information.

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Where the project sponsors expect to use hazardous substances (40 CFR §302.4) in conjunction with the proposed action, the FEIS should discuss the methods that will be used to cleanup and dispose of spills/wastes in compliance with the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). It should also address how the project sponsors will protect against spills in compliance with the requirements of the Resource Conservation and Recovery Act (RCRA) regulations found at 40 CFR §260 to 268.

Safety--There are concerns that the military does not have enough militarily-withdrawn areas to conduct missile testing completely within its boundaries. The firing of missiles over civilian-populated areas between military withdrawals will present potential risks. For example, the discussion of the flight termination system used in case of missile malfunction indicates that flight termination would result in the "missile falling to the ground, (page 2-15)." Similarly, the DEIS notes that the launch hazard area at A-15 at Santa Rosa does not meet standards.

The discussion of terminated missile flights indicates that missile debris will hit the ground after flight malfunction (page 2-16). "This impact could occur outside evacuated areas." From this statement, it could be assumed that the potential for injuries or death to humans would be greater than the predictions posed for evacuated areas only.

We find the 2nd paragraph on page 2-23 somewhat confusing. We would appreciate a definition and differentiation of: surface-to-surface, extended-range test flights, and other (as discussed in the last sentence). We recommend that the discussion on page 2-52 consider the numbers of people who might be in wilderness areas at the time of testing, and the amount of time it might take to evacuate the area. The FEIS should also include a discussion of the impacts of spent boosters falling on tribal lands of such peoples as the Ramah and the Acoma.

The DEIS does not fully address the potential of contaminates at splash down sites. The FEIS should include more detail regarding the handling of propellants and assessing the potential impacts associated with testing over land and water. The existing discussion is vague in terms of addressing how the unspent propellants will be handled. The FEIS should include a discussion on how the waste streams of the propellants will be handled. Additional information is needed on the degree of danger posed, safety and emergency measures, and the routes proposed for transporting rockets. While the Appendix contains calculations of health and safety risks, the DEIS contains no serious discussion of the safety concerns.

Water Quality/Biological Resources--There is a brief reference to construction activities (e.g., Vandenberg, page 4-194, San Clemente Island, page 4-214). Construction activities should be described in more detail and the FEIS should discuss

impacts of these activities on water quality and wildlife. Federal agencies must comply with the federal consistency requirements of the State's Nonpoint Source Management Program, [Clean Water Act, §§319(b)(2)(F), 319(k)]. We recommend that the FEIS identify potential sources of nonpoint pollution from construction and operation. We also recommend a description and map showing drainage patterns and riparian areas in the proposed project areas, describe how the project would affect these resources, and discuss mitigation proposals to minimize impacts.

The FEIS should identify the resources at risk, e.g., wetlands, reef systems, marine mammal habitat and fisheries habitat, spawning and rearing areas. It should identify the key species and acres affected, outline the beneficial uses of the area and identify special measures to be taken to protect vulnerable areas from adverse effects. On page 4-173, the DEIS states that launching from the 807 complex could significantly affect federally protected species such as sea otters and Northern elephant seals. The next sentence is in contradiction stating that launches will not cause any impact because of frequency and duration. The FEIS should provide the basis for this statement, describe what that duration is and provide mitigation measures. EPA supports the project sponsors consulting with the National Marine Fisheries Service, but this consultation does not supplant the requirement under NEPA to adequately assess the impacts to wildlife. This section also cites a previous document on page 4-174 for the conclusion that sonic booms are not expected to cause significant impacts to endangered species. The FEIS should further discuss that document.

Air Issues--The issues concerning air are difficult to address in the DEIS, since the specific emission from the test missile will not be known until the missile is developed. Overall our concerns were addressed in the draft Programmatic Theater Missile Defense Extended Test Range.

Public Lands--The WSMR is surrounded by public lands administered by the Bureau of Land Management (BLM), National Park Service (NPS), and the Forest Service (FS). There is little reference to the many environmental and planning documents prepared by these agencies. These documents have valuable resource information applicable to the analysis of direct, indirect, and cumulative impacts of the TMDS proposal. Public lands were considered in a generic sense, without reference to the restrictions that may apply to specially designated areas such as Wilderness Study Areas, Areas of Critical Environmental Concern (ACEC), etc.

We believe that page 3-25 is incorrect in stating that "McGregor Range has been routinely used for vehicular maneuvers for many years and most of the range is regularly disturbed." Only the southern portion of McGregor is used for military exercise. Disturbance is minimal as there is an ACEA and Wilderness Study Area within this portion of the range. Otero Mesa is an environmentally sens ive area and not open to

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unrestricted military exercises in accordance with the Memorandum of Understanding (MOU) between BLM and Army.

The proposed use of McGregor Range makes no reference to the existing management plan. This area is co-managed by BLM and the U.S. Army at Fort Bliss, Texas. The DEIS overlooks the Military Lands Withdrawal Act of 1986 and the MOU for the operation of McGregor Range. This could have a negative effect on the analysis of impacts for this proposal. In addition, there is no analysis of cumulative impacts when considering both TMDS activities and the proposed "Roving Sands" military exercise. The DEIS indicates that the McGregor Range "would be the primary area of use" for some of the missile launch activities associated with the proposal. In accordance with the existing MOU between Army and BLM, such actions require planning and coordination and should be covered in the EIS.

We note that the DEIS indicates that the Army will establish land use agreements with the affected federal agencies to cover proposed activities. The FEIS should contain a summary of what these proposed agreements will contain, with whom, and for how long. This could facilitate the initiation of agreements with these agencies.

THE
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NATION

P. O. BOX 308 • WINDOW ROCK, ARIZONA 86515 • (602) 871-4941

PETERSON ZAH
PRESIDENT

MARSHALL PLUMMER
VICE PRESIDENT

April 18, 1994

David Hasley
U.S. Army Space and Strategic Defense Command
Attn: CSSD-EN-V
P.O. Box 1500
Huntsville, AL 35807-3801

Dear Mr. Hasley,

The Navajo Nation Historic Preservation Department (NNHPD) has reviewed the Draft Environmental Impact Statement (Draft EIS) for the proposed Theater Missile Defense (TMD) Extended Test Range, dated January 1994. We have significant concerns regarding cultural resources within the White Sands Missile Range (WSMR) candidate. There are also traditional concerns regarding the use of airspace over the Navajo Nation and how it may effect the Navajo people, their traditional lifeways, and traditional land use practices. Our concerns have been discussed previously with Pete Finny of the EIS team and are detailed below.

The U.S. Army Space and Strategic Defense Command (USASSDC), proposed four alternatives for the TMD Extended Test Range initiative. Among the four alternatives, the WSMR candidate is of the greatest concern to the Navajo Nation. The proposed alternative recommends the use of two missile flight paths one between Green River Launch Complex (GRLC) and WSMR and the second between Fort Wingate Depot Activity (FWDA) and WSMR. Under the latter alternative, FWDA would be utilized as a launch site. Navajo Nation lands and the FWDA compound along these fight paths, contain numerous historic properties. Our concerns include the Army's under estimation of prehistoric resources, the absence of information on the "Fenced Off Horse Canyon" site, the lack of documentation on traditional cultural properties, and the absence of a draft memorandum of agreement (MOA) or other detailed plan to mitigate adverse effects to historic properties.

NEPA and its implementing regulations requires that an EIS detail any environmental consequences of an action proposed by a Federal agency and include a discussion of potential effects on historic and cultural resources (40 CFR 1502.16 (g)). The subject Draft EIS provides concise definitions of prehistoric, historic and traditional native resources (3.1.1.4-26) suggesting a thorough knowledge of the types of resources which may be affected by the

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proposed activities. However, the Cultural Resource - FWDA section (3.1.3.4) provides insufficient estimates on site frequency and variety within the WSMR candidate.

While the National Register of Historic Places (NRHP) was intended as a management tool it has evolved into a standard by which the significance of cultural resources are evaluated. The state of New Mexico and Utah maintain a lists of properties which have been determined eligible for the NRHP. For purposes of Section 106 these sites are treated as if listed. The NRHP, by itself, is not an adequate indicator of "significant" or even eligible sites recorded in a given region.

The region of influence (ROI) for the FWDA will encompass "all of FWDA and the area of the LHA [Launch Hazard Area) which extends beyond FWDA boundaries." An estimated area of 88.7 km sq (34.1 mi sq) lies within the depot boundaries. The Cultural Resource section indicates that "Several cultural resource investigations have been conducted in the area surrounding FWDA but very few within the property boundaries." Citations are provided for a number of these studies, including *Reconnaissance of Eight U.S. Air Force Training Drop Zones in New Mexico* (National Park Service, 1989) but no detailed information is given on site density or property type in the surrounding region. A cursory review of NNHPD files demonstrated that site frequency is potentially high.

A cultural resource inventory undertaken by Sundance Coal Company, west of FWDA, identified some 27 sites within the mine lease area. These sites range from Anasazi archaeological ruins to historic petroglyphs and 19th - 20th century Navajo camps/habitations. Several inventories undertaken for road improvement projects north of FWDA resulted in the identification of prehistoric quarries, Anasazi ruins (including lithic scatters, pit houses, kiva depressions and stone ruins), and historic burials and habitation sites.

While previous research in the area of FWDA provides only generalized information, three indepth studies are underway within the depot compound as a result of its closure. The USACOE is sponsoring a reconnaissance survey detailing cultural resources, an ethnographic study of cultural concerns and an assessment of Fenced Up Horse Canyon, a Chacoan outlier. The preliminary results of these studies, being prepared by Office of Contract Archaeology (OCA), have demonstrated that archaeological site density in the FWDA area overall is 35 sites per square mile. In the vicinity of Fenced Up Horse Canyon, site density reaches 88 sites per square mile (personal communication Charles Ansden and Jeanne Schutt, April 14, 1994). Given that the compound encompasses 34 sq mi. approximately 1200 archaeological sites may be anticipated. The number of traditional cultural properties present is more problematic.

As the result of the ethnographic study, OCA personnel identified 18 Navajo sites, one historic Anglo site, two trail systems, eight historic Navajo burials and three possible historic burial locations. Field work on traditional cultural properties included interviews with Navajo people knowledgeable about the FWDA area. Results presented in the OCA's draft document detail only the sites consultants were willing to discuss; and can not be regarded as an exhaustive inventory of extant resources or concerns (Perlman 1994: Draft Report). Such studies emphasis the need for sensitivity in the management of traditional properties.

Based on a 1993 cultural resource survey, the Draft EIS concludes "that there are no historic or prehistoric sites in the immediate vicinity of proposed construction." Although the locations of proposed construction may not contain cultural properties other TMD activities may have a significant impact on resources. Other activities include flight preparation, launch activities, lethal debris impact and recovery and clean up efforts in areas of missile mishaps. Of particular concern is recovery and clean up activities. The potential for "flight-mishap missiles striking a cultural resource" may be "extremely remote" (4-96) but it seems likely, given local site density, that flight mishaps may result in recovery activities such as opening new roads, use of heavy equipment to retrieve debris and grading large areas to remove spilled fuel or other toxic liquids. The size of the areas affected by these activities would greatly increase the possibility of damaging cultural resources.

The EIS indicates that "a preliminary Memorandum of Agreement for the Base Realignment and Closure Commission in 1990" will "apply to Fort Wingate" (3-75). Because the proposed WSMR alternative, if implemented, would be a separate and distinct undertaking, the existing MOA, as it stands, is not applicable to the WSMR alternative. According to the regulations implementing NHPA any "new and continuing projects, activities, or program and any of their elements not previously considered under section 106" requires renewed consultation (36 CFR Part 800.2(o)). The existing MOA may be utilized as a tiering document in the preparation of a draft MOA specific to the TMD. Such a document must outline detailed mitigation measures for areas of proposed construction, as well as other activities.

While the boundaries of the presently recognized Navajo Reservation do not extend into the area of the GRLC, the area of Navajo ancestral use stretched well into Utah, nearly to the confluence of the Green and Colorado rivers. The possibility of early Navajo sites (pre 19th century) exist. Few early site locations are known. NNHPD does not maintain detailed archaeological site files on this region of Utah but the potential for site variability equals other areas of the four corners region. As with FWDA, adequate documentation must be provided on presence/absence of prehistoric resources and traditional cultural properties and a detailed plan for mitigation of effect must be provided.

If you have any further questions regarding cultural resources, please contact M. Colleen Hamilton at HPD-Facility Management Program at (602) 871-7148. Questions regarding traditional cultural properties should be addressed to Richard Begay, Traditional Cultural Properties Program (602) 871-6437.

Sincerely,

Alan Downer, Director
Navajo Nation Historic Preservation Department
P.O. Box 2898
Window Rock, AZ 86515

AD/mch

State of Utah
Department of Community & Economic Development
Division of State History
Utah State Historical Society

Michael O. Leavitt, Governor
Max J. Evans, Director
300 Rio Grande
Salt Lake City, Utah 84101-1182
(801) 533-3500
FAX: (801) 533-3503

April 26, 1994

Pete Finney
The Earth Technology Corporation
200 Sparkman Drive
Huntsville, Alabama 35805

RE: The Ballistic Missile Defense Organization - Missile Testing Program

In Reply Please Refer to Case No. 93-0419

Dear Mr. Finney:

The Utah State Historic Preservation Office received the above referenced Draft EIS on April 20, 1994. After review of the DEIS, the Utah Preservation Office has the following comments for consideration:

1. 3.1.2.4, Over review of the cultural resources appears to be accurate. One item, with the location of earlier hunting points near green river, I would push the earliest date on humans in the area to 13,000 B.P.

2. 4.1.2.4, Concerning mitigation measures for cultural resources; mitigation for the Cold War material should be extensively discussed in this section, since they may be difficult to develop a mitigation plan for.

3. 4.8, Cold War material should also mention Utah as well as Alaska.

This information is provided on request to assist with Section 106 responsibilities as specified in 36CFR800. If you have questions, please contact me at (801) 533-3555.

Sincerely,

James L. Dykman
Compliance Archaeologist

JLD:93-0419

Board of State History: Marilyn C. Barker • Dale L. Berge • Boyd A. Blackner • Peter L. Cass
Lloyd D. Hansen • Carol C. Madsen • Dean L. May • Christine Needham • Thomas K. Sawyer • Penny Sampson • Jerry Wyler

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P.O. BOX [illegible] • WINDOW ROCK, ARIZONA [illegible] • (602) 871-4941

PETERSON ZAH
PRESIDENT

MARSHALL PLUMMER
VICE PRESIDENT

Commander, U. S. Army Space and Strategic Defense Command
Attention: CSSD-EN-V (David C. Hasley)
Post Office Box 1500
Huntsville, Alabama 35807-3801
March 28, 1994

RE: Theater Missile Defense Extended Test Range Draft EIS

Dear Sir:

On behalf of the Office of Navajo Land Administration, I hereby submit comments concerning the Theater Missile Defense Extended Test Range Draft Environmental Impact Statement. As a general matter, the Office of Navajo Land Administration (hereafter referred to as "ONLA") supports the missile test program to the extent that it does not endanger any property, interests in property, or the lives of members of the Navajo Nation.

ONLA recognizes and supports the national security interest rationale offered to justify the missile program and practices. Our young men and women proudly serve in the armed forces of the United States of America. We agree that a long range interceptor missile is needed to provide a better defense capability to our armed forces and better national security.

However, there seem to be problems with the missile test program as proposed in the draft environmental impact statement (hereafter referred to as "EIS"). First and foremost, public safety seems to be problematic. It seems that the Army is going to have to provide more protection in the form of additional manpower and equipment to ensure that falling missile debris does not destroy land resources, improvements, livestock nor jeopardize the lives of members of the Navajo Nation and the other residents of northwestern New Mexico, northeastern Arizona, or southeastern Utah.

The Army proposes to leave local fire and emergency personnel to provide emergency services in the event of fires or explosions or other accident caused by missile tests. Fire and emergency services located in these geographic regions are neither equipped, nor do they have the manpower to adequately respond to a fire or explosion emergency which may be caused by the missile tests. The Army must provide men and equipment to respond to any fire or explosion emergency that might occur. It seems that special response teams should be formed and be prepared to address any emergency that may occur during the tests anywhere along the flight paths. A few airborne response teams may be all that is needed.

The Army should also develop more specific emergency response plans for more densely populated areas, as well as towns and metropolitan areas which may be affected by the missile

tests. In addition, the Army should provide hospitals which may process victims of any accidents with an information kit containing specific data concerning any toxic chemicals or compounds used in the program and any special instructions for providing medical treatment and diagnosis for these chemicals or compounds or any other substances that pose a danger to human health.

The Army should also create a public liaison office or officer to coordinate with local officials and to assist civilians process claims for damage. It seems that this program lacks a public relations element and should implement such a program. Public warnings and awareness of the missile test flight paths and drop zones will be essential in limiting danger and injury in the event an unplanned accident occurs. It is clearly foreseeable that accidental explosions, fires, and missile debris impact hazards are imminent. It seems that the United States would be strictly liable for any injury which results from these tests, sovereign immunity notwithstanding.

The draft EIS lacks any consideration of the Indian trust doctrine, which requires Federal officials to specifically consider the impact of the proposed federal action on land and resources of an Indian nation. In fact, Federal officials should make findings and conclusions concerning the deleterious and beneficial impacts of the missile program on the Navajo Nation in particular. Any final decision should be made with the best interests of the Navajo Nation considered and protected.

The Department of the Army should also establish a liaison with local and regional environmental protection officials to insure that toxic pollutants or substances are controlled or cleaned-up so as to neutralize any potential harm to the Navajo people, their property, their land resources, and their water resources. In the long run, the United States would be liable for any damages to Navajo property and resources.

It seems that a method and procedure for compensating individuals for the inconvenience of leaving their homes or ranches, as well as period for which they are deprived of a livelihood because of the missile tests should be drafted and implemented. In addition, as previously mentioned, a public relations office should be created or a public relations officer appointed to make available information and assistance to individuals to process claims for damages.

The Army should obtain permission from the Department of the Interior and the Navajo Nation to enter Navajo Indian lands to administer or address any needs or anticipated needs related to the missile tests. The Army should also coordinate with Navajo Nation officials responsible for implementing Navajo Nation law and Federal law within Navajo Indian country. Furthermore, the Navajo Nation requests that, if at all possible, the missile program not interfere with Navajo religious ceremonies.

Lastly, it seems that a strong public relations effort on the part of the Army will do much to garner public support for this program.

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Should you have any questions or comments, please feel free to contact me.

Thank you.

Sincerely,

Melvin Bautista, Director
Office of Navajo Land Administration

U.S. Department
of Transportation

Federal Aviation
Administration

800 Independence Ave., S.W.
Washington, D.C. 20591

Mr. David Hasley
U.S. Army Space and Strategic
Defense Command
Huntsville, AL 35807-3801

Dear Mr. Hasley:

This letter is in response to the draft environmental impact statement (DEIS) entitled "Theater Missile Defense Extended Test Range" dated January 6, 1994. As the final approval authority for any airspace action(s) which may result from this project, we are taking this opportunity to inform you of some of our concerns. This letter is not intended to provide specific details of our concerns but rather to inform you that further coordination may be required.

In Section 2.1.1.3, under "Target Missile Test Mishaps," it states "Termination of a flight after it has exited the vicinity of the launcher would occur in the event of an off-course flight. The FTS would be activated, terminating the flight vehicle's thrust, and the flight vehicle would then fall ballistically and impact the sea or on land. This impact could occur outside evacuated areas." Since the FAA's primary mission is to ensure aviation safety, the concept of a missile descending through unprotected airspace gives us great concern. Similar operations such as the cruise missile program were approved only after numerous safeguards such as special charting and chase aircraft were mutually agreed upon.

The tone of the document would have the reader believe that all impacts have been identified and that a Notice to Airmen (NOTAM) will be coordinated with the FAA which would mitigate any impacts. Although the FAA is considered a cooperating agency under the National Environmental Policy Act, the intent has not been fulfilled in the DEIS. Air traffic figures from the impacted Air Route Traffic Control Centers have been included in the DEIS; however, the figures are not presented in a meaningful context and do not encompass the extent of the possible impacts. An aeronautical study, conducted by the impacted air traffic facilities at the direction of the regional office, of the proposed airspace would reveal additional environmental impacts which have not been addressed i.e. rerouting of aircraft to avoid the test activities.

If a decision is reached to proceed with the program in one of the three locations within the conterminous United States and additional airspace is

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required, a proposal must be submitted to the FAA. We are requesting that the airspace proposal be submitted to the FAA in sufficient time for an aeronautical study to be completed and the results forwarded to you for analysis. This would need to be accomplished prior to publication of the final EIS so that the environmental impacts of aeronautical actions are appropriately addressed in the document. Additionally, incorporation of aeronautical concerns early in the process would facilitate timely processing of the airspace proposal(s).

We look forward to providing you information for inclusion in the final environmental document. For further information, please contact Lorraine Yomacka, ATM-420, at (202) 267-7682.

Sincerely,

David J. Hurley
Director, Air Traffic
System Management

United States Department of the Interior

OFFICE OF THE SECRETARY
Washington, D.C. 20240

ER 94/90

JUN 10 1994

Mr. David C. Hasley
U.S. Army Space and Strategic Defense Command
Attention: CSSD-EN-V
Post Office Box 1500
Huntsville, Alabama 35807-3801

Dear Mr. Hasley:

The Department of the Interior has reviewed the draft environmental impact statement for the Theater Missile Defense Extended Test Range.

Our comments are enclosed with this letter.

The opportunity to review the draft statement is most appreciated.

Sincerely,

Jonathan P. Deason
Director
Office of Environmental Policy
and Compliance

Enclosure

ER 94/90

Enclosure

U.S. Department of the Interior
Comments on the Theater Missile Defense
Extended Test Range (TMDS)

General

The Department of the Interior is very concerned over the development of a missile test environment that places civilian property and lives within a "test range" and at risk (no matter how slight) as an expedient to resolve the problem of not having a missile test area of sufficient size for the proposal. We believe this solution is neither environmentally sound nor prudent, given the available alternatives with far less risk to non-military withdrawn areas and to the civilian population in general. We have deep concerns that the military alternative selected in the draft statement which would fire missiles over civilian-populated areas between military withdrawals is considered to be an environmentally sound and safe solution by the Army.

While it is recognized that the action in the draft statement concerns the testing of missiles and missile intercept systems, the largest problem with the proposal is not so much the fact that missiles will be fired, but where they are to be fired. There is no withdrawn area of sufficient size for the Army to conduct these missile tests completely within its boundaries. This is actually the key issue in the environmental analysis process, but it is not clearly identified in the draft statement. The final statement should discuss this issue.

The final statement should include a complete, detailed plan that describes the actions necessary to clear the booster drop zone, a detailed booster recovery plan, a fire plan, and a plan that describes actions necessary whenever a rocket must be destroyed after launch. Such a plan is critical to analyze human health and safety issues, cumulative impacts and land use considerations.

Use of Other Environmental Documents in the Analysis of Impacts

The reference section and Appendix D, "List of Related Environmental Documentation" do not refer to several environmental documents, most particularly those that our Bureau of Land Management (BLM) has prepared for many of the lands potentially affected by the proposed action. (Refer to the

Draft and Final *El Malpais National Conservation Area General Management Plan* (USDI, BLM, Albuquerque District Office, April 1990) and the *Resource Management Plan Amendment for McGregor Range* (USDI, BLM Las Cruces District Office, September 1990). Copies of these documents will be forwarded to the U.S. Army separately. While reference is made to the Wilderness Act of 1964 on page 1-5 of the draft statement, it is apparent that BLM's "*Interim Management Policy and Guidelines for Lands Under Wilderness Review*" (Manual Handbook H-8550-1) was also not considered. Similar existing environmental documentation from other Federal land management agencies are also not included.

Lack of reference to these documents is demonstrated throughout the draft statement by its failure to consider the current land management policies for some public lands managed by BLM and other Federal agencies that could be significantly affected by the proposed Army test operations. For example, under the wilderness management policy, the use of wheeled vehicles in a wilderness area or wilderness study area is prohibited and use of aircraft is also severely curtailed. This would make retrieval of missile debris or boosters extremely difficult in these areas, a factor not considered in the land use environmental analysis. There are many land areas where such restrictions apply. Such restrictions would also affect the analysis of cumulative impacts.

The proposed use of McGregor Range for TMDS activities makes no reference to the existing management plan for this area which is co-managed by BLM and the U.S. Army at Fort Bliss, Texas. Lack of reference to this document overlooks both Public Law 99-609 (Military Lands Withdrawal Act of 1986) and the current Memorandum of Understanding (MOU) for the operation of McGregor Range. Again, this omission could have a negative effect on the impact analyses of the proposals, particularly when considering the cumulative impacts of both TMDS activities and the proposed "Roving Sands" military exercises on McGregor Range, currently the subject of a separate final statement.

Overall, there appears to have been almost no use made of, or reference to the many environmental and planning documents available from our BLM, the National Park Service (NPS), the Forest Service (FS), state agencies and others which have valuable resource information applicable to the analysis of direct, indirect and cumulative impacts of the TMDS proposal. The text appears to consider public land in only the most generic sense, and not with reference to all restrictions or conditions that may apply to specially-designated areas such as Wilderness Study Areas (WSAs), Areas of Critical Environmental Concern (ACECs) and National Conservation Areas (NCAs).

The final statement should describe and evaluate the impacts from the proposal on such lands.

Impacts to Land Use

The draft statement does not address activities associated with retrieving debris that falls into wilderness and national park areas nor the impacts to wilderness from such actions. We are also concerned about the lack of discussion of how notification of hikers, etc., would be accomplished by helicopters when there are altitude restrictions for overflights of wilderness and parks.

At the public hearing in Gallup, the Army indicated that there might be some change in booster drop zones. It is unclear whether these proposed changes might have a significant effect on the analyses presented in the draft statement. For example, it is unclear whether the new areas under consideration are sufficiently significant that the scope of the final statement would change. We urge affected agencies should be notified of these changes as soon as practicable, as it could affect the analysis of impacts to various affected land areas.

We understand the Army has indicated that they will establish land use agreements with Federal agencies to cover the proposed activities. The final statement should at least contain a summary of what will be needed in terms of cooperative agreements, with whom, and for how long, so that other agencies can evaluate and plan for these actions in a timely fashion and possibly suggest alternatives that would speed up the process.

Impacts to Lands Under the Jurisdiction of Interior's Land Managing Bureaus

The draft statement indicates that the McGregor Range, co-managed by the BLM and the U.S. Army at Fort Bliss "would be the primary area of use" for some of the missile launch activities associated with this proposal. Since the use of McGregor Range is now actual rather than potential, according to the existing MOU with the Army, such action will require planning and coordination with our BLM. Specific information about the proposed activities on McGregor Ranger must be described in the final statement.

The draft statement does not adequately assess the full range of potential project impacts on Canyonlands National Park and El Malpais, El Morro, and White Sands National Monuments which are located within the environmental impact areas of the White Sands

Missile Range/Fort Wingate Depot Activity (WSMR/FWDA) alternative and are also units in the National Park System. The final statement should fully analyze the range of impacts caused by flights which must be terminated and by falling debris from these terminations (page 4-103). We are concerned that 11,000-pound missiles that go astray or must be aborted, and which might still contain fuel, could cause substantially more damage than the empty boosters.

Visitation at the park units identified above could be adversely impacted if potential visitors stay away out of fear of being injured by the falling boosters or because it is not known whether the monuments will be open or closed. Further, falling boosters could damage or destroy irreplaceable historic and archaeologic sites and fragile or unique geologic features.

The procedures identified in the statement for road closures and evacuation of people from the drop zones are inadequate. The statement should identify how road closures will be enforced and define who will provide security for vacant residences and businesses during the evacuations. Further, project plans should institute a mechanism that would reimburse affected parks for the costs involved in road and park closures and general evacuations. There should also be a provision that the Army would supply additional personnel to complement small park staffs in these procedures.

The preferred alternative, WSMR/FWDA, would have significant impacts on resources and operations on the units of the National Park System as noted above. We strongly recommend that drop zone and flight corridor boundaries be modified to exclude units of the National Park System from direct project impacts.

Canyonlands National Park

Significant land use impacts to Canyonlands National Park would occur with the implementation of the proposed action, including the temporary restricted recreational access to the Island in the Sky District of the Park.

Secondary roads within the booster drop zone (Highway 313) would be closed a maximum of 1 hour and 10 minutes during missile test flights; roads may be reopened for through traffic only, then closed again for the same maximum time period, if needed that day.

It is likely that temporary closure of this road could impact visitors to the Island in the Sky District. This could also impact emergency operations (search and rescue (SAR), law enforcement, and emergency medical service (EMS)) within the Island in the Sky District. In 1993, Canyonlands National Park was involved in 29 SAR incidents and 51 EMS incidents. Emergency service operations in the Island in the Sky District frequently require vehicular access to and from this District.

The draft statement concludes impacts from sonic booms to be insignificant on page 4-46. The final statement should evaluate the effects of sonic booms on the visitor experience at this Park which is noted for solitude.

El Malpais National Monument

El Malpais National Monument is identified as one of the booster drop zones. This designation is not compatible with park purposes.

The monument and the surrounding conservation area managed by the Bureau of Land Management are valuable for their unique biological, geological, cultural, wilderness, and wildlife resources as well as for scenic beauty. Implementation of the WSMR/FWDA alternative would have significant effects on monument operations, visitor use and resources. However, the project sponsor, U.S. Army Space and Strategic Defense Command (Army), has not coordinated project plans with the staff of El Malpais National Monument to date, nor, to our knowledge, has the project sponsor conducted field reconnaissance of potential impact areas or overflown the proposed drop zone in the El Malpais area.

Because there has been no field reconnaissance, the Army is unfamiliar with the surface terrain of El Malpais National Monument. Consequently, the Army's analysis of the impacts of booster debris or the removal of booster debris is inaccurate. It would be difficult, if not impossible, to retrieve the boosters from the lava flows because many areas are far too rugged for the toughest Army vehicles; even horses cannot get into some of these areas. Helicopters would not be able to land there and the boosters would likely be too large to be carried out by hand. If missile debris cannot be recovered from the lava areas, selection of the WSMR/FWDA alternative would not meet the project objective of selecting an overland alternative so that missile debris could be recovered for analysis.

Also, much of the area adjacent to the monument is designated wilderness where vehicles are not allowed.

The procedure identified in the statement for dealing with wildfires caused by missile debris is that the project sponsor will not provide any firefighting personnel or equipment. The reference on page 4-107 of Volume I states "other agencies would provide the primary fire-fighting force." This procedure and conclusion are inadequate. No attempt has been made, to our knowledge, by the Army to determine if the "other agencies" have firefighting forces available during the launch periods and whether those forces will be capable of handling all contingencies.

Fires caused by falling boosters or stray missiles are a real concern at El Malpais National Monument because much of the monument is roadless and the terrain is rugged. Also, firefighting crews are stationed there only during the summer. We believe that the impact of the logistics required to carry out the evacuation of the booster drop zones has not been fully considered. It is going to be extremely difficult, if not impossible, to contact every resident in the drop zone. Many people living in the drop zone do not have telephones; some do not have electric power or other utilities which can be used to locate and identify residents. We do not believe the Army can rely on a courier mail service to notify everyone as was suggested at the public meeting. Courier mail companies do not have the capability of locating all of the people in the drop zone.

Table 1.7-1, "Federal Laws and Regulations Considered in the TMD Extended Test Range EIS," (page 1-5) should include the establishing legislation for El Malpais National Monument, National Conservation Area, and wilderness area (Public Law 100-225). The establishing legislation should be taken into account in project plans for the WSMR/FWDA alternative since the El Malpais areas are the prime targets for the booster drop zone.

We believe, based on our knowledge of the El Malpais area, that it would be extremely difficult if not impossible to implement an adequate evacuation plan and to retrieve debris from the lava flows within El Malpais. Therefore, selection and implementation of the preferred WSMR/FWDA alternative would not only significantly impact El Malpais National Monument operations and resources but would not meet the project objective of recoverability of missile debris for analysis. Alternatives are available which would avoid these conflicts and meet project objectives.

In addition, the second paragraph of page 3-105 should be expanded to cover important recreation areas such as the El Malpais NCA. The NCA should also be included on all relevant

maps and merits text discussion where necessary in the evaluation of impacts. A suggested paragraph could be:

> El Malpais National Conservation Area (NCA), at 263,000 acres, basically surrounds El Malpais National Monument (managed by the National Park Service). The NCA is roughly bounded by I-40 on the north, the Catron County line on the south, the Acoma Indian Reservation on the East and the Ramah Navajo Indian Reservation on the West. The NCA was specifically designated to protect significant resources, including many archaeological sites, historic homesteads, La Ventana Natural Arch, cinder cones in the Chain of Craters and the wilderness values of Cebolla and West Malpais wilderness areas and the Chain of Craters wilderness study area (WSA). In 1993, 45,000 people visited the NCA, and many stopped by El Malpais Ranger Station on State Highway 117. The ranger station, parking area at La Ventana and a picnic area at the Narrows are currently the only facilities developed in the NCA.

We strongly recommend that the drop zone be relocated so that this unit of the National Park System is out of the range of direct project impacts.

El Morro National Monument

As proposed in the draft EIS, El Morro National Monument is located just outside Booster Drop Zone A and within the flight corridor of the WSMR alternative.

El Morro National Monument was established to protect "the rocks known as EL Morro and Inscription Rock... which are of the greatest historical value" and contain inscriptions carved into the rock between 1605 and 1906, and to protect "certain lands... containing ruins of archeological value." The most significant of these ruins are Atsinna and North ruin atop El Morro rock but there are nearly 200 archeological sites within the monument boundary, ranging from multi-room pueblos to fire hearths, chipping sites and petroglyphs. Much of the monument is on the National Register of Historic Places.

The affected environment of El Morro National Monument is not adequately addressed in the draft statement; environmental impacts are not completely identified; and proposed mitigation measures are insufficient to protect the resources of the monument.

All resources within El Morro National Monument could potentially be impacted by falling debris. Of even greater concern are the potentially significant impacts that could occur from debris recovery teams using off-road vehicles (page 4-96). Use of off-road vehicles would be strictly prohibited within the monument because of the high concentration of cultural resource sites, as there are over 200 archeological sites within the monument's 1,039 acres.

The proposed use of helicopters for evacuation and debris recovery would not conform to the Interagency Agreement among the National Park Service, the Fish and Wildlife Service, and the Federal Aviation Administration (acting as manager of the use of United States navigable airspace) which establishes 2,000 feet above ground level as the requested minimum altitude for all aircraft flying in airspace over lands administered by the National Park Service (and the Fish and Wildlife Service) and over wilderness and primitive areas administered by the U.S. Forest Service. The final statement should evaluate how this restriction would affect debris recovery.

A primary concern at El Morro is the impact of the proposed evacuation of personnel and residents and road closure requirements. New Mexico route 53 between Grants and Ramah lies within the first stage impact area and could be closed for up to 70 minutes. On page 4-117, the document states, "A potential 70-minute delay, while inconvenient, is considered to constitute a not significant impact to local recreational opportunities." Closure of New Mexico 53 will likely be a major inconvenience to monument visitors and staff. The visitor experience at El Morro could be significantly impacted by road closures since El Morro is primarily a day use area with the average visitor spending 2 to 3 hours at the monument.

The mitigation measures proposed in the statement for evacuation and road closure impacts (pages 2-52 and 4-117) are, in our opinion, unrealistic and inadequate. Since El Morro is a day use area, it is not typically a destination park and most visits occur as side trips. These types of visitors will not always stop in the local communities and thus be privy to announcements of impending road closures. Some of these visitors will by-pass a visit to the monument rather than endure a 70-minute wait in their vehicles (often in the summer heat), resulting in potentially significant impacts to El Morro visitation.

We are concerned that total evacuation of monument staff and visitors would leave the area unprotected and susceptible to vandalism and theft. There will be lost work-hours for monument

staff and lost fee revenues during evacuations and road closures. Project mitigation measures should include a commitment to reimburse the monument for these costs.

It should also be noted that a number of local residents have stated that they will refuse to evacuate the area when notified. The final statement should reference the legal authorities, the Army would use to order evacuation of civilian residences. If there is no legal authority to enforce the evacuation order, the final statement should discuss any contingency plans to deal with residents who will not leave.

On pages 3-102 through 3-110, the document states that "the area is not widely known as an outdoor recreation area," despite the existance of two National Monuments, a National Conservation Area, several wilderness areas, Cibola National Forest lands, several large state parks and lakes, and the Zuni Mountains. This area of the state is becoming well known as an outdoor recreation area.

The maps on pages 2-37 and 3-10 are inadequate to determine the exact boundaries of the booster drop zone. For instance, is El Morro National Monument one mile or five miles outside the drop zone? The coordinates listed on page 4-92 are helpful, but they are not correlated with the monument's New Mexico Principal Meridian location of Township 9 North, Range 14 West.

The statement reflects an underlying assumption that Federal agencies in the project area have the personnel and the fiscal resources to assist in evacuation, fire suppression, debris recovery and mitigation. This is not the case at El Morro National Monument. Personnel and funding are not available to assist in these activities. Any agreements reached with Federal agencies in the area should include a full cost recovery provision. If an economic analysis of the proposed project has been done, it should be reported in the statement and should include any reimbursements to Federal agencies required by agreements.

White Sands National Monument

The Interagency Agreement between White Sands Missile Range and White Sands National Monument specifies that "planned impacts from missile range activities will not be permitted within White Sands National Monument (emphasis added)." This stipulation should be identified as a constraint in the final statement and should be considered when evaluating the WSMR alternative.

White Sands Missile Range

The draft statement reviews the affected environment for the candidate impact sites. Evaluations of direct, indirect, and cumulative impacts are discussed. However, we believe additional information should be used to evaluate cumulative impacts, including those impacts that are a result of action other than the Theater Missile Defense (TMD) program, such as other missile programs currently occurring or scheduled to occur on WSMR.

Some activities of this project are proposed to take place on WSMR, which overlays the San Andres National Wildlife Refuge (NWR), through an MOU. The San Andres NWR provides a buffer area for the testing activities of WSMR, but the MOU does not allow for planned impacts of testing such as target or launch areas. The final statement should clarify whether any activities are planned for the NWR. The San Andres Mountains harbor the only population of desert bighorn sheep indigenous to the State of New Mexico. This subspecies is listed as endangered by the State of New Mexico. Various factors contribute to this low population, including the persistance of scabies infection. For example, a scabies mite (Psoroptes sp.) infestation in this herd decimated the population to approximately 30 sheep in 1980, and the herd has been unable to reestablish a large thriving population since that time. The San Andres (NWR) staff have monitored this sheep population, and will continue to provide such information to WSMR.

Section 7 Consultation:

Section 7 of the Endangered Species Act requires all Federal agencies to consult with the Service on any proposed action that may affect federally listed threatened or endangered species. From the information provided in the draft statement, it appears that implementation of TMD Programs on the WSMR and the Western Range may affect federally listed threatened and endangered species. As a result, the U.S. Army, which is the lead agency for the draft statement; the U.S. Air Force, which administers Vandeberg; the U.S. Navy, which administers San Nicolas Island; or the branch of the military proposing to implement a specific TMD Program on WSMR and the Western Range, would be required to consult with the Service.

Section 7 also requires Federal agencies to confer with the Service on any agency action which is likely to jeopardize the continued existence of species proposed for Federal listing as threatened or endangered. As described in the draft statement, implementation of TMD Programs and the Western Range may affect a proposed species; however, adequate information is

not presented to determine if the continued existance of the proposed species is likely to be jeopardized. As a result, one or more of the above mentioned Department of Defense agencies may be required to confer with our Service. Conferences are informal discussions between the Service and the Federal agency designed to identify and resolve potential conflicts between an action and proposed species at an early point in the decisionmaking process. Conferences are recommended for projects spanning multiple years during which the proposed species may be listed, invoking the consultation requirements of section 7 of the Act.

The affected Department of Defense agencies should consider candidate species in their plans, since these species could be listed in the future. Advance planning may reduce the need to list such species in the future and, should a candidate species eventually be listed as threatened or endangered, such planning would assist in achieving compliance with the consultation requirements of section 7 of the Act.

Additionally, impacts to the San Andres NWR need further consideration as well as determinations regarding effects on species listed as endangered or threatened. General concern expressed in these comments regarding section 7 consultation and impacts to federally listed, proposed, and candidate species should be re-examined for all of the candidate test area alternatives and the results should be incorporated into the final statement.

For technical assistance regarding federally listed, proposed, or candidate species in the WSMR, contact the Supervisor, U.S. Fish and Wildlife Service, New Mexico Ecological Services State Office, at (505) 883-7877. For technical matters regarding the San Andres NWR, contact the Refuge Manager at (505) 382-5047. For technical assistance regarding federally listed, proposed, or candidate species in the Western Range, contact the Field Supervisor, U.S. Fish and Wildlife Service, 2140 Eastman Avenue, Suite 100, Ventura, California, at (805) 644-1766.

Cultural Resources

While cultural resources are addressed in the EIS, the impression is given that the potential for missile testing to impact these resources are extremely remote. This may not be the actual case. For example, one of the main reasons for protecting the EL Malpais area was the large number of cultural resources in the area, many yet remaining to be discovered and surveyed. A generic statement as to impact probability would carry more weight when compared to know concentrations of the resource (P. 4-96), rather than estimations applied indiscriminately to all land areas.

Socioeconomic Evaluation

Analysis of the proposals in the TMDS would have benefitted from some economic consideration of the costs of alternatives chosen. While the Socio-Economic sections of the EIS discuss the benefits to the local economy and similar factors, there is little of substance as to what the alternatives and the components of the various proposals such as the use of helicopters to clear vast areas of public land is going to cost compared to the other alternative scenarios. Under the CEQ regulations, these factors should be a part of the environmental analysis process.

Mitigation

Throughout the resource analysis sections of this document there are many references to the lack of need for mitigating measures because impacts are not expected to be significant. Mitigation measures should be developed and applied where environmentally sound regardless of whether the mitigated impact in question is considered significant.

Cumulative Impacts

Our concerns are associated with impacts to wildlife and plants in launch areas, intercept areas, and booster impact zones in the flight test vicinity of WSMR and FWD. Additional information should be used to evaluate cumulative impacts, including those impacts as a result of actions other than the TMD Program since many of the conclusions are inadequately supported. This should be rectified in the final statement.

The use of McGregor Range for TMDS should consider cumulative impacts, particularly as there is another EIS under review (Roving Sands) with potential impacts to McGregor Range. Neither document considers the cumulative impacts of overall activities on the Range. While this is not a severe problem for activities occurring in the southern portion of McGregor Range, it could very easily be significant should either proposal be located on Otero Mesa in the north and northeast portions of the Range, with its ACEC, WSA and black-grama ecosystem. This is an example of little analysis directed at the existing management of land under the jurisdiction of other Federal land-managing agencies. The final statement should evaluate cumulative impacts to the McGregor Range from Roving Sands and this missile program.

Corrections

There appears to be confusion in the EIS as to the location on the ground of some physical features or area designations. The

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Chain of Craters is located in the National Conservation Area, not in the National Monument. It is a wilderness study area and not within either of the blocks indicated as Zone A and Zone B.

There is no private land in Arches National Park as depicted on page 3-100, Figure 3.1 - 1.4. On the same map, there is a section of private land depicted at the entrance to Canyonlands National Park that is actually National Park Service land. Further there appears to be an omission before the top of page 3-165.

Maps depicting the Channel Islands should show Channel Islands Marine Sanctuary boundaries starting with Anacapa Island. It will help to correct the hazard assessment calculations.

Consultation with this Department's land managing agencies prior to the preparation of the final statement would reduce these errors.

Specific Comments

Executive Summary

P. S-1: There are many areas under BLM management which have restrictions on the use of "off-highway vehicles". These restrictions must be addressed in the final statement for those actions proposed for retrieving missile debris or boosters. The potential for boosters to fall outside the predicted flight path also needs to be addressed, with the same criteria for off-road vehicle use as for areas within the flight path.

P. S-4 Table ES-1: This table does not account for McGregor Range (not a part of WSMR), where the potential exists for significant impacts to land use and biological resources depending on where facilities are located. McGregor Range, because of its differing land status and management should not be buried in generic references to "WSMR/Fort Bliss;" it is not part of WSMR, and portions of the Range differ in use and management from the remaining military-withdrawn lands within Fort Bliss.

P. S-5: While it is recognized that WSMR is in the process of preparing an EIS for its own activities, it does not follow that other EISs involving the same or similar land areas should not thoroughly address all potential impacts, direct, indirect and cumulative, of a specific proposal that is proposed, regardless of where impacts occur. While pertinent information from another EIS may be incorporated by reference, the material

being incorporated must be summarized and presented in the EIS. The TMDS draft statement therefore appears deficient in its analysis of cumulative impacts, particularly in regard to impacts resulting from situations outside the predicted actions and results of the proposal. For example, the exceptional case, such as health and safety issues when something goes wrong are not adequately addressed.

The final statement should present a contingency plan. A short reference about accident prevention or hazardous material cleanup and related agency coordination on county, state and federal agency levels is recommended. Contingency preparation should include "Toxic Cloud Response Plan" with; Damage Control Procedure, Emergency exposure Limits, Response Actions, and Mutual Assistance Program.

It is recommended that the responsibility concerning rescue and cleanup operations in case of a mishap should be included in the "Cumulative Impact" chapter.

P.1-3: If it is anticipated that further environmental documentation will be needed (tiering) than the TMDS EIS will need to include as much cumulative impact analysis as is needed to support future tiered documents.

P.2-1: The multiple flights scenario described in the 2nd paragraph should be analysed to the degree known in this EIS, rather than in a later document to ensure the potential cumulative impacts of all flight scenarios are assessed at an early stage in the process.

P. 2-5: The discussion of the flight termination system used in case of missile malfunction indicates that flight termination would result in "the missile falling to the ground." The EIS contains no serious discussion of this aspect of operations that considers missile parts of various sizes moving at terminal velocity hitting any of the population centers underneath the flight path, potentially injuring or killing people, or any of the other scenarios that might result in severe impacts to human health and safety. This Department believes this entire issue is glossed over in the EIS and not given serious consideration despite an entire appendix devoted to calculations of the health and safety risks associated with firing missiles over a heavily-populated area. Despite calculations of very long odds of hitting anything with a malfunctioning missile, these calculations appear most optimistic; the threat is real and could happen with the first

missile launch. A more realistic appraisal of the dangers to the public involved in missile testing needs to be made in the final statement. As the EIS reads now, this issue is vague at best, and never even considers that the debris could realistically hit anything but " .... the ground."

While this Department can appreciate the fact that a test area with enough length and breadth to contain today's modern missile systems is lacking, we do not believe that creating a piecemeal area between Green River, Utah and White Sands, New Mexico is an equitable solution to the problem, as it brings an enormous area of the civilian population into the military's " .... test range ...." underneath activities that previously have been confined to military withdrawal areas. This Department urges that the civilian population should not be placed at risk in such a venture merely to acquire mission and system reliability data.

P. 2-15: In cases when the Flight Termination System (FTS) has to be activated, launches initiated seaward from Vandenberg Air Force Base would spray hazardous gases from low altitude levels upon the Point Pedernales and Point Arguello platforms located on the Outer Continental Shelf (OCS). The maps representing the "Launch Hazard Area" (LHA) should include Platforms Harvest, Hermosa, Hidalgo, and Irene (see pages 2-69, 2-73, 79).

P. 2-16: Again, discussions of the terminated missile flight generically speaks of missile debris hitting the ground after a flight malfunction and states. "This impact could occur outside evacuated areas." If so, then the potential for injuring or killing people must be even higher than predicted calculating only those areas evacuated. The assumption that everybody could be evacuated from all necessary areas when missiles are tested is very weak at best without any consideration that a missile might fall in an unevacuated area. Again, this is an indication of the weakness inherent in the draft statement's evaluation of health and safety risks to non-military personnel in areas within and outside the given boundaries. There should be no risks at all to those not involved in the actual military operations.

P. 2-19:. The draft statement indicates the TMD Extended Test Range program could include flight testing and target intercepts of prototype advanced-kill vehicles (KV) that may be used to destroy target vehicles by colliding with them at high speed. The potential impacts of the prototype KV's, or initial tests of the KV's, should be addressed in the final statement.

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P. 2-23: It is stated that no single range analyzed in the draft statement can satisfy all test needs and that a combination of test ranges (or alternatives) would be required. The draft statement is generally written however, as if each range is a separate alternative. If this is truly the case, then the alternatives should have been constructed around discrete activities using multiple ranges rather than a discrete range with a multiplicity of activities. The latter misleads the public into assuming all actions are to occur at one range selected through the environmental analysis process. Stating later in the proposal that all alternatives may be used at some point is misleading. The final statement should clarify how alternatives will be used.

P. 2-30: The draft statement mentions hazards to wildlife from exposure to high electrical magnetic radiation (EMR) fields, but no discussion of such hazards nor potential methods to minimize hazards is included in later portions of the draft statement. Any impacts and mitigation measures should be addressed in the final statement.

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target vehicles launched over WSMR. Other statements in the document (page 2-47) seem to support this conclusion. If this is the case, we believe the potential for missed intercepts is increased and this should be further discussed in the final statement.

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The final statement should indicate whether impacts would occur on San Andres National Wildlife Refuge (NWR). The first paragraph on page 2-54 indicates that each test scenario would have unique impact locations. These locations should be identified in the final statement. Through an MOU, the San Andres NWR is to be used as a buffer area with no planned impacts. Paragraph 2 mentions that both the boosters and submunitions would impact in areas approved by the Range Safety Officer. It is unclear if all these areas are existing target sites, or if new sites will be established. This issue should be clarified in the final statement.

P. 2-55: Figure 2.2-13 illustrates the proposed flight paths and launch and impact points, but does not indicate the location of the San Andres NWR relative to these locations. Please add the location of San Andres NWR to this figure.

P. 2-97: Table 2.6-1 indicates that human health and safety issues for the overland proposal are not considered significant. An actual appraisal of the fact that civilians could get hurt in this situation despite the best efforts of all concerned should be provided. Health and safety of the civilian population is significant in all scenarios for this portion of the proposal. Even if the risk is low, an actual accident over land would have higher impacts than over-water alternatives.

The draft statement indicates special emphasis was placed on the presence of "species listed by Federal, State, or local agencies" (page 3-18). We recommend this sentence be changed to read " ... listed, or proposed to be listed, by Federal ...."

"Wildlife"-- This subsection of the document contains multiple errors in spelling, specifically of scientific names. Its organization is very confusing; for example, the discussion of northern aplomado falcon sightings is in the same paragraph as the sensitive plant discussion on page 3-23. In addition, the discussion of habitat preferred by the northern aplomado falcon on WSMR should be changed to read "grasslands with very little shrub component other than yucca" as noted on page 3-25.

In a letter dated November 24, 1993, from the New Mexico Ecological Services State Office, our Service corrected the proposed list of species of concern. While corrections were made to this list in Appendix G, the corrections were not included in the text in this section. The ferruginous hawk, Baird's sparrow, and Mescalero milkwort are Federal candidate category 2 species and should be indicated as such. In addition, the southwestern willow flycatcher is proposed for listing as endangered with critical habitat. Potential impacts to this species should be addressed in the document.

In the final paragraph of this section on page 3-25, the draft statement indicates no sensitive habitat for federally listed species has been identified on McGregor Range. Information available to our Service indicates habitat with potential for occurrence of the endangered northern aplomado falcon does exist on McGregor Range. In addition, our Service is aware of one unconfirmed sighting of the species at the Orogrande gate of McGregor Range in 1993. We believe the potential for any impacts from activities on WSMR or McGregor Range that may affect this federally listed species should be re-evaluated. In addition, we recommend surveys be conducted to determine whether the species is present prior to activities planned between mid-February and mid-August, the period during which aplomado falcons may occur in the area.

P. 3-20: In Figure 3.1-3 the boundary between Doña Ana and Sierra Counties is too far north. Desert bighorn sheep habitat is incorrectly marked; it exists throughout the San Andres Mountains, with one subpopulation occupying the southernmost 20 miles, and another using the area farther north from Kaylor Mountain to Range Road 6.

P. 3-25: The section on wildlife overlooks the fact that a portion of McGregor Range contains the last vestiges of the black grama rangeland in the west and high wildlife values for deer and antelope. The text in the final statement should point out that BLM has a designated ACEC (McGregor Black Grama) in this area. The statement on p. 3-25 that "McGregor Range has been routinely used for vehicular maneuvers for many years and that most of the range is regularly disturbed" is a gross misstatement. While the southern portion of McGregor is routinely used for military exercises, the northern and eastern portions, encompassing Otero Mesa is not regularly used and disturbance in this area is minimal, particularly with an ACEC and Wilderness Study Area (Culp Canyon) in this area. Otero Mesa is environmentally very sensitive. It is not an area open to unrestricted military exercises at the discretion of the military. (See the MOU between BLM and U.S. Army (31/90) contained in the McGregor Range Resource Management Plan Amendment (RMPA)). Our BLM fails to understand why this fact is overlooked in the draft statement.

P. 3-35: This section contains some of the rationale for the risk analysis for human health and safety within the missile flight corridors. While the assumption of risk of about 1 to 1 million as used at WSMR sounds reasonable, it appears

as if this risk value is considering only what White Sands considers--flight paths within the Missile Range itself. Applying this figure and rationale to a flight path running from Utah to southern New Mexico over cities and generally populated areas does not seem reasonable nor prudent.

P. 3-37: The discussion of Booster Impact Zones states that the use of these zones ensures that the risk to the public is eliminated for these repeated events. Its unclear how this can be the case, given that it could be practically impossible to totally evacuate any area under consideration and under all conditions.

P. 3-39: Figure 3.1-6 indicates that an active impact area (apparently the Yonder area) overlays a portion of the San Andres NWR (which it does not). This map should displace the location of the San Andres NWR and correct the location of the active impact area.

P. 3-46: The draft statement makes reference to a noise monitoring study conducted for the HEDI-Kite 1 program. It states, "(t)he study found no data to indicate a noise impact on the bighorn sheep." The sheep were not monitored to assess impacts on them; potential impacts from noise sources were monitored. This study states, "(h)owever, it cannot be determined if a noise impact would result from an explosive intercept of a target vehicle." Results of this study should not be used to assess impacts on the San Andres sheep, but a more recent study conducted during the Roving Sands Joint Training Exercise 1992 and 1993 might be reviewed. Page 4-23 also mentions noise impacts from the launch site as not having significant impacts on sheep. The final statement should provide the anticipated noise levels in the sheep-use areas as a result of missile intercept explosions. Support for this conclusion would require knowledge of the noise levels that might be reached.

P. 3-57: The draft statement indicates special emphasis was placed on the presence of any "species listed by Federal, State, or local agencies" (page 3-18). We recommend this sentence be changed to read "... listed, or proposed to be listed, by Federal ...."

P. 3-84: Two potential flight corridors are identified in the draft statement with associated booster drop zones, over New Mexico. Potential for impacts to federally protected plants and animals within the booster drop zones are addressed but there is no discussion regarding potential impacts to resources along the

flight corridor. Our Service would be interested in reviewing the probability calculations for flight termination before or after the missile has dropped the booster and what potential impacts might result.

P. 3-105: The discussion of the flight corridor from Ft. Wingate south overlooks the status lands of this area in addition to the National Monument at El Malpais managed by the NPS. This entire area has many land-management considerations overlooked in the draft statement such as operations within a wilderness study area or wilderness area, and the heavy impact evacuations or closures would have on these areas specifically set aside for conservation and recreation. Reference to the BLM General Management Plan for El Malpais would clarify land status issues.

P. 3-157 and 3-159: The section on regulations should mention 40 CFR Part 55 and the Clean Air Act Amendments of 1990, Section 318. Both impact the described offshore area activities and should be included.

P. 3-161: Table 3.3-2 references the Corresponding Onshore Area (COA) designation. This information should be reviewed because the U.S. EPA has already delegated the authority to the questioned onshore territorial waters to Ventura, Santa Barbara and San Luis Obispo County Air Pollution Control Districts (APCDs). The proposed text should also mention that the onshore area air quality standards will be applied to the offshore area activities. For this reason, closer coordination with county and state level agencies is recommended (reference: 40 CFR Parts 55.5, and 55.8).

P. 3-184: The last paragraph shows a table containing 30 different launch events within 24 months. We recommend that at least the heavy rocket launches and rocket interceptor launches be more adequately coordinated with POCS platform activities because of their elevated production levels. Recommended time windows to consider would be the annual turn-arounds, depressurization, fishing windows and the critical/non-critical pipeline activities on the platforms within LHA territories.

P. 3-209: The section on regional air quality should:

a. Consider the impact of a level "Flight Termination System" (FTS) episode and create an additional map to show its LHA boundary, combined with:

1. dominant wind direction for the Santa Ana winds;

2. and for the seasonal West, North-West winds as stated on previous pages.

b. It is not clear, how the launch would be influenced by the 169 km/hr winds mentioned earlier.

c. The reference to the Hydrogen Chloride gas dispersion model as calculated for the LHA was not found. Complete this chapter with this missing information.

P. 3-223: The following issues were not taken into consideration in the air quality assessment of the Western Range:

1. In the last paragraph, the description of the Region of Influence (ROI) describes sea-vessels but fails to point out POCS facilities and related activities such as; helicopter traffic, drilling rigs, exploratory rigs, diving activities, and construction work.

2. Consider impacts to the 50 to 75 people on each platform for the hazard assessment calculation.

This chapter should be rephrased to consider combined scenarios that would include an unrelated oil-spill event when a large number of boats and personnel are involved around the clock. This activity could also involve the shoreline and its tributaries.

In the final statement, this chapter should note that the EPA's Delegation of Authority has already taken place and coordination with county and state agency levels is required.

P. 3-227: The 200 mile by 180 mile LHA covers a significant portion of the POCS coastal areas. We recommend the following improvements in the proposed text.

The 5th paragraph describes warning and restricted areas. Shipping corridors were left out and should be incorporated as follows:

"Restricted Areas and Warning" maps 3.3-10 and 3.3-11 also should include the commercial shipping corridors inside and outside of the Channel Islands.

Tables 3.3-19 and 3.3-20 do not show the low flying designated helicopter corridors assigned to your Minerals Management Service (MMS) and the POCS platform operator companies. These helicopters fly 7 days a week. Please include them in the final statement.

P. 3-225/3-31: We recommend that the maps include "Clean Seas" and support vessel harboring positions in case of an accident leading to oil spills or hazardous spills in the POCS.

P. 4-1: This section of the draft statement discusses expected impacts and measures used to mitigate impacts. In several portions of the discussion of impacts, the draft statement indicates certain impacts "could," "should," or "may" be mitigated, using various means. These statements are vague and must be changed to indicate a firm commitment to exactly what efforts will be made to mitigate impacts. The final statement should describe the mitigation efforts that are committed.

P. 4-3: Discussions on page 3-9 of the draft statement indicate that some of the "lowest average morning mixing heights" in the continental United States (ranging from 200 to 400 miles) are found in New Mexico and on the WSMR: "(t)hus, even moderate amounts of emissions during the late evening and very early morning could lead to short-term episodes of high pollutant concentrations in ground-level air." Discussions on page 4-13 indicate that for "missiles similar to a TMD target missile, the ground cloud is expected to rise to heights of 300 miles or more." We believe the potential for adverse effects due to early morning flights should be addressed in the final statement and appropriate mitigation established.

Cumulative Impacts--The draft statement addresses impacts from yearly emissions from the launching of TMD missiles. We believe this discussion should include activities other than those under the TMD Extended Test Range program. Information being gathered for the WSMR range-wide environmental impact statement should be of use in this evaluation.

Mitigation measures - Construction measures such as grading areas for evaluation of submunition dispersal and site preparation of launch and sensor sites on WSMR and/or Fort Bliss are mentioned. In addition, there has been some discussion of trenching to bury

utility lines. Discussions on page 4-8 indicate fugitive dust and combustion emissions are "fairly easily mitigated ... [and] will have durations of only a few months." The final statement should discuss and commit the methods that would be used to mitigate fugitive dust and combustion emissions.

P. 4-13: This section highlights the emphasis given by the Army to noise and air quality issues associated with missile launches (and missile failures) while devoting far less analysis and space to the actual affects of a variety of terminal-velocity missile parts or boosters actually hitting the ground--ground that could have an unknown cultural site or a Tribal religious group on it at the time. It would seem that the potential for actual environmental harm "on the ground" should be of equal or greater significance than peripheral air quality or noise issues.

P. 4-16: The draft statement discusses the release of freon. The short-term and cumulative impacts of the release of 6 tons of Halon 2402 in one year should be described. The draft statement does not address these releases in "Cumulative Impacts" on page 4-19.

The United States is a signatory to the Montreal Protocol which restricts the use of ozone depleting chemicals in order to protect the ozone layer from such releases. The final statement should evaluate whether the release of freon and halon 2402 would violate the Montreal Protocol.

P. 4-20: The draft statement describes the probability of a fire from an early flight-termination affecting an endangered or threatened plant species as being low. The next sentence in the document indicates "impacts are not expected to be significant" to endangered or threatened plant species. Section 7 of the Endangered Species Act (ESA) requires Federal agencies to enter formal consultation if a proposed action may *affect* a listed species. If the Army believes there will be no impacts to listed species, we recommend the text regarding impacts from fire, hydrochloric acid (HCL), and triethyl phosphate (TEP) as discussed in this section be changed to indicate this determination. Otherwise, the Army should consult with our Service on this issue.

P. 4-21: The "criteria for determining the significance of potential impacts to biological resources" overlooks the consideration of the land itself as a biological resource and more importantly, as a resource with existing management criteria in place, developed by land management agencies through the resource management planning process required under FLPMA and other laws and legislation. Lack of consideration of the

restrictions within wilderness areas or wilderness study areas is particularly evident, and seems to indicate a reluctance on the part of the Army to consider the lands they need for testing in realistic terms i.e., the land and the existing management of the land considered in total. The West is no longer the wide open spaces of minimal population of just a generation or two ago. It is populated, used and the management prescriptions for lands in New Mexico developed by the various land-managing agencies will have an effect on the Army's proposals and their ability to implement those proposals in the areas they have selected. The final statement should address this issue.

Reference is made on page 4-22 to Figure 3.1-2 as describing sensitive habitats. The proper reference should be to Figure 3.1-3.

The draft statement discusses the lack of impacts to bighorn sheep from noise associated with launch activities. We believe a brief discussion of impacts to other wildlife likely to occur within the 8-kilometer zone in which noise levels will be above 90 decibels should be included in the final statement. In addition, low altitude helicopter flights may affect species other than the bighorn sheep. Migratory birds, including the endangered northern aplomado falcon, may be affected if the flights occur during the time such species are present. The paragraph containing the discussion of the Region of Influence (page 4-24) should be modified to include species of migratory birds other than "ducks" (i.e., migratory raptors, songbirds, waterfowl, and shorebirds).

On pages 4-23 and 4-24, the discussion relates to disturbance impacts associated with debris recovery, and suggests that debris would not be recovered in areas occupied by sheep. Radio transmitters allow location of these sheep. During times when sheep are not in the vicinity of debris, it could be removed by personnel on foot with minimal impact to natural resources.

P. 4-28: This section references Department of Defense (DOD) Directive 4210.15, *Hazardous Material Pollution Prevention*, which specifies that efforts should be made to minimize the use of hazardous and toxic materials in all DOD activities. Our Service is concerned about the use and impacts of such hazardous chemicals as TEP, HCL, and halogens. We believe the Army should make every attempt to substitute other inert chemicals, where possible, to minimize potential direct and indirect impacts to vegetation, wildlife, and water sources.

P. 4-34: Impacts Specific to WSMR and Fort Bliss McGregor Range state that unsuccessful intercepts would result in missile impact in separately designated impact zones. A thorough discussion of the locations of these impact zones and potential for impact to sensitive resources should be included in the final statement.

P. 4-40: This section again highlights what could be considered lack of analysis. ("in regard to the potential for environmental or human harm when there is an unsuccessful launch or subsequent mishap.") Removing all the people in every case from overflight areas seems unlikely even under the best conditions. No consideration is given to the hard fact that an unsuccessful launch or other accident means something in addition to "missile debris projected to the ground." It actually means there is the real potential for harm to something on the ground, be it a cultural site or a human being accidentally unretrieved from the area. The draft statement makes every mathematical effort to stress the safety of the missiles and systems proposed in this action, rating accidents in the 1 to a million range or once every million years, etc, (App. D and text). Such high levels of system reliability raise the question of why it is necessary to test such reliable systems in the first place.

P. 4-41: We believe section 4.1.1.8 is very misleading in its description of land use. The first paragraph makes no distinction that McGregor Range, while used for military activities, is not similar in land use to WSMR and Fort Bliss. Reference to "co-use areas" is also misleading. The areas are primarily BLM-managed public lands with many multiple-use activities occurring daily. The areas are primarily buffer zones, not primary areas of army operations. Our BLM is the managing agency for these lands, allowing temporary evacuations for missile firings. While it is true that the ranchers in the area can, and have been evacuated for missile activities, ranching is not the only activity occurring on these lands, and far more people than the ranchers would have to be located, informed and evacuated. The final statement should be revised to address these issues.

P. 4-42: This section notes, "Possible debris impacts on the San Andres National Wildlife Refuge, are discussed in Section 4.1.1.3 above." Section 4.1.1.3 does not mention the San Andres NWR. It mentions impacts to the sheep and coordination with our Service for other concerns. Section 4.1.1.8 should mention that the San Andres NWR is used by WSMR as a buffer area through an MOU, and

that no impacts can be planned to occur inside the refuge boundary. Any debris that does impact the refuge should be cleaned up to the satisfaction of the Refuge Manager using recovery methodology that has been discussed with and approved by the Refuge Manager.

P. 4-42: The section on mitigating measures is deficient in that it only considers WSMR and Fort Bliss. Areas other than these two military-controlled sections are involved, such as McGregor Range, buffer zones and the "overshoot" area (Northern Extension Area) to the north of WSMR. Mitigation needs to be discussed for these areas as well, and needs to take into account current land management practices in these areas.

P. 4-52: Discussions on Page 4-52 indicate that Mound Springs, Malpais Springs, and Salt Creek are surface waters that could be affected by intercept debris. The New Mexico Ecological Service State Office has been working with WSMR and the New Mexico Department of Game and Fish to develop a management plan for the White Sands pupfish in an attempt to address threats to the species and ensure its survival. Until such a plan is formalized, our Service cannot agree with any action that would cause adverse impacts to the species. The final statement should address actions proposed to avoid impacts to the White Sands pupfish, including potential impacts from falling debris. We recommend the Environmental Division of WSMR be contacted to discuss elements within the White Sands pupfish management plan that may pertain to the proposed action.

P. 4-75: The discussion under vegetation indicates that Zuni milk-vetch (identified as *Astragalus accumbens* in Appendix G) is a federally threatened species known to be in the Fort Wingate area. The current status of the Zuni milk-vetch is category 3C, indicating it is no longer under review for listing. Indeed, this species is not listed in the Service's current Notice of Review.

Potential impacts to vegetation, particularly Zuni fleabane, from HCL emissions during launch are mentioned. The discussion of impacts to this threatened species should be addressed in a manner similar to those for potential impacts due to fire.

Under "Wildlife," the DEIS mentions potential impacts to the Mexican spotted owl from construction activities. The discussion of impacts to this threatened species should be dealt with in a manner similar to those for potential impacts due to fire in Section 4.1.1.2. This is also true for potential impacts to endangered and threatened species from launch activities (page 4-77).

The southwestern willow flycatcher has potential of occurring on FWD. Potential impacts to this species should be addressed in the final statement.

Our Service supports the use of pre-construction surveys to determine presence of federally listed species that may be impacted by activities during construction. We believe surveys should also be conducted in areas potentially impacted from launch activities. Should federally listed plants or animals be located within the area of impact and such impact could not be avoided, the Army should initiate formal section 7 consultation as required by the Endangered Species Act. Consideration of disturbance to listed plants should foremost emphasize avoidance; results of transplanting plants are unreliable and transplanting will be considered only as a last resort.

P. 4-94: The possibility of federally listed plants being struck by falling debris is described as remote. The discussion of impacts to these species should be dealt with in a manner similar to those for potential impacts due to fire. This is also true for potential impacts to sensitive wildlife species along the flight corridor, including the southwestern willow flycatcher.

The draft statement describes the Region of Influence along the flight corridors as being within the flight corridor for the migration of ducks. This statement should be modified to include other migrating species such as other waterfowl, shorebirds, raptors, and songbirds.

Under "Mitigation Measures," the DEIS indicates a "qualified biologist" should be assigned to monitor debris recovery. If the Army determines that recovery of debris is in habitat considered suitable for any species listed as endangered or threatened under the Endangered Species Act, we recommend the Army contact our Service to initiate informal consultation until a determination of potential impacts is made.

P. 4-99: Mitigation measures for impacts from missile debris includes the use of small-wheeled vehicles or helicopters. This overlooks the fact that wheeled vehicles use is severely

restricted in wilderness areas and wilderness study areas, as is low-level aircraft use. There are also restrictions on off-highway-vehicle use in other areas of BLM-managed lands affected by the TMDS proposal. The Army should consult with BLM in order to provide accurate information about recovery activities in the final statement.

P. 4-103: The section on flight termination debris clearly indicates that there are some scenarios where missile debris falls outside of the normal parameters into "areas beneath flight corridors [that] are not evacuated." This implies an even higher risk to the civilian population in some scenarios not further analyzed in the sections on health and safety risks. This section does not appear to consider health and safety as a realistic issue of the TMDS proposal. Regardless of the statement by the Army assuming full liability for mistakes, why should a land management agency place itself in the position of having to assume this kind of liability risk? It appears environmentally unsound to do so at the least, without consideration of social issues.

P. 4-104: The statement "Since the risks associated with TMD target missile activities within the flight corridor are well within acceptable risk criteria established at WSMR, the impact of flight termination debris upon public safety is considered to be not significant." We seriously question the reality of this statement. It appears that the WSMR criteria were developed considering only the situation and areas applicable to White Sands Missile Range itself (including its "overshoot area" to the north). These criteria are basically applicable to a self-contained area long set aside for missile launches, NOT an unbounded, civilian-populated area stretching from Utah to southern New Mexico. Where are the criteria that specifically relate missile accident potential and results to the actual areas over which the missiles will be flying and the actual civilian populations involved? Using the WSMR criteria does not seem to be particularly useful or relevant in the situation proposed in the draft statement.

P. 4-117: In regard to the procedures for notifying people of closures and tests, what plans does the Army have in place to assist with this process for areas under the control of other Federal agencies? It would seem that there would be a need for more than just a military presence in the area to get the job done effectively. Considering the vast area involved over time, it would appear that the need for helicopters and personnel to effect evacuations would be very expensive, yet could not guarantee full evacuation.

P. 4-215 and 4-216: This section addresses impacts to the San Clemente loggerhead shrike, listed as endangered under the Endangered Species Act, and concludes that impacts to this endangered species would not be significant. The final statement should present enough background on this issue to support that conclusion and should fully document how the conclusion is reached. Otherwise, the Army should consult with our Service.

Project Description: The project description includes a brief discussion of electromagnetic radiation (EMR) that would be produced by phase-array radars. This discussion specifically states that exposure to high EMR fields represents a safety hazard to humans and wildlife. However, the draft statement does not provide any description of the nature of this hazard to wildlife, and those portions of the document that identify potential impacts to wildlife do not address EMR fields. The final statement should address the nature of the safety hazard that EMR fields pose to wildlife and assess the significance of the potential impacts.

Affected Environment: The description of the affected environment at San Nicolas Island does not identify peregrine falcon (*Falco peregrinus*), Guadalupe fur seal (*Arctocephalus townsendi*), or Steller sea lion (*Eumetopias jubatus*), as sensitive species that may be affected. The peregrine falcon is Federally listed as endangered, and both of the pinnipeds are Federally listed as threatened. Similarly, this section of the draft statement does not identify or describe the distribution of a number of species occurring on San Nicolas Island that are candidates for Federal listing. All listed, candidate, and otherwise sensitive species known to occur on San Nicolas Island should be included in the description of the affected environment in the final statement, and any impacts to such species or their habitat should be addressed in the environmental consequences section.

The map (Figure 3.3-1) of sensitive habitat on San Nicolas Island depicts only a small area off the southwest shore as being used by the federally threatened southern sea otter (*Enhydra lutris nereis*). Individuals of the San Nicolas sea otter colony are most frequently found in a larger area off the shore between Cormorant Rock, and the western most point of the island. In previous years, southern sea otters have also frequented other parts of the island. The final statement should more accurately reflect the distribution of southern sea otters on San Nicolas Island.

Several elements in the description of the affected environment at Vandenberg should be corrected, clarified, or updated, and should be correspondingly addressed in those sections assessing impacts to biological resources in subsequent environmental documentation. These include the following:

(a) The draft statement indicates bald eagles (*Haliaeetus leucocephalus*) are reported to occur only rarely at Vandenberg. However, a juvenile of this federally endangered species has been regularly sighted at the Santa Ynez River mouth since January of this year.

(b) The draft statement describes the California red-legged frog (*Rana aurora draytoni*) as a candidate species that occurs on the northwest part of Vandenberg. This species is now proposed for Federal listing as endangered and is suspected to occur in suitable wetland habitats throughout the base, including Honda Creek in the southern part of the base.

(c) The description of the use of Vandenberg by the federally endangered California least tern (*Sterna antillarum browni*) should be expanded to specify that the Purisima Point nesting area is immediately adjacent to site 576E, a candidate for TMD launches. This description should also include a discussion of California least tern foraging areas including the mouths of Shuman Creek, San Antonio Creek, and the Santa Ynez River.

(d) The tidewater goby (*Eucyclogobius newberryi*) is proposed for Federal listing as endangered and occurs at the mouths of Jalama Creek and the Santa Ynez River. Subsequent environmental documentation should be updated to reflect that a final rule has been published formally listing this species as endangered. This discussion should also be expanded to indicate that tidewater gobies have been found in Shuman Creek and may occur in other suitable habitat on Vandenberg, such as San Antonio Creek and, possibly, Honda Creek.

(e) Figure 3.3-5 on page 3-192 depicts only one brown pelican (*Pelecanus occidentalis*) roosting area on Vandenberg. This federally endangered species also roosts in the Point Arguello (south Vandenberg) and Lion Rock/Point Sal (near north Vandenberg) areas.

(f) The description of the affected environment at Vandenberg does not mention the occurrence of the federally threatened marbled murrelet (*Brachyramphus marmoratus*) in the waters off Vandenberg. Two federally endangered plants, Gamble's watercress

(*Rorippa gambelii*) and beach layia (*Layia carnosa*), are also omitted from this section of the draft statement. Vandenberg also provides habitat for several species which are candidates for Federal listing; however, only a few of these candidates are mentioned in this section of the draft statement. The final statement should include discussions of these species and their habitats.

P. 4-178: Potential impacts to the biological resources of San Nicolas Island are described. The following elements of this section should be clarified and expanded in the final statement:

a. The discussion regarding the effects of hydrogen chloride (HCl) contained in launch emissions concludes that impacts to vegetation would not be significant. This conclusion is based on the monitoring results from a launch involving a booster similar to the largest proposed TMD booster. The final statement should include a description of these monitoring results.

To evaluate the applicability of this monitoring program's results to the vegetation on San Nicolas Island, information is needed regarding the types of vegetation monitored, the methods used, the topography of the launch site, the weather conditions at the time of the launch, the time of year the launch occurred, and the results of the monitoring. Subsequent environmental documentation should either include this information or should provide a citation for any reports describing the details of this monitoring program.

The draft statement indicates that the monitoring program mentioned above was conducted for only one launch. The TMD program may involve as many as four launches per month for over 5 years. However, the draft statement does not provide any discussion or analysis of the effects of repeated exposure of vegetation to the HCl in missile emissions. An evaluation of repeated, chronic exposure to HCl is needed before the conclusion that TMD launches would not significantly affect vegetation on San Nicolas Island can be supported. If such information is not available, monitoring should be implemented to assess the scope and significance of effects to vegetation and that potential mitigation measures be identified in the event that the effects are found to be significant.

b. The discussion regarding the effects of noise on the wildlife of San Nicolas Island states that launching from site 807 could significantly affect southern sea otters and sensitive pinnipeds. The next sentence in the document concludes that TMD launches,

which may occur at site 807, are not expected to cause significant impacts due to the frequency and duration of effects. This apparent contradiction should be clarified in the final statement.

This section of the draft statement also includes the following sentence: "Research, however, has also indicated that there are approximately 100 noise events (e.g., aircraft, wave noise, thunder) on the Channel Islands." It is not clear if this sentence is meant to convey that there are 100 sources of noise on the Channel Islands or if 100 instances of noise occur on the Channel Islands during an unspecified unit of time. This sentence should be clarified in the final statement.

To adequately assess the potential effects of project-related noise on the wildlife of San Nicolas Island, the frequency and intensity of existing anthropogenic noise should be compared to the intensity and frequency of noise that would be produced by this project. The draft statement begins to make such a comparison in the discussion of sonic booms by comparing the intensity of the sonic booms produced by vehicles that have previously been launched from Vandenberg with the sonic booms likely to be produced by TMD missiles. However, this discussion does not compare the existing frequency of such events (around 150 launches over the last 30 years) to the proposed frequency of TMD launches (up to 264 launches over 5.5 years). Such intensity and frequency comparisons should be included in the final statement, and should address noise at the launch site as well as sonic booms.

c. The portion of this section addressing the effects of HCl on wildlife states that studies on representative birds and mammals indicate that low-level, short-term exposure would not have significant impacts. Subsequent environmental documentation should identify the species considered to be representative of San Nicolas Island fauna. Additionally, this discussion should be expanded to address the effects of the repeated, chronic exposures that would occur if missiles are launched at a rate of four per month for over 5 years.

d. The discussion of potential impacts to biological resources from fire associated with an early flight termination concludes that the probability of such an event occurring in proximity to sensitive species is low and, therefore, that the impacts would not be significant. However, the draft statement does not disclose (1) how this low probability was calculated or estimated, (2) the size of the area around each candidate launch

facility that would be subject to fire risk, and (3) which habitats and sensitive species within each of these areas may be affected. This should be rectified in the final statement. Given the proposed frequency of launches, the final statement should include a discussion of the probability of fires occurring on San Nicolas Island as a result of this project. The final statement should also provide maps of vegetation and sensitive species in the area subject to fire risk around each candidate launch site. These launch site specific maps may also be helpful in assessing other impacts associated with TMD missile launches, such as construction activities, noise, and exposure to HCl.

(e) This section of the draft statement identifies several mitigation measures. They include selection of the least damaging launch site on San Nicolas Island, avoiding launch activity during breeding and nesting seasons, providing a biologist to monitor recovery of early termination debris, and making fire suppression equipment readily available. We concur that these measures would help to avoid and reduce the severity of impacts to biological resources and recommend that they be included in the final statement. Mitigation measures to compensate for those impacts which cannot be avoided should also be identified in the final statement.

(f) The discussion of mitigation measures identifies mechanisms for avoiding or reducing the effects of lighted facilities on wildlife. However, the impacts of light on wildlife are not discussed elsewhere in this section of the draft statement. The final statement should describe and assess the significance of the effects of light on the wildlife of San Nicolas Island. This discussion should address the light associated with the ignition of booster fuels as well as the light associated with launch facilities.

P. 4-185: In the 4th paragraph, the sentance stating "Oxnard with a population of 142,000 ..." needs modification.

The hazard scenario should mention the commercial harbor of Port Huenema, practically a suburb of Oxnard, with heavy overseas traffic. The outgoing shipping corridors split into two dominant directions: the first leads to the outer Channel Island corridors and the second becomes the inside corridor following the shore line. The outgoing traffic goes around the Channel Islands and follows the main LAH in the Trans-Pacific direction to West and the other part of it takes off to the North.

Port Huenema, Oxnard and Ventura in actuality are built together into one block, raising the effected population level much above 200,000. The Hazard exposure scenarios should be recalculated considering this fact.

P. 4-187: The section on Vandanberg Air Force Base addresses potential impacts to the biological resources there. The following elements of this section should be clarified and expanded in the final statement.

The discussion of the impacts of construction on vegetation concludes that impacts would not be significant because construction would be addressed in program and site specific environmental documentation. The discussion of construction impacts to wildlife concludes that such impacts would not be significant because construction activities are expected to be minor. Because the draft statement does not describe the nature or location of construction activities on Vandenberg, we concur that these impacts should be addressed in subsequent site specific environmental documentation. Expecting that the construction would be minor and deferring consideration of any associated impacts to future documents does not ensure that such impacts would not be significant. The determination of the significance of construction impacts should be addressed in the final statement.

The discussion of fire associated with early flight termination only identifies potential impacts to the curly-leafed monardella near the Rail Garrison launch site. However, the area around each candidate launch facility that would be subject to fire risk is not delineated, and the habitats and sensitive species that occur within each of these areas are not identified.

The final statement should include vegetation and sensitive species maps for the area subject to fire risk around each candidate launch site. The document should also address the probability of fire occurring on Vandenberg as a result of this project. These launch site-specific maps may also be helpful in assessing other impacts associated with TMD missile launches such as construction activities, noise, and exposure to HCl.

The discussion of the effects of HCl on vegetation and wildlife is nearly identical to that presented in previous sections. We recommend that the comments provided for that section also be applied to Vandenberg in the final statement.

The discussion of the effects of noise on wildlife, including federally listed species, includes the following text: "(t)hese indirect effects could be defined as 'take' according to the Act. However, the intermittant launches associated with the proposed project are expected to cause no significant impacts to wildlife because the actual duration and frequency of the effects are expected to be low." Take of listed species is considered to be a significant impact. This contradiction should be corrected or clarified in the final statement.

This discussion also indicates that California least terns and peregrine falcons have only recently started nesting at Vandenberg. Breeding activity by both of these endangered species has occurred at Vandenberg in previous years. The Natural Resources staff at Vandenberg should be contacted for more detailed information about these species' reproductive activities on the base in general and in the vicinity of candidate launch sites specifically.

The discussion of noise effects goes on to conclude that adequate information does not exist to properly predict impacts to a number of sensitive species. The final statement should include a plan for monitoring the effects of noise on sensitive species and assessing the significance of any impacts detected. This plan should also identify potential mitigation measures to avoid, reduce, or compensate for any adverse impacts. Anticipation of impacts to sensitive species in advance of such monitoring may be facilitated by comparing the frequency and intensity of existing anthropogenic noise with the intensity and frequency of noise that would be produced by this project.

This section of the draft statement concludes that the California tiger salamander, two-striped garter snake, southwestern pond turtle, tidewater goby, unarmored threespined stickleback, and California red-legged frog would not be significantly affected because of their locations. Given that the location of both individuals and suitable habitat for all but one of these species has not been mapped and that the sphere of potential impacts from fire, noise, and HCl has not been identified for each candidate launch site, it appears premature to conclude that significant impacts to these species would not occur. Impact to these species should be fully documented in the final statement.

Several mitigation measures are identified including selection of the least damaging launch site on Vandenberg and avoiding launch activity during breeding and nesting seasons. We concur that these measures would help avoid and reduce the severity of

impacts to biological resources and recommend that they be included in subsequent environmental documentation.

The mitigation measures discussed for San Nicolas Island should be implemented at Vandenberg and mitigation measures to compensate for those impacts which cannot be avoided should be addressed in the final statement.

The discussion of mitigation measures identifies mechanisms for avoiding or reducing the effects of lighted facilities on wildlife. However, the impacts of light on wildlife are not discussed elsewhere in this section of the draft statement. The final statement should describe and assess the significance of the effects of light on the wildlife of Vandenberg. This discussion should address the light associated with the ignition of booster fuels as well as the light associated with launch facilities.

P. 4-193: The sentence containing " ... missile interceptd and lethal debris impacts would take place in either existing area or warning area ... " needs to be extended to include POCS facility activities and related air traffic.

In the sentence stating with " ... the required scheduling process ..." should include both MMS and the U.S. Coast Guard, we did not find any mention of coordination with these two agencies in the draft statement although both regulate and coordinate certain aspects of rescue, oil-spill event and hydrocarbon production/exploration activities. This information should be included in the final statement.

Appendix

Appendix G, Table G-2. The status of the southwestern willow Flycatcher should indicate that the species is proposed for listing as endangered with critical habitat.

Appendix G, Table G-4. The status of the southwestern willow flycatcher should indicate that the species is proposed for listing as endangered with critical habitat (PE). The Zuni milk-vetch is not currently under review for listing by the Service and should be removed from the list, unless listed as sensitive by the State of New Mexico. Further review of project data indicates three additional plant species, Acoma fleabane (Erigeron acomas), Goodding's onion (Allium gooddingii), and Mesa Verde cactus (Sclerocactus mesae-verdae), should be added to this list as Federal candidate category 2, candidate category 1, and threatened species, respectively.

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U.S. Department of Transportation
Federal Aviation Administration

Southwest Region
Arkansas, Louisiana
New Mexico Oklahoma
Texas

Fort Worth, Texas 76193-0000

SEP 0 2 1994

Mr. David Hasley
U.S. Army Space and Strategic
Defense Command
ATTN: CSSD-EN-V
P.O. Box 1500
Huntsville, AL 35807-3801

Dear Mr. Hasley:

The Southwest Region of the Federal Aviation Administration has reviewed the Supplemental Draft Environmental Impact Statement (DEIS) for the Theater Missile Defense Extended Test Range Proposal.

While we have no specific comments concerning the supplemental document, we would like to take the opportunity to reiterate our primary concern presented to you in Mr. Dean McMath's March 11, 1994, letter. The impact of a terminated missile outside evacuated areas and the rerouting of aircraft to avoid test activities are not adequately addressed in the DEIS.

As previously requested, please provide us with a copy of the final document when available.

Thank you for allowing us to review and comment on the proposed action.

Sincerely,

Clyde M. DeHart, Jr.
Regional Administrator,
Southwest Region

State of Utah
DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF AIR QUALITY

Michael O. Leavitt, Governor
Dianne R. Nielson, Ph.D., Executive Director
Ronald A. Roberts, Director

150 North 1950 West
P.O. Box 144820
Salt Lake City, Utah 84114-4820
(801) 536-4000
(801) 536-4099 Fax
(801) 538-4414 T.D.D.

September 7, 1994

DAQE-752-94

Mr. David Hasley
US Army Space and Strategic Defense Command
ATTN: CSSD-EN-V
P. O. Box 1500
Huntsville, Alabama 35807-3801

Re: Comments on Theater Missile Defense Extended Test Range

Dear Mr. Hasley:

We have reviewed the Supplement to the Draft EIS on Theater Missile Defense Extended Test Range. We respectfully submit the following comments and questions:

1. Based on the EIS, we agree that the air quality impacts from this project are negligible, assuming there are no serious accidents. Approval Orders are not needed or required.

2. Is there any chance of a falling booster hitting a fuel tank or other explosive object? Have the air quality impacts of this type of event been analyzed? What air quality impacts would there be on a nearby Class I Area?

3. What contingency plans are in place for the type of impact cited in #2?

4. The report states that the booster will be falling at subsonic velocity and will not create a sonic boom. However, it is estimated that the booster will generate a sound of 102 dB at 1000 meters. The level is estimated at 115 dB at 230 meters. All persons will be excluded from the booster impact area and thus protected from noise effects. Wildlife will be subject to the sound impacts. Are there any sound mitigation plans in place?

Please respond to these questions by written letter. If you have any questions regarding air quality regulations in Utah, please contact Donald E. Robinson (801) 536-4000.

Sincerely,

Montie R. Keller
Branch Manager, Permitting
Utah Division of Air Quality

MRK:DER:dn

cc: Southeast Utah District Health Department

Printed on recycled paper

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
NEW MEXICO DIVISION
604 West San Mateo Road
Santa Fe, New Mexico 87505
REGION SIX

September 8, 1994

IN REPLY REFER TO
HRW-NM
500

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
ATTN: CSSD-EN-V
P.O. Box 1500
Huntsville, AL 35807-3801

Dear Mr. Hasley:

Our staff has reviewed the July 1994, supplement to the draft environmental impact statement for the "Theater Missile Defense Extended Test Range." Our comments are provided below:

Roadblocks should be well publicized and coordinated with State Highway and Transportation Departments (page 2-8).

Overload permits if needed should be coordinated with State Highway and Transportation Departments (page 2-8).

Figure 3-6 on page 3-12 should indicate the cities of Santa Fe and Las Cruces. The term, "Metropolitan Area" should be defined.

Drop zone locations should be identified in relation to their proximity to communities, population centers etc.

Thank you for the opportunity to provide these comments.

Sincerely yours,

Reuben S. Thomas
Division Administrator

STATE OF CALIFORNIA—CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

PETE WILSON, Governor

DEPARTMENT OF TOXIC SUBSTANCES CONTROL
400 P STREET, 4TH FLOOR
P.O. BOX 806
SACRAMENTO, CA 95812-0806

(916) 324-0845

September 12, 1994

Mr. David C. Hasley
U.S. Army Space and Strategic Defense Command
ATTN: CSSD-EN-V
P.O. Box 1500
Huntsville, Alabama 35807-3801

Dear Mr. Hasley:

The Department of Toxic Substances Control (Department) has received the Supplement to the Draft Environmental Impact Statement (DEIS) for the Theater Missile Defense Extended Test Range, dated July 1994.

The Department has noted that the Supplement to the DEIS proposes no changes that impact the handling of hazardous waste and hazardous materials at the Western Range Candidate Test Area in California. Therefore, the Department has no comments on the DEIS at this time.

The Department requests notification of any changes to the project, facility operations or procedures that would impact the handling of hazardous waste and hazardous materials at the Western Range Candidate Test Area. If you have any questions, please feel free to contact me at (916) 324-0845.

Sincerely,

Frederick S. Moss, Chief
Office of Program Audits and
Environmental Analysis

cc: Mr. Bob Borzelleri
Special Assistant to the Secretary
Office of the Secretary
California Environmental Protection Agency
555 Capitol Mall, Suite 235
Sacramento, California 95814

Mr. Robert P. Hoffman
Chief Counsel
Office of Legal Counsel
Department of Toxic Substances Control
P.O. Box 806
Sacramento, California 95812-0806

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BRUCE KING
GOVERNOR

STATE OF NEW MEXICO
OFFICE OF CULTURAL AFFAIRS
HISTORIC PRESERVATION DIVISION

VILLA RIVERA BUILDING
228 EAST PALACE AVENUE
SANTA FE, NEW MEXICO 87503
(505) 827-6320

ADRIAN H. BUSTAMANTE, PH.D
CULTURAL AFFAIRS OFFICER

MICHAEL ROMERO TAYLOR
DIRECTOR

September 20, 1994

Mr. David Hasley
U.S. Army Space and Strategic
Defense Command
CSSD-EN-V
Post Office Box 1500
Huntsville, Alabama 35807-3801

Re: Supplement to the Theater Missile Defense Extended Test Range Draft Environmental Impact Statement

Dear Mr. Hasley:

At your request, the Historic Preservation Division has reviewed the *Supplement to the Theater Missile Defense Extended Test Range Draft Environmental Impact Statement*. The purpose of this review is to consider the adequacy of proposed measures to reduce the effects of the undertaking on significant cultural properties located within Fort Wingate Booster Drop Zone C.

We agree with your assessment that intensive cultural resource inventory surveys of the two impact areas in Drop Zone C are not practical considering the level of expected impacts. Even if the full complement of 100 tests were to use the impact areas in the Fort Wingate Drop Zone, the probability of a spent target missile booster landing on an archaeological site is still very low. The proposal not to conduct inventory survey in the impact areas has been discussed with Dr. Thomas Cartledge, Acting Cibola National Forest Archaeologist, who agrees with this assessment.

As stated in the DEIS, the most likely source of potential damage to archaeological sites is the effort to recover the spent boosters following test events. To ensure that significant sites are not unnecessarily damaged or destroyed by recovery efforts, we recommend that the following measures be employed by USASSDC:

1. Booster impact locations should be inspected by a qualified professional archaeologist to determine if any cultural resources were affected by the impact. In the unlikely event a booster impacts on or in the vicinity of an archaeological site, the archaeologist will be able to advise recovery personnel on procedures to avoid or minimize further damage to the resource that could result from the removal of booster components. Environmental restoration activities in the vicinity of an archaeological site should be postponed until a site damage assessment is prepared and measures to protect or recover affected archaeological materials and data are considered.

2. Areas to be affected by off-road vehicle travel or by road construction or improvements necessary for vehicle access to the vicinity of an impact site should be inspected by an archaeologist before any ground disturbing activities are initiated. Proposed helicopter landing areas should also be inspected to determine if cultural resources may be affected by aircraft operations. If archaeological resources are located within an area of effect, measures to relocate proposed activities to avoid the resources can be implemented.

3. If any cultural resources are affected on Cibola National Forest Lands, a site damage assessment, prepared in accordance with Forest Service procedures, will be required by the Forest Archaeologist. A damage assessment prepared to the same standards for affected sites on state or private lands is recommended to facilitate decisions on the measures that may be necessary to protect or recover the affected resource.

4. The archaeologist(s) employed to inspect impact sites and proposed disturbance areas must have experience in locating, recording, and evaluating the types archaeological resources expected to occur within the Drop Zone. Experience with military recovery operations and Forest Service site recording and damage assessment procedures is also recommended. Before engaging in any survey activities, the archaeologist(s) must obtain the required survey permits for Forest Service and State of New Mexico lands. Archaeological excavation permits may also be required if data recovery at an impacted archaeological site is necessary. Excavation permits do not need to be obtained in advance of test activities.

5. If no cultural resources are located within an area of effect, recovery operations may proceed without further consultation with the State Historic Preservation Officer. If effects on cultural resources cannot be avoided by recovery operations, or if a site is affected by a booster impact, further consultation with the State Historic Preservation Officer to evaluate the significance of the affected resource and to consider measures to reduce adverse effects will be necessary. Consultation by telephone or fax will be appropriate in the event immediate booster recovery is necessary.

6. Cultural resource survey activities should be reported promptly in accordance with New Mexico Cultural Resource Information System (NMCRIS) standards for site and survey recording and with any additional requirements that may be imposed by an affected land managing agency.

These same procedures should be employed in the event of an abnormal missile flight and recovery operations are necessary in an area other than the planned drop zone. Established procedures for the recovery of second stage boosters and missile debris on White Sands Missile Range will be followed for the proposed series of tests.

Thank you for the opportunity to comment on the Supplemental DEIS for the proposed test activities. Please contact the Historic Preservation with any questions you may have or if you would like any clarification of our comments and recommendations.

Sincerely,

Michael Romero Taylor
State Historic Preservation Officer

MRT:DER:slv/Log 44739

cc: Thomas Cartledge

BRUCE KING
GOVERNOR

State of New Mexico
ENVIRONMENT DEPARTMENT
Harold Runnels Building
1190 St. Francis Drive, P.O. Box 26110
Santa Fe, New Mexico 87502
(505) 827-2850

JUDITH M. ESPINOSA
SECRETARY

RON CURRY
DEPUTY SECRETARY

5032

November 9, 1994

David Hasley
U.S. Army Space and Strategic Defense Command
ATTN: CSSD-EN-V
P.O. Box 1500
Huntsville, AL. 35807-3801

Dear Mr. Hasley:

RE: SUPPLEMENT TO THE THEATER MISSILE DEFENSE EXTENDED TEST RANGE DRAFT ENVIRONMENTAL IMPACT STATEMENT, JULY 1994 (S/DEIS)

Department staff reviewed and provided initial response in a February 25, 1994, letter to you concerning the Theater Missile Defense (TMD) Extended Test Range Draft Environmental Impact Statement (DEIS) published in January, 1994. The initial comments focused on water and air quality issues and, after further staff review of the above-referenced Supplement to the DEIS (S/DEIS), they remain applicable to the overall proposed TMD program. The comments that follow relate to hazardous waste issues associated with the TMD program and to additional surface water quality concerns arising from a review of the S/DEIS.

HAZARDOUS WASTE

All missile testings and associated activities are subject to the provisions of the New Mexico Hazardous Waste Act, Sections 74-4-1 et. seq., NMSA 1978. Specifically, the U.S. Army Space and Strategic Defense Command must pay particular heed to Section 74-4-4, which requires generators of hazardous waste to properly transport, store and dispose of their hazardous waste in accordance with the current New Mexico Hazardous Waste Management Regulations (HWMR-7).

As a reminder, if material such as rocket boosters or unexploded warheads is considered "spent" or "waste", the generator is responsible for determining whether the material is a hazardous waste prior to its transport, storage or disposal.

SURFACE WATER QUALITY

Section 3.2.12, page 3-42, of the S/DEIS states that the region of influence for water resources is the "watershed in the vicinity of Booster Drop Zone C." There is insufficient information in the existing document to accurately assess surface water quality issues. We strongly recommend inclusion of a watershed map showing drainages and any ephemeral or perennial water sources that may be affected by the impact of the boosters. Test activities in Booster Drop Zone C should be discouraged during periods of summer thunderstorms and winter snowmelt. Rapid surface water runoff may occur during summer thunderstorms, and extended periods of runoff may occur during winter snowmelt. Any test activities in the watershed during these time periods may create considerable erosion problems during booster impact. Retrieval of the booster(s) after impact also may create additional erosion concerns. Therefore, test activities should be conducted during periods of low runoff potential.

Section 4.2.12, page 4-32, of the S/DEIS states: "Material associated with the spent booster would not have an impact on water quality because debris recovery is expected to be completed immediately after impact." The time zone of recovery of the booster and debris is not clear, and needs to be further addressed. In addition, there is no mention of the types of equipment that would be used to retrieve the debris and the booster from the impact site. Any heavy equipment used for retrieval may create additional erosion impacts in the watershed.

Finally, there is no discussion of plans to vegetate the booster impact site in the drop zone in case the spent booster and debris or retrieval create potential erosion impacts. Mitigation measures (such as revegetation) are important for booster(s) impact areas that may create erosion problems.

We appreciate the opportunity to comment on the proposed program and related documents. Please let me know if you have any questions.

Sincerely,

JUDITH M. ESPINOSA
SECRETARY

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6.0 REFERENCES

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7.0 LIST OF PREPARERS

Robert Andreoli, White Sands Missile Range EIS Project Manager
Environmental Services Division, White Sands Missile Range
B.S., 1979, Industrial Engineering and Operations Research, Syracuse University, New York
Years of Experience: 14

Major Tracy A. Bailey, Environmental Coordinator
Ballistic Missile Defense Organization, Pentagon
B. Architecture, 1981, Architecture, Virginia Polytechnic Institute and State University
Years of Experience: 13

Mark Bennett, Senior Staff Environmental Specialist
EARTH TECH
Ph.D., 1990, Chemical Engineering, Massachusetts Institute of Technology
B.S.E., 1982, Bioengineering, University of Pennsylvania
Years of Experience: 4

Sheri L. Bone, Acting Director
Directorate of Environment, Fort Bliss, Texas
M.S., 1993, Business Management, The Johns Hopkins University, Maryland
B.A., 1985, Chemistry, New Mexico State University
B.S., 1983, Microbiology, University of New Mexico
Years of Experience: 6

Kathleen M. Brundage, Staff Community Relations Specialist
EARTH TECH
B.S., 1991, Elementary Education, Central Missouri State University
Years of Experience: 1

Cynthia Caldwell, Senior Project Biologist
EARTH TECH
B.S., 1981, Wildlife Management, Tennessee Technological University
Years of Experience: 12

Vince T. Cannella, Deputy Group Commander
15th Logistics Group, Hickam Air Force Base
Defense Resource Management, 1989, Naval Post Graduate School
Years of Experience: 32

Lucia Cape, Technical Editor
EARTH TECH
B.A., 1990, Journalism, University of Georgia
Years of Experience: 3

Jon A. Ciarletta, Consultant
Acentech Incorporated
M.A., 1990, Experimental Psychology, California State University, Northridge
B.A., 1987, Psychology, California State University, Northridge
Years of Experience: 5

Michelle Dees, Staff Environmental Specialist
EARTH TECH
M.S., 1992, Urban and Regional Planning, Alabama A&M University
B.A., 1989, Psychology, Alabama A&M University
Years of Experience: 2

Captain Earnest Denmon, Wing Advanced Planning Manager
30th Space Wing/XPR, Vandenberg Air Force Base
M.S., 1987, Administration, Central Michigan University
B.S., 1985, Biology, Mississippi Valley State University
Years of Experience: 10

Matthew Estes, Staff Environmental Specialist
EARTH TECH
B.S., 1991, Urban and Environmental Science, University of California, Riverside
Years of Experience: 4

Sue M. Estes, Public Affairs Coordinator
EARTH TECH
M.A., 1988, Public and Private Management, Birmingham-Southern College, Alabama
B.S., 1977, Business, University of Alabama, Tuscaloosa
Years of Experience: 5

Keith E. Floren, General Engineer
National Range Operations Control Division, White Sands Missile Range
B.S., 1957, Physics, Augustana College, South Dakota
Years of Experience: 36

David Fuller, Principal Environmental Scientist
Teledyne Brown Engineering
M.S., 1980, Biology, Pittsburg State College, Kansas
B.S., 1978, Biology, Missouri Southern State College
Years of Experience: 13

Dennis R. Gallien, Environmental Engineer
U.S. Army Space and Strategic Defense Command
B.S., 1979, Industrial Chemistry, University of North Alabama
Years of Experience: 13

Scott Gard, Managing Senior
EARTH TECH
M.A., 1971, Economics, University of Missouri, Kansas City
B.A., 1965, Economics, University of Missouri, Kansas City
Years of Experience: 24

Quent Gillard, Senior Environmental Scientist
EARTH TECH
Ph.D., 1975, Geography, University of Chicago
M.S., 1972, Geography, Southern Illinois University
B.A., 1969, Geography, University of Nottingham, United Kingdom
Years of Experience: 22

Donald G. Hagedorn, Project Environmental Specialist
EARTH TECH
B.A., 1989, Economics, Loyola Marymount University, California
Years of Experience: 4

David T. Hall, Range Modernization
Directorate of Plans, Training, Mobilization, and Security, Fort Bliss, Texas
M.S., 1986, Business, American Technological University
B.A., 1976, Geology, University of Montana
Years of Experience: 17

David Hasley, Environmental Engineer
U.S. Army Space and Strategic Defense Command
B.S., 1984, Mechanical Engineering, University of Texas, Arlington
Years of Experience: 4

James Hayden, Jr., Missile Engineer
Materiel Test and Evaluation Directorate, White Sands Missile Range
B.S., 1983, Aircraft Maintenance Engineering, Parks College of Saint Louis University, Missouri
Years of Experience: 10

Russell B. Howard, Planning Office
46th Test Wing (46TW/XPXP), Eglin Air Force Base
M.E., 1987, Industrial and Systems Engineering, University of Florida
B.S., 1983, Mechanical Engineering, Auburn University, Alabama
Years of Experience: 10

Mark E. Hubbs, Cultural Resource Analyst
Teledyne Brown Engineering
B.A., 1981, History, Henderson State University, Arkansas
Years of Experience: 7

George M. Huffman, Engineering Technician
National Range Operations Control Division, White Sands Missile Range
College Education: 2 years
Years of Experience: 31

Jim Johnston, Chief Environmental Planner
30th Space Wing/ET, Vandenberg Air Force Base
B.S., 1972, Agriculture, University of Arizona
Years of Experience: 23

Alvin G. Jordan, Environmental Planning
AFDTC/EMP, Eglin Air Force Base
B.L.A., 1974, Architecture, Urban/Regional Planning, University of Florida
B.S.E., 1966, Biology/Chemistry, University of Florida
Years of Experience: 19

Rachel Jordan, Biologist
EARTH TECH
B.S., 1972, Biology, Christopher Newport College, Virginia
Years of Experience: 6

Edd Joy, Senior Geographer
EARTH TECH
B.A., 1973, Geography, California State University, Northridge
Years of Experience: 18

Charles W. Kennedy, P.E., Senior Project Engineer
EARTH TECH
M.S., 1986, Mechanical Engineering, Georgia Institute of Technology
B.S., 1979, Applied Science and Engineering, U.S. Military Academy, West Point
Years of Experience: 14

Robert Y.F. Leong, Environmental Flight Chief
15th Civil Engineering Squadron, Hickam Air Force Base
B.S., 1982, Civil Engineering, University of Hawaii
Years of Experience: 9

Stephen J. Lind, Consultant
Acentech Incorporated
M.S., 1988, Engineering, The University of Texas at Austin
B.A., 1984, Physics, University of Northern Iowa
Years of Experience: 7

Warren G. Martin, P.E., General Engineer
Army Theater Missile Defense Program Office
B.S, 1961, Civil Engineering, Auburn University, Alabama
Years of Experience: 33

Joseph Meyer, Consultant
Acentech Incorporated
B.S., 1986, Mechanical Engineering, Kansas State University
Years of Experience: 6

Lewis D. Michaelson, Community Relations Manager
EARTH TECH
M.S., 1985, Conflict Management, George Mason University, Virginia
B.S., 1976, Sociology, University of California, San Diego
Years of Experience: 9

Michael J. Moline, Missile Engineer
Materiel Test and Evaluation Directorate, White Sands Missile Range
B.A.E., 1965, Aeronautical Engineering, University of Minnesota
Years of Experience: 28

Walter O. Monteith, Jr., Range Safety
AFDTC/SEU, Eglin Air Force Base
M.S.E., 1990, Systems Engineering, University of Florida
B.A.E., 1971, Aerospace Engineering, Auburn University, Alabama
Years of Experience: 21

Rickie D. Moon, Environmental Scientist
Teledyne Brown Engineering
B.S., 1977, Chemistry/Mathematics, Samford University, Alabama
Years of Experience: 9

Steven G. Nelson, General Engineer
Army Tactical Missile System Project Office
B.S., 1983, Mechanical Engineering, University of New Orleans, Louisiana
Years of Experience: 12

Wesley S. Norris, Senior Planning and Environmental Specialist
EARTH TECH
B.S., 1976, Geology, Northern Arizona University
Years of Experience: 17

Ramon E. Nugent, Manager, Environmental and Industrial Acoustics
Acentech Incorporated
B.S., 1969, Engineering Science, Iowa State University
Years of Experience: 23

Walter Odening, Associate
EARTH TECH
Ph.D., 1971, Botany (Ecology), Duke University, North Carolina
M.S., 1968, Biology, San Diego State University, California
B.S., 1963, Biology, San Diego State University, California
Years of Experience: 24

Jefferson K. Oliver, Planning Office
46OG/OGMW, Eglin Air Force Base
B.S., 1983, Petroleum Engineering, Mississippi State University
Years of Experience: 7

Michael E. Osburn, Senior Geologist
EARTH TECH
B.A., 1976, Earth Sciences, California State University, Fullerton
Years of Experience: 15

Donald Ott, Environmental Coordinator
U.S. Army Kwajalein Atoll
Ph.D., 1978, Forest Ecology, University of Tennessee
Years of Experience: 17

Paige M. Peyton, Senior Environmental Specialist
EARTH TECH
M.A., 1990, Anthropology/Geography, California State University, San Bernardino
B.A., 1987, Anthropology, California State University, San Bernardino
Years of Experience: 9

Robert M. Poll, C.I.H., Health and Safety Manager
EARTH TECH
B.S., 1985, Nuclear Engineering, Rensselaer Polytechnic Institute, New York
Years of Experience: 8

Nikki H. Rawson, Electronics Engineer
PATRIOT Project Office
B.E.E., 1973, Electrical Engineering, Auburn University, Alabama
Years of Experience: 25

Gary Sanchez, Environmental Coordinator
30th Space Wing/ET, Vandenberg Air Force Base
B.A., 1972, Geography, Arizona State University
Years of Experience: 11

Paul R. Schildgen, Aviation and Airspace Consultant
Aviation Information Resources
M.A., 1969, International Relations, University of Southern California
B.S., 1960, Education, Ball State University, Indiana
Years of Experience: 33

John K. Sollid, A.I.C.P., Associate
EARTH TECH
B. Architecture, 1968, Architecture, Tulane University, Louisiana
Years of Experience: 22

Kathy Stephens, Geographic Information System Analyst
EARTH TECH
B.B.A., 1990, Management Information Systems, Mississippi State University
Years of Experience: 2

Scott Trotter, Geographic Information System Manager
EARTH TECH
Geography Major, University of Southern Mississippi
Years of Experience: 12

James L. Unmack, P.E., C.I.H., C.S.P., Health and Safety Director
EARTH TECH
M.S.E.E., 1966, Bioengineering, Santa Clara University, California
B.S., 1964, Electrical Engineering, University of California
Years of Experience: 27

Jonathan E. Williams, General Engineer
U.S. Army Space and Strategic Defense Command
B.S., 1991, Mechanical Engineering, University of Alabama in Huntsville
Years of Experience: 6

Weston C. Wolff, Chief, Flight Safety Office
White Sands Missile Range
B.S., 1976, Independent Studies, New Mexico State University
Years of Experience: 18

James E. Zielinski, Staff Environmental Specialist
EARTH TECH
B.S., 1984, Biology, University of Alabama in Birmingham
Years of Experience: 8

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8.0 DISTRIBUTION LIST

FEDERAL ORGANIZATIONS

Washington, DC

Ms. Marquerite Duffy
U.S. Environmental Protection Agency
401 M Street, SW
Mail Code 2253
Washington, DC 20460

Mr. David Hurley
Director Air Traffic System Management
U.S. Department of Transportation
Federal Aviation Administration
800 Independence Avenue, SW
Washington, DC 20591

Mr. Don Klima, Director
Old Post Office Building, Suite 803
1100 Pennsylvania Avenue, NW
Washington, DC 20004

Mr. Kenneth Reinertson
Chief Environmental Planning Division
Department of the Air Force
HQ USAF/CEVP
1260 Air Force, The Pentagon
Washington, DC 20330-1260

Mr. Richard Sanderson, Director
U.S. Environmental Protection Agency
Office of Federal Activities
Washington, DC 20460

Arms Control and Disarmament Agency
Office of Public Affairs
302 21st Street, NW
Washington, DC 20541

Council on Environmental Quality
2nd Floor
722 Jackson Place, SW
Washington, DC 20503

Department of the Army
Office of the Chief Legislative Liaison
The Pentagon
Washington, DC 20310-1000

Department of the Interior
Office of Public Affairs
C Street
Washington, DC 20240

Federal Energy Regulatory Commission
Environmental Analysis Branch
825 North Capitol Street, NE
Washington, DC 20426

General Accounting Office
Community and Economic Development Division
Washington, DC 20548

Interstate Commerce Commission
Office of Transportation Analysis
Washington, DC 20423

NASA/NX
Room 5025
400 Maryland Avenue, SW
Washington, DC 20460

National Oceanographic and Atmospheric Administration
U.S. Department of Commerce
14th and Constitution Avenue, NW
Washington, DC 20550-0001

National Security Council
Room 389
Old Executive Office Building
Washington, DC 20506

Office of Management and Budget
Natural Resource Division
Washington, DC 20503

U.S. Army Corps of Engineers
Pulaski Building, Room 7119C
20 Massachusetts Avenue, NW
Washington, DC 20314

U.S. Coast Guard
U.S. Department of Transportation
Room 6503
2100 2nd Street, SW
Washington, DC 20593

U.S. Department of Agriculture
Adminstration Building
12th Street and Jefferson Drive, SW
Washington, DC 20250

U.S. Department of Commerce
1825 Connecticut Avenue, NW
Washington, DC 20235

U.S. Department of Commerce
Office of Production, Technology, and Information
15th Street and Constitution Avenue, NW
Washington, DC 20230

U.S. Department of Defense
Environment and Safety
The Pentagon, Room 4C916
Washington, DC 20330

U.S. Department of Justice
Room 2133
10th and Pennsylvania Avenue, NW
Washington, DC 20530

U.S. Department of State
Office of Freely Associated States Affairs
Room 5317
22nd and C Street, NW
Washington, DC 20520

U.S. Department of State
State Department Building, Rm 4325
21st and C Streets, NW
Washington, DC 20520

U.S. Department of Transportation
Federal Aviation Administration
800 Independence Avenue, SW
Washington, DC 20591

U.S. Department of Transportation
Nassif Building, Room 9222
400 Seventh Street, SW
Washington, DC 20591

U.S. Environmental Protection Agency
Office of Federal Activities, Mail Code A104
401 M Street, SW
Washington, DC 20460

Associate General Counsel
Federal Emergency Management Agency
500 C Street, SW
Washington, DC 20472

General Counsel
Marine Mammal Commission, Room 512
1825 Connecticut Avenue NW
Washington, DC 20009

PM-SNP
Department of State
Main State Building
Washington, DC 20520

U.S. Department of Commerce Pacific Region
National Oceanic and Atmospheric Administration
Ocean and Coastal Resource Management
300 Whitehave Street
Washington, DC 20235

Judge Advocate General
Department of the Army
The Pentagon
Washington, DC 20310-1000

Ms. Carol Borgstrom
U.S. Department of Energy
NEPA Affairs Division
Forrestal Building, Room 4G064
Washington, DC 20585

Mr. David Cottingham, Director
Ecology & Environmental Conservation Office
DOC/NOAA/CS/EC, Room 6222
14th and Constitution Avenue, NW
Washington, DC 20230

Ballistic Missile Defense Organization
Attn: GST/DGC
The Pentagon, Room 1E180
Washington, DC 20301-7100

Director
Department of Commerce
Office of Environmental Affairs
Commerce Building, Room 3425
Washington, DC 20230

Director
U.S. Department of Transportation
Office of Environment and Safety
Nassif Building, Room 9422
400 Seventh Street, SW
Washington, DC 20250

Director
U.S. Environmental Protection Agency
Office of Environmental Review
401 M Street, SW, Room 2119
Washington, DC 20460

Director
National Science Foundation
1800 G Street, NW
Washington, DC 20550

Environmental Coordinator
U.S. Department of Agriculture
Soil Conservation Service, Room 6155
14 Independence Avenue, SW
Washington, DC 20250

Headquarters, U.S. Air Force
Attn: AF-CEVP (Capt. Larry Kordosky)
1260 Air Force
The Pentagon, Room 5B269
Washington, DC 20030-1260

Commander Glen Epler
U.S. Coast Guard
Environmental Response Office (G-MEP)
2100 Second Street, SW
Washington, DC 20593

Col. Bill Evans
Air Force Liaison
Federal Aviation Administration
FAA\AAT-4
800 Independence Avenue, SW
Washington, DC 20591

Ms. Susan Hess
U.S. Forest Service
201 14th Street, SW
Washington, DC 20250

Ms. Barbara Z. Korhals-Altes
U.S. Department of Commerce
International Trade Administration
Office of the Pacific Basin
14th Street & Constitution Avenue, NW
Washington, DC 20230

Mr. Martin Kress
National Aeronautics and Space Administration
Code L
Washington, DC 20546

Mr. Thomas Laughlin
U.S. Department of Commerce
National Oceanic and Atmospheric Administration
Office of Legislative Affairs
Washington, DC 20230

Mr. David Powers
U.S. Environmental Protection Agency
Office of Federal Activities, MC A-104
401 M Street, SW
Washington, DC 20460

Mr. Gerald Scannell
Occupational Safety and Health Administration
U.S. Department of Labor
2000 Connecticut Avenue, NW
Washington, DC 20210

Ms. Kathleen Schmidt
Department of Energy (EH 231)
1000 Independence Avenue
Washington, DC 20585

Ms. Lillian K. Stone
U.S. Department of the Interior
Office of the Secretary
Chief, Division of Energy Facilities
Office of Environmental Policy and Compliance
1849 C Street, NW
Washington, DC 20240

Mr. Orson Swindle
U.S. Department of Commerce, Room 7800B
14th Street and Constitution Avenue, NW
Washington, DC 20230

Ms. Patricia Clark
U.S. Department of Labor
Washington, DC 20210

South Pacific

U.S. Representative Office
P.O. Box 680
Republic of the Marshall Islands
Majuro, RMI 96960

Office of Planning and Statistics
Republic of Marshall Islands
P.O. Box 15
Majuro, RMI 96960

Office of the Chief Secretary
Republic of Marshall Islands
P.O. Box 15
Majuro, RMI 96960

Secretary
Republic of Marshall Islands
Interior and Outer Island Affairs
Majuro, RMI 96960

Mr. Donald Capelle, Secretary
Republic of Marshall Islands
Research and Development
P.O. Box 306
Majuro, RMI 96960

Ms. Elizabeth Harding, Esq
Republic of Marshall Islands
Environmental Protection Authority
P.O. Box 1322
Majuro, RMI 96960

Mr. Kasuo Helgenberger, General Manager
Environmental Protection Authority
Republic of Marshall Islands
P.O. Box 1322
Majuro, RMI 96960

Mr. Charles Muller
Secretary of Transportation and Commerce
Republic of Marshall Islands
P.O. Box 654
Majuro, RMI 96960

Mr. Stephen Muller, Director
Marshall Islands Marine Research Authority
Majuro, RMI 96960

Mr. Alvin Jacklick, Mayor
Kwajalein Atoll
Ebeye, RMI 96960

Mr. Scott Stege, General Counsel
Kwajalein Atoll Development Authority
P.O. Box B
Majuro, RMI 96960

Mr. Justin Debrum
Representive of the Republic of Marshall Islands
U.S. Army Kwajalein Atoll
P.O. Box 1748
APO, San Francisco, CA 96555

U.S. Army Space and Strategic Defense Command
U.S. Army Kwajalein Atoll
Attn: CSSD-KA-LV
P.O. Box 26
APO, San Francisco, CA 96555-2627

Federated States of Micronesia
Secretary of Research and Development
Attn: Marcelino K. Actouka
Kolonia, Pohnpei, FM 96941

Alabama

Mr. Dewayne Imsand
Attn: PD-EL
U.S. Army Corps of Engineers
P.O. Box 2288
Mobile, AL 36628

Mr. Holm Hinrichs
Department of the Army
Program Executive Office Tactical Missiles
Army TACMS Project Office
Redstone Arsenal, AL 35898-8000

Program Executive Office-Missile Defense
Attn: SFAE-MD-TMD/PA/THA/GBR/ERT/SM
P.O. Box 1500
Huntsville, AL 35807-3801

Program Executive Office-Tactical Missiles
Attn: SFAE-MSL-AT
P.O. Box 1500
Huntsville, AL 38507-3801

U.S. Army Space and Strategic Defense

Command
Attn: CSSD-EN-V/EN-E/EN-F/LC/PA/SL-L/IN-CS/SO/TE-O/TA/KE-I/HO
P.O. Box 1500
Huntsville, AL 35807-3801

Commander
U.S. Army Missile Command
Attn: AMSMI-IN
Redstone Arsenal
Huntsville, AL 35898

Alaska

Capt. Charles D. Dink
Air Force Representative
FAA Alaskan Region
11 AF/DOOU
Elemendorf AFB, AK 99506

Arizona

Ms. Ann Sasahara
U.S. Environmental Protection Agency
Navajo Superfund Office
P.O. Box 2946
Window Rock, AZ 86515

California

Mr. Fred R. Diaz
Defense Mapping Agency
1616 Audubon Avenue
Lompoc, CA 93436

Ms. Nathalie Dreyfus
Pollution Contingency Planner
U.S. Coast Guard, MSO-LA-LB
165 North Pico Avenue
Long Beach, CA 90802-1096

Mr. Herman Bliss
Federal Aviation Administration
Western Pacific Regional Headquarters
P.O. Box 92007
Los Angeles, CA 90009-2007

Mr. David Castanon
Chief North Coast Section
Department of the Army
Los Angeles District
Corps of Engineers
P.O. Box 2711
Los Angeles, CA 90053-2325

Headquarters, Space Systems Division
Los Angeles Air Force Base (SSD/CEV)
P.O. Box 92960
Los Angeles, CA 90009-2960

Lt. Col. Roger Rapier
Air Force Representative
FAA Western Pacific Region (AWP-910)
P.O. Box 92007
Los Angeles, CA 90009-2007

Mr. Harvey Riebel
U.S. Department of Transportation
P.O. Box 92007
Los Angeles, CA 90009

Mr. E. Jeff Ballow
NAWC-WPNS, Code P3524
Point Mugu, CA 93042

Mr. John R. Jay
Naval Air Warfare Center Weapons Division
P.O. Box 42154
Point Mugu, CA 93044

Mr. Frank Shanta
Department of the Navy
NAWC-WPNS, Code P3422
521 9th Street
Point Mugu, CA 93042-5000

Dr. Mike Sullivan
Code 3402
Naval Air Weapon Station
Point Mugu, CA 93042-5001

Commander Art Terrell
NAWC-WPNS, Code PO3B08
Point Mugu, CA 93042

Mr. Roger Whitlock
Naval Air Warfare Center
NAWC-WPNS, Code P3422
Point Mugu, CA 93042-5001

Commander, North Island Naval Air Station
Staff Civil Engineer (Al Langevin)

Building 3, Code 183, Section 2
San Diego, CA 92135

Ms. Ann Rosenberry
S.W. Division Naval Facilities Engineering
Code 232 AR
1220 Pacific Highway
San Diego, CA 92132-5178

Air Force Regional Compliance Office
AFCEE/CCR-S
630 Sansome Street, Room 1134
San Francisco, CA 94111

Ms. Julie Anderson
U.S. Environmental Protection Agency
Region IX
75 Hawthorne Street
San Francisco, CA 94105

Mr. Norm Lovelace
U.S. Environmental Protection Agency
Region IX
75 Hawthorne Street
San Francisco, CA 94105

Mr. Robert L. Vickers
Federal Emergency Management Agency,
Region IX
Presidio Building 105
San Francisco, CA 94129

Mr. David Tomsovic
U.S. Environmental Protection Agency
Office of Federal Activities
75 Hawthorne Street
San Francisco, CA 94105

Capt. Earnest C. Denmon
30 STW/XPR
747 Nebraska Avenue, Suite 34
Vandenberg AFB, CA 93437-6294

Mr. Jeffrey Geiger
U.S. Air Force
30th Space Wing/HO
747 Nebraska Avenue, Suite 4
Vandenberg AFB, CA 93437-6264

Capt. Mark Inguaggiato
Environmental Compliance Officer
Department of the Air Force
Detachment 9
Space and Missile Systems Center (AFMC)
1515 Iceland Street, Suite A
Vandenberg AFB, CA 93437

Capt. Dana Struckman
747 Nebraska Avenue, Suite 33
Vandenberg AFB, CA 93437-6293

Mr. Mack Shaver, Superintendent
Channel Islands National Park
1901 Spinnaker Drive
Ventura, CA 93003

Colorado

Ms. Claudia Nissley
Western Office of Project Review
730 Simms Street, Room 401
Golden, CO 80401

Headquarters Air Force Space Command
Attn: CEVP (Randall Roland)
150 Vandenberg Street, Suite 1105
Peterson AFB, CO 80914-4150

Florida

Commander, U.S. Air Force
Attn: 46 Test Wing/XPX (Russ Howard)
101 West D. Avenue, Suite 222
Eglin AFB, FL 32542-5492

Al Jordan
AFDTC/EMP
501 Deleon Street, Suite 100
Eglin Air Force Base, FL 32542-5133

Ms. Jacqueline L. Lynd
1 SOCES/CEV
Eglin AFB
Hurlburt Field, FL 32544-5260

Mr. Robert Crippen
National Aeronautics and Space Administration
Kennedy Space Center
Kennedy Space, FL 32899

Mr. Larry Williamson
District Administrator for Congressman Hutto

Shalimar Courthouse Annex
Niceville, FL 32579

Mr. Jim Lyles
U.S. Forest Service
227 North Bronough Street, Suite 4061
Tallahassee, FL 32301

Georgia

Administrator
Federal Emergency Management Agency
Region IV Office
Suite 700
1371 Peachtree Street, NE
Atlanta, GA 30309-3108

Mr. John E. Alcock
Regional Forester
U.S. Forest Service - Southern Region
1720 Peachtree Road, NW
Atlanta, GA 30367

Lt. Col. Calvin Betts
Air Force Representative (ASO-900)
Federal Aviation Administration, Southern Region
P.O. Box 20636
Atlanta, GA 30320

Mr. George Dodson
Air Force Regional Compliance Office
AFCEE/CCR-A
77 Forsyth Street, Suite 295
Atlanta, GA 30335-6801

Mr. Robert Kleysteuber
District Area Regional Representative
Federal Aviation Administration, Southern Region
Attn: ASO 902
P.O. Box 20636
Atlanta, GA 30320

Mr. Art Linton
Environmental Protection Agency, Region IV
345 Courtland Street, NE
Atlanta, GA 30365

Mr. Wayne Mathis
Environmental Protection Agency, Region IV
345 Courtland Street, NE
Atlanta, GA 30365

Hawaii

Commander
15th Air Base Wing
Attn: LG\LC (Vince Cannella)
800 Scott Circle, Room 219
Hickam AFB, HI 96853-5000

Pacific Area Coordinator
Federal Aviation Administration
300 Ala Moana Boulevard
Honolulu, HI 96813

Mr. Robert Inouye
Pacific Missile Range Facility
P.O. Box 128
Kekaha, HI 96752

Mr. Aubrey Kunishige
Pacific Missile Range Facility
Code 7332B
P.O. Box 128
Kekaha, HI 96752

Louisiana

Commander Richard Blaise
Chief, Marine Environmental Protection Branch
U.S. Coast Guard
Hale Federal Building
501 Magazine Street
New Orleans, LA 70113

Maryland

Mr. William F. Fifty
Chief Wastewater Management Branch
Department of the Army
Water Quality Engineering Division
Attn: HSHB-ME-WM (40)
U.S. Army Environmental Hygiene Agency
Aberdeen Proving Ground, MD 21010-5422

Mr. Richard Garodnick
U.S. Army Environmental Hygiene Agency
Building E-1675
Attn: HSHB-ME-W (Richard Garodnick)
Aberdeen Proving Ground, MD 21010-5422

Commander, U.S. Army Test and Evaluation

Command
Attn: AMSTE-EQ (Nick Cavallaro)
Aberdeen Proving Ground, MD 21005-5055

U.S. Department of Energy
Director of Environment, Safety, and Quality Assurance
U.S. Interstate 270
Germantown, MD 20545

Mr. W. Stanley Wilson
U.S. Department of Commerce
National Oceanic and Atmospheric Administration
N,SSMC4, Station 13632
1305 East West Highway
Silver Spring, MD 20910

Massachusetts

Lt. Col. Joseph Beilabona
Air Force Representative
FAA New England Region, ANE-900
12 New England Executive Park
Burlington, MA 01803-5299

Missouri

Lt. Col. Allen Rosenbaum
Air Force Representative
FAA Central Region
601 East 12th Street
Kansas City, MO 64106

New Mexico

Mr. William DeRagon
U.S. Army Corps of Engineers, ED-PE
P.O. Box 1580
Albuquerque, NM 87103

Mr. Jeanine Derby
U.S. Department of Agriculture
Cibola National Forest
2113 Osuna Road, NE, Suite A
Albuquerque, NM 87113

Mr. Mike Draper
Department of Agriculture
U.S. Forest Service, IS&T
517 Gold Avenue
Albuquerque, NM 87103

Forest Supervisor
Cibola National Forest
2113 Osuna Road, NE, Suite A
Albuquerque, NM 87113-1001

Mr. Patrick Montoya
C/O Senator Bingaman's Office
625 Silver, SW, Suite 130
Albuquerque, NM 87102

Lee Poague, Supervisor
Lincoln National Forest
Federal Building
11th and New York Streets
Albuquerque, NM 88310

Mr. John W. Russel, Director
Land Management Planning
Attn: 1950 FS-NEPA
U.S. Forest Service, Region 3
517 Gold, SW
Albuquerque, NM 87102

Mr. David Simon
Southwest Regional Director
National Parks and Conservation Association
Southwest Regional Office
823 Gold Avenue, SW
Albuquerque, NM 87102

State Conservationist
U.S. Department of Agriculture
Soil Conservation Service
571 Gold SW, Room 3301
Albuquerque, NM 87102-3156

Ms. Susan Velasquez
Office of Senator Pete Dominici
625 Silver Avenue, Suite 120
Albuquerque, NM 87102

Mr. John Caffrey, District Ranger
U.S. Forest Service
1800 Lobo Canyon
Grants, NM 87020

El Malpais National Monument
Superintendent Doug Eury
P.O. Box 939

Grants, NM 87020

Mr. Joe Price
U.S. Forest Service
1800 Lobo Canyon
Grants, NM 87020

Colonel Robert Huff
Vice Commander
Department of the Air Force
Headquarters 49th Fighter Wing
Holloman AFB, NM 88330

Brigadier General Lloyd W. Newton
Department of the Air Force
49FW/CC
Holloman AFB, NM 88330-5000

Bud Stephenson, District Ranger
U.S. Forest Service
P.O. Box 45
Magdalena, NM 87825

Ms. Michelle Pelletier
Superintendent
El Morro National Monument
Route 2 Box 43
Ramah, NM 87321

Ms. Paulette Johnston
Office of the Attorney General
State of New Mexico
P.O. Drawer 1508
Santa Fe, NM 87504

Mr. Maynard Rost
U.S. Forest Service
2610 North Silver Street
Silver City, NM 88061

Commander, White Sands Missile Range
Building T-150
Attn: STEWS-DES (T.A. Ladd)
White Sands Missile Range, NM 88002

Mr. Robert Brennan
Deputy for the Air Force
Detachment 1, 46 Test Group
White Sands Missile Range, NM 88002

Ohio

HQ/AFMC/CE/VC
Attn: Lynn Engleman
4225 Logistics Avenue, Suite 8
Wright-Patterson AFB, OH 45433-5747

Texas

Capt. Harold Keck
AFCEE/ECA
8106 Chennault Road, Building 1155
Brooks AFB, TX 78235-5318

Air Force Regional Compliance Office
AFCEE/CCR-D
525 Griffin, Box 116
Dallas, TX 75202

Mr. William Cox
U.S. Environmental Protection Agency
Region VI
1445 Ross Avenue
Dallas, TX 75202-2733

Mr. Robert Layton, Regional Administrator
U.S. Environmental Protection Agency
Region VI
1445 Ross Avenue
Dallas, TX 75202-2733

U.S. Army Air Defense Artillery Center
Fort Bliss
Directorate of Environmental
Attn: ATZC-DOE (Sheri Bone)
Fort Bliss, TX 79916

Mr. Clyde M. DeHart, Jr.
Regional Administrator
U.S. Federal Aviation Administration
Southwest Division
2400 Blue Mound Road
Fort Worth, TX 76193-0600

Lt. Col. Rich Hall
Air Force Representative
FAA Southwest Region
ASW-900
Fort Worth, TX 76193-0900

Mr. Paul Larson, Director
United States Department of Agriculture

Soil Conservation Service
South National Technical Center
P.O. Box 6567
Fort Worth, TX 76115

Mr. Peter Lombard
U.S. Department of Transportation
P.O. Box 902003
Fort Worth, TX 76102

Mr. Dean A. McMath
Manager Environmental Programs
U.S. Department of Transportation
Federal Aviation Administration
Fort Worth, TX 76193-0000

Mr. John Pipes
Department of Transportation
Federal Aviation Adminstration
Southwest Region Headquarters
Fort Worth, TX 76193-0532

Regional Director
Department of Transportation
Federal Highway Administration
819 Taylor Street
Fort Worth, TX 76102

Utah

Mr. Zaccarei
Attn: 501 Ranges/RO
1010 Avery Way
Dugway, UT 84022-1103

Mr. Steve Chaney, Supervisor
Natural Bridges National Monument
P.O. Box 1
Lake Powell, UT 84533

Mr. Walt Dabney, Superintendent
Canyonlands National Park
125 West 200 South
Moab, UT 84532

Ms. Sheri Griffith
Congresswoman Karen Shepherd's Office
Box 1324
Moab, UT 84532

Mr. Noel Poe, Superintendant
Arches National Park
P.O. Box 907
Moab, UT 84532

Mr. Tony Schetzsle, Chief Ranger
Canyonlands National Park
125 West 200 South
Moab, UT 84532

Mr. Jim Egnew
U.S. Forest Service
496 East Central
Monticello, UT 84535

Mr. Allen Rydman
USAF 545 Test Group
1751 Doxey Street
Ogden, UT 84403

Ms. Mary Maughan
Senator Bennett's Office
51 South University Avenue #310
Provo, UT 84601

Ms. Terri Martin
National Parks & Conservation Association
Rocky Mountain Regional Office
P.O. Box 1563
Salt Lake City, UT 84110

Mr. Jim Mower
U.S. Forest Service
8230 Federal Building
125 South State Street
Salt Lake City, UT 84138

Mr. Paul Svendsen
Representative Karen Shepherd's Office
125 South State #2311
Salt Lake City, UT 84138

Mr. Joe Caldwell, Commander
Tooele Army Depot
Attn: SDSTE-DCBO-BMD
Building 1001
Tooele, UT 84074

Mr. Roy Niskala
Tooele Army Depot
Environmental Management Division
708 Kingston Drive

Tooele, UT 84074

Virginia

Defense Technical Information Center
Attn: DTIC-OCP
Cameron Station, Building 5
Alexandria, VA 22304-6145

Defense Technical Information Center
FDAC Division
Cameron Station
Alexandria, VA 22304-6145

Office of Chief of Naval Operations
Attn: Code OP-44EP1 (Kim DePaul)
200 Stovall Street
Alexandria, VA 22332

Ms. Elinore Nelson
U.S. Army Space and Strategic
Defense Command
Attn: CSSD-EA, Suite 900
1941 Jefferson Davis Highway
Arlington, VA 22202

Ms. Ann Roosevelt
BMD Monitor
1616 North Fort Meyer Drive
Suite 1000
Arlington, VA 22209

Deputy Director for Environment
Department of the Navy
Office of Director of Installations and Facilities
Crystal Plaza, Building 5
Arlington, VA 20360

Environmental Protection Agency
Safety & Occupational Health Division (OP-45)
Crystal Plaza, Building 5
Arlington, VA 20360

Mr. Dick Kibler
Office of Under Secretary of Defense
400 Army-Navy Drive, Suite 206
Arlington, VA 22202-2884

Ms. Jenny Trindad
Department of Defense
400 Army-Navy Drive, Suite 300
Arlington, VA 22204

Commander, Naval Surface Warfare Center
Dahlgren Laboratory
Code C832
Dahlgren, VA 22448-5000

Department of the Army
Office of the Surgeon General
5 Skyline Place
5111 Leesburg Pike
Falls Church, VA 22041

Director
National Aeronautics and Space Administration
CSFC/WFF
ATTN: Pam Whitman, Code 205
Building F160
Wallops Island, VA 23337

Washington

Lt. Col. James Lambert
Air Force Representative (ANE-900)
FAA Northwest Mountain Region
1601 Lind Avenue, SW
Renton, WA 98055-4056

Lt. Col. Randolph Wickers
Air Force Representative (ANM-900)
FAA Northwest Mountain Region
1601 Lind Avenue, SW
Renton, WA 98055-4056

FEDERAL ELECTED OFFICIALS

Honorable Robert Bennett
U.S. Senate
241 Dirksen Senate Office Building
Washington, DC 20510

Honorable Robert Bennett
U.S. Senate
1410 Federal Building
324 25th Street
Ogden, UT 84401

Honorable Robert Bennett
U.S. Senate
51 South University Avenue, Suite #310
Provo, UT 84601

Honorable Robert Bennett
U.S. Senate
4225 Federal Building
125 South State
Salt Lake City, UT 84138

Honorable Robert Bennett
U.S. Senate
22 Federal Building
196 East Tabernacle Street
St. George, UT 84770

Honorable Jeff Bingaman
U.S. Senate
524 Hart Senate Office Building
Washington, DC 20510

Honorable Jeff Bingaman
U.S. Senate
625 Silver Avenue SW, Suite 130
Albuquerque, NM 87102

Honorable Jeff Bingaman
U.S. Senate
148 Loretto Town Center
505 South Main Street
Las Cruces, NM 88001

Honorable Jeff Bingaman
U.S. Senate
114 East 4th Street, Suite #103
Roswell, NM 88201

Honorable Jeff Bingaman
U.S. Senate
119 East Marcy, Suite #101
Santa Fe, NM 87501

Honorable Barbara Boxer
U.S. Senate
112 Hart Senate Office Building
Washington, DC 20510

Honorable Barbara Boxer
U.S. Senate
1700 Montgomery Street, Suite 240
San Francisco, CA 94111

Honorable Ronald D. Coleman
U.S. House of Representatives
440 Cannon House Office Building
Washington, DC 20515

Honorable Ronald D. Coleman
U.S. House of Representatives
700 East San Antonio Street
El Paso, TX 79901

Honorable Pete Domenici
U.S. Senate
434 Dirksen Senate Office Building
Washington, DC 20510

Honorable Pete Domenici
U.S. Senate
625 Silver Avenue SW, Suite 120
Albuquerque, NM 87102

Honorable Pete Domenici
U.S. Senate
Building D, Suite 1
Sunbelt Plaza
1065 South Main Street
Las Cruces, NM 88005

Honorable Pete Domenici
U.S. Senate
140 Federal Building
Roswell, NM 88201

Honorable Pete Domenici
U.S. Senate
120 South Federal Plaza, Suite #307
Santa Fe, NM 87501

Honorable Diane Feinstein
U.S. Senate
331 Hart Senate Office Building
Washington, DC 20510

Honorable Diane Feinstein
U.S. Senate
1700 Montgomery Street, Suite 305
San Francisco, CA 94111

Honorable Robert Graham
U.S. Senate
524 Hart Senate Office Building
Washington, DC 20510

Honorable Robert Graham

U.S. Senate
P.O. Box 3050
Tallahassee, FL 32315

Honorable James V. Hanson
U.S. House of Representatives
2466 Rayburn House Office Building
Washington, DC 20515

Honorable James V. Hanson
U.S. House of Representatives
1017 Federal Building
324 25th Street
Ogden, UT 84401

Honorable James V. Hanson
U.S. House of Representatives
301 Creamer Nobel
435 East Tabernacle Street
St. George, UT 84770

Honorable Orrin Hatch
U.S. Senate
135 Russell Senate Office Building
Washington, DC 20510

Honorable Orrin Hatch
U.S. Senate
10 North Main Street
P.O. Box 99
Cedar City, UT 84720

Honorable Orrin Hatch
U.S. Senate
1006 Federal Building
324 25th Street
Ogden, UT 84401

Honorable Orrin Hatch
U.S. Senate
51 South University, Suite #320
Provo, UT 84606

Honorable Orrin Hatch
U.S. Senate
8402 Federal Building
125 South State
Salt Lake City, UT 84138

Honorable Connie Mack
U.S. Senate
517 Hart Senate Office Building
Washington, DC 20510

Honorable Connie Mack
U.S. Senate
1342 Colonial Boulevard, Suite 27
Fort Meyers, FL 33907

Honorable William Orton
U.S. House of Representatives
1122 Longworth House Office Building
Washington, DC 20515

Honorable William Orton
U.S. House of Representatives
51 S. University Avenue, Suite 317
Provo, UT 84601

Honorable Pete Peterson
U.S. House of Representatives
426 Cannon House Office Building
Washington, DC 20515

Honorable Pete Peterson
U.S. House of Representatives
930 Thomasville Road, Suite 101
Tallahassee, FL 32303

Honorable Bill Richardson
U.S. House of Representatives
204 Cannon House Office Building
Washington, DC 20515

Honorable Bill Richardson
U.S. House of Representatives
602 Mitchell Street
Clovis, NM 88101

Honorable Bill Richardson
U.S. House of Representatives
Gallup City Hall
Second and Aztec
Gallup, NM 87301

Honorable Bill Richardson
U.S. House of Representatives
San Miguel County Court House
P.O. Box 1805
Las Vegas, NM 87701

Honorable Bill Richardson
U.S. House of Representatives
411 Paseo de Peralta
Santa Fe, NM 87501

Honorable Andrea Seastrand
U.S. House of Representatives
1216 Longworth House Office Building
Washington, DC 20515

Honorable Joe Scarborough
U.S. House of Representatives
1523 Longworth House Office Building
Washington, DC 20515

Honorable Steve Schiff
U.S. House of Representatives
1427 Longworth House Office Building
Washington, DC 20515

Honorable Steve Schiff
U.S. House of Representatives
625 Silver Avenue SW, Suite 140
Albuquerque, NM 87102

Honorable Joseph Skeen
U.S. House of Representatives
2447 Rayburn House Office Building
Washington, DC 20515

Honorable Joseph Skeen
U.S. House of Representatives
1065-B South Main, Suite A
Las Cruces, NM 88005

Honorable Joseph Skeen
U.S. House of Representatives
Federal Building, Room 257
Roswell, NM 88201

Honorable Enid Greene Waldholtz
U.S. House of Representatives
515 Cannon House Office Building
Washington, DC 20515

STATE GOVERNORS

Honorable Lawton Chiles
Governor of Florida
The Capitol
Tallahassee, FL 32399-0001

Honorable Gary E. Johnson
Governor of New Mexico
State Capitol Building
Santa Fe, NM 87503

Honorable Michael O. Leavitt
Governor of Utah
210 State Capitol Building
Salt Lake City, UT 84114

Honorable Roy Romer
Governor of Colorado
136 State Capitol Building
200 East Colfax Avenue
Denver, CO 80203

Honorable Fife Symington
Office of the Governor
State Capitol, West Wing
1700 West Washington
Phoenix, AZ 85007

Honorable Pete Wilson
Office of the Governor
State Capitol, First Floor
Sacramento, CA 95814

STATE GOVERNMENT OFFICIALS

California

Mr. Joseph Crisologo
California Department of Health Services
Toxic Substances Control Division Region 3
1011 Grandview Avenue
Glendale, CA 91201-2205

Mr. Don Kinney
California Department of Parks and Recreation
La Purisima Mission District
2295 Purisima Road
Lompoc, CA 93436

Mr. Fred Worthley, Regional Manager

California Department of Fish and Game
Region 5
330 Golden Shore, Suite 50
Long Beach, CA 90802

Mr. Tim Viles
California Department of Health Services
107 South Broadway
Los Angeles, CA 90012-4596

Mr. B.B. Blevins, Executive Director
California Department of Fish and Game
1516 9th Street
Sacramento, CA 94244-2090

Mr. James D. Boyd, Executive Officer
Air Resources Board
P.O. Box 2815
Sacramento, CA 95812

Dr. Harvey F. Collins
Chief Environmental Health Division
Department of Health Services
714/744 P Street
P.O. Box 942732
Sacramento, CA 94234-7320

Dr. Molly Joel Coye, Director
California Department of Health Services
714 P Street, Suite 616
Sacramento, CA 95814

Ms. Kathryn Gualtieri
California Department of Parks and Recreation
Office of Historic Preservation
P.O. Box 942896
Sacramento, CA 94296-0001

Mr. Fredrick S. Moss, Chief
California Environmental Protection Agency
Department of Toxic Substances Control
400 P Street, 4th Floor
P.O. Box 806
Sacramento, CA 95812-0806

Mr. James Strock, Secretary
Office of Environmental Protection
555 Capitol Mall, Suite 235
Sacramento, CA 95814

Mr. Bob Boxilario
California Environmental Protection Agency
555 Capital Mall, Suite 235
Sacramento, CA 95814

Mr. Peter Douglas, Executive Director
California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, CA 94105-2019

Mr. Thomas W. Gwyn, Chairman
California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, CA 94105-2219

Mr. Mark Delaplaine
Federal Consistency Supervisor
California Coastal Commission
45 Fremont, Suite 2000
San Francisco, CA 94105-2219

Mr. Brian Conklin
Congressman Michael Huffington
1060 Palm Street
San Luis Obispo, CA 93401

Colorado

Mr. Jim Peck, Policy Advisor
Executive Chambers, State Capitol
136 State Capitol
Denver, CO 80203

Ms. Catherine Cameron
Advisory Council on Historic Preservation
730 Simms Street, Room 450
Golden, CO 80401

Florida

Honorable Robert Harden
Florida Senator
Executive Park, Suite D-3
11 Racetrack Road, NE
Fort Walton Beach, FL 32548

State Representative James Kerrigan
151 Mary Esther Boulevard, Suite 404
Mary Esther, FL 32569

Mr. David Dale
U.S. Department of Commerce
National Marine Fisheries Service
Habitat Conservation Division
3500 Delwood Beach Road
Panama City, FL 32408

Mr. Dean Shinn
Florida Park Service
4415 Thomas Drive
Panama City Beach, FL 32408

Mr. Bobby Cooley
Florida Department of Environmental Regulation
Office of the Director of District Management
160 Governmental Center
Pensacola, FL 32501

Mr. Charles W. Porter
Department of Transportation
Florida Aviation System Plan F
Pensacola Regional Airport
2430 Airport Boulevard
Pensacola, FL 32504

Mr. Kenneth D. Haddad, Chief
Florida Marine Research Institute
100 Eighth Avenue, SE
St. Petersburg, FL 33701

Ms. Janice Alcott
Office of the Governor
The Capitol
Tallahassee, FL 32399

Mr. Jim Baxley
Office of Senator Bob Graham
P.O. Box 3050
Tallahassee, FL 32315

Mr. Robert Brantly, Executive Director
Florida Game & Fresh Water Fish Commission
Office of Environmental Service
620 South Meridian Street
Tallahassee, FL 32399-1600

Honorable Lawton Chiles
Office of the Governor
State Clearinghouse
The Capitol, Room 1601
Tallahassee, FL 32399-0001

Mr. Robert B. Clay
State of Florida Department of Transportation
605 Suwannee Street, MS46
Tallahassee, FL 32399-0450

Mr. James J. Crane
Florida Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

Ms. Lynn Griffin, Environmental Specialist
Florida Department of Environmental Protection
Majory Stoneman Douglas Building
3900 Commonwealth Boulevard
Tallahassee, FL 32399-3000

Mr. Steve Haller, Assistant Coordinator
Department of Environmental Regulation
Division of Water Management
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Ms. Janice Hatter
State Clearing House
The Capitol, Room 1601
Tallahassee, FL 32301

Ms. Laura Kammerer
State of Florida Division of Historic Resources
500 South Bronough
Tallahassee, FL 32399

Mr. Mark Latch, Director
Water Management Division
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

Mr. Eric Nuzie
Florida Department of Environmental
Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301

Mr. George Percy, Director
Florida Historic Preservation Office
R.A. Gray Building
500 South Bronough
Tallahassee, FL 32399-0250

Mr. John A. Pieno
Office of the Governor
The Capitol, Room 209
Tallahassee, FL 32399-0001

Mr. Howard Rhodes, Director
Department of Environmental Regulation
Division of Air Resources Management
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Ms. Cindy Rutledge
Office of John Pieno
The Capitol, Room 209
Tallahassee, FL 23399-0950

Ms. Linda Loomis Shelley, Secretary
Florida Department of Community Affairs
2740 Centerview Drive
Tallahassee, FL 32399-2100

Mr. Jim Stevenson
Department of Natural Resources
3900 Commonwealth Boulevard
Tallahassee, FL 32399

Ms. Virginia Wetherell
Executive Director
Natural Resources Department
3900 Commonwealth Boulevard
Tallahassee, FL 32399-3000

New Mexico

Mr. Tim Callahan
State Land Office
4308 Carlisle NE, Suite 204
Albuquerque, NM 87110

Mr. Jay Vidal, Director
Red Rock State Park
P.O. Box 328
Churchrock, NM 87311

Ms. Rose Custer
Congressman Bill Richardson's Office
P.O. Box 1270
Gallup, NM 87305

Mr. Frank E. Paul
State House of Representatives
District 6
Box 306
Pine Hill, NM 87357

Mr. Gregory Rawlins
New Mexico State Highway & Transportation Department
Environmental Section
P.O. Box 1149
Santa Fe, NM 87504-1149

Ms. Rachelle Byars
New Mexico State Highway & Transportation Department
P.O. Box 1149
Santa Fe, NM 87503

Dr. Gedi Cibas
Environmental Impact Review Coordinator
State of New Mexico Environment Department
Harold Runnels Building
1190 Saint Francis Drive
P.O. Box 26110
Santa Fe, NM 87502

Ms. Margaret Cordovano
Attn: Library
Energy, Minerals & Natural Resources Department
2040 South Pacheco
Santa Fe, NM 87505

Secretary Bill Garcia
New Mexico Department of Economic Development
1100 Saint Francis Drive
Santa Fe, NM 87503

Mr. Dennis Garcia
State of New Mexico Commission of Public Land
P.O. Box 1148
Santa Fe, NM 87504

Secretary Anita Lockwood
New Mexico State Department of Energy, Minerals, and Natural Resources
2040 South Pacheco
Santa Fe, NM 87505

Mr. Thomas Merlan
State Historic Preservation Office
Historic Preservation Division
Office of Cultural Affairs
Villa Rivera, Room 101
228 East Palace Avenue
Santa Fe, NM 87503

Mr. Bill Montoya, Director
New Mexico Department of Fish and Game
Villagra Building
P.O. Box 25112
Santa Fe, NM 87504

Mr. James Norwick, State Forester
New Mexico Energy, Minerals & Natural Resource Department
P.O. Box 1948
Santa Fe, NM 87504-1948

Ms. Eileen Perea
New Mexico Environmental Law Center
103 Cienega Street
Santa Fe, NM 87501

Mr. Paul Skeeter
New Mexico Department of Parks & Recreation
Planning Bureau
P.O. Box 1147
Santa Fe, NM 87503

Mr. Tom Takin
New Mexico Health and Environmental Department
Harold Runnels Building
1190 Saint Francis Drive
Santa Fe, NM 87503

Mr. Peter Wilkerson
New Mexico Health and Environmental Department
Harold Runnels Building
1190 Saint Francis Drive
Santa Fe, NM 87503

Ms. Janet Witte
New Mexico State Land Office
P.O. Box 1148
Santa Fe, NM 87504-1148

State Representative Tom Atcitty
P.O. Box 1794
Shiprock, NM 87420

Ohio

Ms. Eileen Mohr
Ohio Environmental Protection Agency
2110 East Arora Road
Twinsburg, OH 44087

Texas

Mr. Harry W. Clark
Office of the State Archaeologist, West Texas
9237 Grenoble
El Paso, TX 79907

Utah

Mr. Blaine Luke
Green River/Goblin Valley State Parks
P.O. Box 76
Green River, UT 84525

Mr. J. Rockford Smith
State of Utah Department of Natural Resources
Division of Parks and Recreation
Dead Horse Point State Park
P.O. Box 609
Moab, UT 84532-0609

Dr. Dennis Wioligan
Box 2702, Castle Valley
Moab, UT 84532

Mr. Miles Moretti, Regional Supervisor
Utah Department of Natural Resources
Division of Wildlife Resources
Southeastern Region
455 West Railroad Avenue
Price, UT 84501-2829

Mr. Ken Phippen, Habitat Manager
Utah Department of Natural Resources
Division of Wildlife Resources
455 West Railroad Avenue
Price, UT 84501-2829

Mr. John F. Smith
Congressman Bill Orton
Utah's 3rd District
515 University Avenue, Suite 317
Provo, UT 84601

Department of Environmental Quality
State of Utah
168 North 1950 West
Salt Lake City, UT 84114

Mr. Brad T. Barber
Governor's Office, Planning and Budget
116 State Capitol
Salt Lake City, UT 84114

Mr. Rod Betit
Health Department
288 North 1460 West
Salt Lake City, UT 84116

Mr. Dennis Dalley
Utah Division of Environmental Health
Salt Lake City, UT 84116-0700

Mr. Mike Dmitrich
Utah State Senate District 27
Minority Whip
319 State Capitol
Salt Lake City, UT 84114

Mr. Max Evans, Director
State Historic Preservation Office
Utah State Historical Society
300 Rio Grande
Salt Lake City, UT 84101

Mr. John Harja
Utah Resource Development
Coordinating Council
116 State Capitol
Salt Lake City, UT 84114

Lee King
Governor's Office of Planning & Budget
116 State Capitol
Salt Lake City, UT 84114

Dr. Brett Lazar, Director
Division of Community Health
State Department of Health
288 North 1460 West
Salt Lake City, UT 84116

Ms. Catherine Quinn
Utah Department of Natural Resources
1596 West North Temple
Salt Lake City, UT 84116

Mr. Howard Richardson, Assistant Director
State of Utah Department of Transportation
4501 South 2700 West
Salt Lake City, UT 84119-5998

Mr. Robert Valentine, Division Director
Utah Department of Natural Resources
Division of Wildlife Resources
1596 West North Temple
Salt Lake City, UT 84116-3195

AMERICAN INDIAN ORGANIZATIONS

Arizona

Ms. Phoebe Watchman
Department of Emergency Management
The Navajo Nation
P.O. Box 1428
St. Michaels, AZ 86511

Mr. Robert O. Allan
Office of Navajo Land Administration
The Navajo Nation
P.O. Box 661
Window Rock, AZ 86515

Mr. Melvin Bautista
Office of Navajo Land Administration
The Navajo Nation
P.O. Box 308
Window Rock, AZ 86515

Mr. Allen Begay
Chief Executive Administrator
Office of the President/Vice President
The Navajo Nation
P.O. Box 308
Window Rock, AZ 86515

James Berg
Navajo Nation Economic Development
Department
P.O. Box 663
Window Rock, AZ 86515

Ms. Julie Curtiss
Navajo Superfund Program
P.O. Box 2946
Window Rock, AZ 86515

Ms. Colleen Hamilton
Navajo Nation Historic Preservation Department
P.O. Box 2898
Window Rock, AZ 86515

Ms. Sadie Hoskie, Director
Navajo Environmental Protection Administration
P.O. Box 308
Window Rock, AZ 86515

Mr. Raymond Kee
Navajo Land Admininstration
The Navajo Nation
P.O. Box 308
Window Rock, AZ 86515

Ms. Arlene Luther
Navajo Environmental Protection Administration
P.O. Box 339
Window Rock, AZ 86504

Mr. Mike Nez
Department of Emergency Management
The Navajo Nation
P.O. Box 2908
Window Rock, AZ 86515

California

Tribal Elders Council
Santa Ynez Chumash Reservation
P.O. Box 365
Santa Ynez, CA 93460

Colorado

Terry Knight
Ute Mountain Ute Indian Tribe
Farm and Ranch Manager
Box 53
Towaoc, CO 81334

New Mexico

Governor Reginald Pasqual
Pueblo of Acoma
P.O. Box 309
Acomita, NM 87034

Mr. Raphael Martin, President
Pinedale Chapter
Eastern Navajo Agency Council
P.O. Box 3
Church Rock, NM 87311

Mr. Albert Shirley
P.O. Box 238
Church Rock, NM 87311

Mr. Charley Long, President
Thoreau Chapter
Box 22
Continental Divide, NM 87312

Mr. Cecil Jymm Largo, Sr.
P.O. Box 518
Crownpoint, NM 87313

Ms. Rosemary Silversmith
Office of the Speaker
The Navajo Nation
P.O. Box 323
Crownpoint, NM 87313

Mr. Lawrence Morgan
Iyanbito Chapter
P.O. Box 498
Fort Wingate, NM 87316

Governor Harry D. Early
Pueblo of Laguna
P.O. Box 194
Laguna Pueblo, NM 87026

Mr. Buddy Mexicano
Alamo Navajo Chapter
Chapter President
P.O. Box 383
Magdalena, NM 87825

Mr. Gilbert Paduch
Acoma Land Office
P.O. Box 309
Pueblo Acoma, NM 87034

Mr. Brian Vallo
First Lt. Governor
Pueblo of Acoma
P.O. Box 309
Pueblo Acoma, NM 87034

Mr. Curley Biggs, President
Ramah Navajo Nation
Rural Route 2, Box 13
Ramah, NM 87321

Ms. Cecelia S. Ensrude
Ramah Navajo Chapter
Box 444
Ramah, NM 87321

Mrs. Martha Garcia
Ramah Navajo Chapter House
Ramah, NM 87321

Ms. Julia Gaudio
Zuni Mountain Coalition
P.O. Box 724
Ramah, NM 87321

Mr. Freddie Lee
Ramah Navajo Chapter
P.O. Box 23
Ramah, NM 87321

Mr. Darnell Maria
Ramah Navajo Chapter House
Ramah, NM 87321

Dr. Christine Benally
Sanostee Chapter
P.O. Box 722
Shiprock, NM 87420

Ms. Lula Jackson
Secretary/Treasurer
Shiprock Chapter
P.O. Box 3152
Shiprock, NM 87420

Jean Whitehorse
Smith Lake Chapter
Box 20
Smith Lake, NM 87365

Roger Anyon, Director
Zuni Heritage and Historic Preservation Office
Pueblo of Zuni
P.O. Box 339
Zuni, NM 87327

Mr. Robert Lewis
Governor
Pueblo of Zuni
P.O. Box 339
Zuni, NM 87327

Mr. Andrew Othole
Pueblo Zuni Heritage and Historic Preservation
P.O. Box 339
Zuni, NM 87327-0339

Mr. Edison R. Wato, Sr.
Zuni Tribal Councilman
P.O. Box 339
Zuni, NM 87327

Utah

Ms. Maryleen Tahy
Blue Mountain Dine' Inc.
President
388 East 400 South (101-1)
Blanding, UT 84511

Betsy Chapoose
Northern Ute Cultural Rights and Protection
Northern Ute Tribe
P.O. Box 190
Fort Duchesne, UT 84026

Mr. Leonard Lee
Aneth Chapter, Vice President
Box 427
Montezuma Creek, UT 84534

Mr. Edward Tapaha
San Juan County Tribal Coordinator
P.O. Box 43
Montezuma Creek, UT 84534

LOCAL OFFICIALS

California

Ms. Frances Gilliland, Air Quality Specialist
Santa Barbara County Air Pollution Control District
26 Castilian Drive, B-23
Goleta, CA 93117

Vijaya Jammalamataka
Santa Barbara County Air Pollution Control District
25 Castilian Drive, B-23
Goleta, CA 93117

Mayor Joyce Howerton
City of Lompoc
City Hall, 100 Civic Center Plaza
P.O. Box 8001
Lompoc, CA 93438-8001

Councilman William S. Mullins
100 Civic Center Plaza
P.O. Box 8001
Lompoc, CA 93438-8001

Ms. Arleen Pelster
City of Lompoc
100 Civic Center Plaza
P.O. Box 8001
Lompoc, CA 93436

Mr. Winston Rhodes, Assistant Planner
City of Lompoc
P.O. Box 8001
Lompoc, CA 93438-8001

Mr. Timothy J. Staffel, Supervisor
County of Santa Barbara Fourth District
401 East Cypress Avenue
Lompoc, CA 93436

Mr. Gene Wahlers
City of Lompoc
P.O. Box 8001
Lompoc, CA 93438-8001

Mr. Doug Anthony
County of Santa Barbara Energy Division
1226 Anacapa Street
Santa Barbara, CA 93101

Mayor Hal Conklin
City Hall, De La Guerra Plaza
P.O. Box 1990
Santa Barbara, CA 93102-1990

Mr. Claude Garciacelay, Park Planner
Santa Barbara County Park Department
610 Mission Canyon Road
Santa Barbara, CA 93105

Mr. Gregory Mohr, Planner/Review Coordinator
County of Santa Barbara Planning and Development
Comprehensive Planning Division
123 East Anapamu Street
Santa Barbara, CA 93101-2058

Santa Barbara County Resource Management Department
Division of Environmental Review
123 East Anapamu Street
Santa Barbara, CA 93101

Ms. Naomi Schwartz, Chair
Santa Barbara County Board of Supervisors
First District
105 East Anapamu Street
Santa Barbara, CA 93101

Ms. Camillo Wilde
Planning Commission
City of Santa Barbara
123 East Anapamu Street
Santa Barbara, CA 93101

Mayor George S. Hobbs, Jr.
City of Santa Maria
110 East Cook Street

Santa Maria, CA 93454-5190

Mr. Mike Stoker, Fifth District Supervisor
County of Santa Barbara
511 East Lakeside Parkway, Suite 14
Santa Maria, CA 93455-1341

Mr. Tom Urbanske
Santa Maria City Council
133 Royal Avenue
Santa Maria, CA 93454

Mr. William Chamberlin, County Supervisor
Santa Barbara County Board of Supervisors
Third District
1745 Mission Drive, Suite D
Solvang, CA 93483

Mr. Brent Backus
Ventura County Air Pollution Control District
702 County Square Drive
Ventura, CA 93003

Colorado

Leslie Sherlock, County Commissioner
San Miguel County
P.O. Box 1170
Telluride, CO 81435

Ms. Anna Zivian, County Commissioner
San Miguel County
P.O. Box 1170
Telluride, CO 81435

Florida

Mr. George Collins
Okaloosa County Commission
101 East James Lee Boulevard
Crestview, FL 32536

Mr. Bill Kilpatrick, Council President
P.O. Box 1207
Crestview, FL 32536

Ms. Brenda Bush, Councilwoman
City of Crestview
1255 Sioux Circle North
Crestview, FL 32536

Ms. Shelly L. Edson
City of Destin
P.O. Box 399
Destin, FL 32540

Mayor James Vaughn
City of Destin
P.O. Box 399
Destin, FL 32540

Mr. Richard Gage
Town of Cinco Bayou
100 Opp Boulevard
Fort Walton Beach, FL 32548

Mayor Charles Laginess
City of Cinco Bayou
10 Yacht Club Drive
Fort Walton Beach, FL 32548

Mr. Nick Nicholson, President
Oskaloosa League of Cities
P.O. Box 4009
315 Holmes Boulevard, NW
Fort Walton Beach, FL 32548

Mr. Eddie E. Phillips
Economic Development Council of Okaloosa County
P.O. Box 4079
Fort Walton Beach, FL 32549-4079

Mayor Larry Trenary
P.O. Box 4009
Fort Walton Beach, FL 32549

Mayor Willard Clark
P.O. Box 14
195 Christobal Road North
Mary Esther, FL 32569

Mr. William N. Lamb, City Councilman
Okaloosa County League of Cities
195 Christobal Road North
Mary Esther, FL 32569

Mrs. Mary C. Smith
Mayor Pro Tem
City of Mary Esther
195 Christobal Road North
Mary Esther, FL 32569

Mayor Randall Wise
City of Niceville
414 31st Street
Niceville, FL 32578

Dr. Larry Walker, Executive Director
Panhandle League of Cities
The Whitman Center
The University of West Florida
Pensacola, FL 32515-5751

Mayor Frank Pate, Jr.
City Hall
P.O. Box 278
Port St. Joe, FL 32456

Mr. Warren Yeager
Gulf County Commission, District #5
117 Monica Drive
Port St. Joe, FL 32456

Mr. Newman Brackin
Okaloosa County Clerk of Circuit Court
Courthouse Annex
Shalimar, FL 32579

Mr. Hank Christen
Director of Emergency Management
Shalimar Courthouse
Shalimar, FL 32579

Mr. Chris Holley
Okaloosa County
1250 North Eglin Parkway
Shalimar, FL 32579

Mayor Harry Montague
City of Fort Walton Beach
2 Cherokee Road
Shalimar, FL 32579

Mayor John Arnold
City of Valparaiso
165 Grandview Avenue
Valparaiso, FL 32580

Mr. Heyward H. Strong, Jr., Commissioner
City of Valparaiso
409 Andrew Drive
Valparaiso, FL 32580

Mr. Michael L. Hammond
Gulf County Board of County Commissioners
P.O. Box 5004
White City, FL 32465

New Mexico

Mayor Dan King
City of Alamogordo
511 10th St
Alamogordo, NM 88310

Mr. Wayne Gallegos
City of Belen
Emergency Management Coordinator
525 Becker Avenue
Belen, NM 87002

Mayor George Galanis
City of Gallup
P.O. Box 1270
Gallup, NM 87305

Mr. Irvin Harrison, County Manager
County of McKinley
P.O. Box 70
201 West Hill Avenue
Gallup, NM 87305-0070

Mr. Steve Barela, Chairman
Cibola County Commission
515 West High Street
Grants, NM 87020

Mr. Bruno Zaldo
City Manager of Las Cruces
P.O. Drawer CLC
Las Cruces, NM 88004

Mayor Jim Burson
City of Magdalena
P.O. Box 145
Magdalena, NM 87825

Vida Trujillo
Clerk Treasurer
P.O. Box 145
Magdalena, NM 87825

Danny Fryar
Catron County Manager
P.O. Box 507
Reserve, NM 87830

Mr. Carl Livingston, Chairman
Catron County Commission
P.O. Box 507
Reserve, NM 87830

Mayor Ravi Bhasker
City of Socorro
P.O. Box K
Socorro, NM 87801

Tony Jaramillo
Socorro County Manager
P.O. Box 1
Socorro, NM 87801

Mr. Danny Romero, Chairman
Socorro County Commission
P.O. Box 1
Socorro, NM 87801

Pat Salome
City Clerk
P.O. Box K
Socorro, NM 87801

Texas

Ms. Rosemary Staley
Department of Planning, Research, and Development
City of El Paso
#2 Civic Center Plaza, Eighth Floor
El Paso, TX 79901

Utah

Norman Johnson
City Manager
50 West 100 South
Blanding, UT 84511

Mayor James Slavens
City of Blanding
50 West 100 South
Blanding, UT 84511

Mr. Bryant Anderson
Emery County Economic Development Commission
Box 919
Castle Dale, UT 84513

Sheriff Gaymon
Emery County Sheriff's Department
295 North Center
Castle Dale, UT 84513

Mr. Kent Petersen
Emery County Commissioner
P.O Box 629
Castle Dale, UT 84513

Ms. Dixie Thompson
Emery County Commissioner
P.O. Box 629
Castle Dale, UT 84513

Mr. Alton J. Burns
City of Green River
P.O. Box 402
Green River, UT 84525

City of Green River
P.O. Box 620
240 East Main
Green River, UT 84525

Mayor Rey Lloyd Hatt
Box 275
Green River, UT 84525

Mr. Duane Riches
City Councilman
P.O. Box 278
Green River, UT 84525

Mayor Judy Ann Scott
City of Green River
Box 84
Green River, UT 84525

Mr. Richard Seely
Green River City Councilman
Box 291
Green River, UT 84525

Mr. Blaine Silliman
City Council of Green River
P.O. Box 144
Green River, UT 84525

Mr. Mitch Vetere
Emery County Sheriff's Department
Box 632
Green River, UT 84525

Mr. Mark Justice
Emery County Council
P.O. Box F
Huntington, UT 84528

Mr. Paul Menard
Grand County Council
125 East Center
Moab, UT 84532

Ms. Bette L. Stanton
Grand County Economic and Community Development
59 South Main #4
Moab, UT 84532

Mr. Mark Maryboy
San Juan County Commissioner
P.O. Box 190
Montezuma Creek, UT 84534

Rick Bailey, Administrative Assitant
San Juan County Commission
P.O. Box 9
Monticello, UT 84535

Bret Hosler
San Juan County Economic Development Board
117 South Main
P.O. Box 490
Monticello, UT 84535

Mr. Ty Lewis
San Juan County Commission
P.O. Box 9
117 South Main Street
Monticello, UT 84535

Dan Shoemaker
City Administrator
P.O. Box 457
Monticello, UT 84535

Mayor Jack Young
City of Monticello
P.O. Box 457
Monticello, UT 84535

Mr. William Howell
Southeast Utah Association of Local Governments
P.O. Drawer 1106
Price, UT 84501

LIBRARIES

Albuquerque/Bernalillo County Main Library
501 Copper Avenue, NW
Albuquerque, NM 87102

Alele Museum/Library
Ministry of the Interior & Outer Island Affairs
Republic of the Marshall Islands
Majuro, Marshall Islands 96960

Career Development Office
Bureau of Indian Affairs
P.O. Box 328
Crownpoint, NM 87313

CES Library
Williams College
Attn: Ms. Marcella Rauscher
Box 632
Williamstown, MA 01267

Colorado State University
Documents Library-KS
The Libraries
Attn: Mr. Fred C. Schmidt
Fort Collins, CO 80523-1019

Crownpoint Chapter House
P.O. Box 336
Crownpoint, NM 87313

Grand County Public Library
25 South 1st East
Moab, UT 84532

Green River Library
85 South Lawn Street
Green River, UT 84525

Gulf County Library
Highway 71 North
Port St. Joe, FL 32456

Huntsville Public Library
P.O. Box 443
Huntsville, AL 35804

Iyanbito Chapter House
P.O. Box 498
Fort Wingate, NM 87316

Lompoc Public Library
501 East North Avenue
Lompoc, CA 93436

Magdalena Public Library
108 North Main Street
Magdalena, NM 87825

Mary Esther Public Library
100 Hollywood West
Mary Esther, FL 32569

Mother Whiteside Public Library
525 West High Street
Grants, NM 87020

Navajo Nation Research Library
P.O. Drawer K
Window Rock, AZ 86515

New Mexico State University
Attn: Mr. Tim McKimmie
University Library
Box 30006, Department 3475
Las Cruces, NM 88003-8006

Octavia Fellin Public Library
Attn: Ms. Mary Browter
115 West Hill Street
Gallup, NM 87301

Pinedale Chapter House
P.O. Box 03
Church Rock, NM 87311

Prueter Library
510 Park Avenue
Port Hueneme, CA 93041

Ramah Chapter House
Route 2 Box 13
Ramah, NM 87321

Salt Lake City Public Library
209 East 500 South
Salt Lake City, UT 84111

San Juan Public Library
80 North Main
Monticello, UT 84535

Santa Maria Public Library
Public Document Room, 2nd Floor
420 South Broadway
Santa Maria, CA 93454

Shiprock Chapter House
P.O. Box 576
Shiprock, NM 87420

University of Alabama, Huntsville
Attn: Library
Huntsville, AL 35899

University of Utah
Attn: Mr. Walter Jones
Special Collections
Marriott Library
Salt Lake City, UT 84112

NATIONAL INTEREST GROUPS

California

Mr. Richard Skillin
Sierra Club
P.O. Box 333
Lompoc, CA 93436

Dr. Carol Rosin
Institute for Security and Cooperation in Outer Space
4053 San Rafael Avenue
Los Angeles, CA 90065

Ms. Debra Reames, Esquire
Sierra Club Legal Defense Fund
180 Montgomery Street, Suite 1400
San Francisco, CA 94104

Mr. Keith Zandona
Surfrider
Box 283
Solvang, CA 93464

Florida

Mr. Richard D. Radford
Sierra Club-National Marine Committee
P.O. Box 5328
Navarre, FL 32566

Maryland

Mr. Bernie Funk
Aircraft Owners & Pilots Association
421 Aviation Way
Frederick, MD 21701

New Mexico

Mr. Joseph G. Muhlberger
National Contract Management Association
5343 Wyoming Boulevard NE, Suite 4
Albuquerque, NM 87109-3119

Mr. Jay Sorenson, Vice Chair
Sierra Club's Military Impacts on Environment Committee
2800 Charleston, NE
Albuquerque, NM 87110

Ms. Maryann Thaeler, Chair
Southern New Mexico Group
Sierra Club
2015 Huntington Drive
Las Cruces, NM 88001

Mr. William Brundage
National Radio Astronomy Observatory
P.O. Box O
Socorro, NM 87801

Mr. David G. Finley
National Radio Astronomy Observatory
P.O. Box O
Soccoro, NM 87801

Mr. Miller Goss
National Radio Astronomy Observatory
P.O. Box O
1003 Lopezville Road
Socorro, NM 87801-0387

Mr. Clinton Janes
National Radio Astronomy Observatory
P.O. Box O
Socorro, NM 87801-0387

New Zealand

Mr. Martin Gotje
Greenpeace New Zealand
Private Bag 92507
Wellesley Street, Auckland, New Zealand

Utah

Ms. Jayne Belnap
National Biological Survey
Box 50
Moab, UT 84532

Mr. Robert Irwin Pochapin
Independent Longhaired Libertarians of North America
360 North 100 West, #16
Moab, UT 84532

Mr. Rod Greenough
National Parks and Conservation Association
Regional Assistant
P.O. Box 1563
Salt Lake City, UT 84110

Mr. Lawson LeGate
Sierra Club
177 East 900 South, Suite 102
Salt Lake City, UT 84111

Mr. Rudy Lukez
Sierra Club
1851 East Garfield Avenue
Salt Lake City, UT 84108-2948

Mr. Mark MacAllister
Sierra Club, Utah Chapter

3985 South 900 East, #118
Salt Lake City, UT 84124

Ms. Susan Stewart
Sierra Club
1343 Roosevelt Avenue
Salt Lake City, UT 84105

Washington, DC

Mr. Steven Aftergood
Senior Research Analyst
Federation of American Scientists
307 Massachusetts Avenue, NE
Washington, DC 20002

Dr. Jerome Holton
Federation of American Scientists
307 Massachusetts Avenue, NE
Washington, DC 20002

Mr. Peter Kokopeli
Union of Concerned Scientists
1616 P Street, NW
Suite 310
Washington, DC 20036

Mr. John Pike
Space Policy Project
307 Massachusettes Avenue, NE
Washington, DC 20002

Ms. Vanessa Richardson
National Science Foundation
Washington, DC 20550

Mr. Peter Tyler
Physicians for Social Responsibility
Suite 810
1000 16th Street, NW
Washington, DC 20009

Ms. Connie Van Praet
Institute for Security and Cooperation in Outer Space
3400 International Drive
Suite 2K-500
Washington, DC 20008

LOCAL INTEREST GROUPS

California

Mr. Andrew Mills, Manager
Hollister Ranch Owners Association
Box 1000
Gaviota, CA 93117

Mr. John Ayers, President
La Purisima Audubon Society
P.O. Box 2045
Lompoc, CA 93438

Mr. Herb Gerfen
Santa Maria Valley Economic Development Association
2850 Monte Verde Drive
Lompoc, CA 93455

Mr. Benjamin F. Hawkins, President
Santa Maria-Lompoc Chapter Retired Officer's Association
184 Galaxy Way
Lompoc, CA 93436

Ms. Cynthia Louise McCall
Santa Barbara County Releaf
P.O. Box 2025
Lompoc, CA 93438-2025

Ms. Jonna Pettersen
California Abalone Assoc.\California Sea Urchin Divers Association
116 North Y Street
Lompoc, CA 93436

Mr. Andrew Salazar
Western Spaceport Museum & Science Center
825 Clemens Way
Lompoc, CA 93436

Mr. William Schuyler
Lompoc Valley Business Association
120 North D Street
Lompoc, CA 93436

Ms. Linda Gray
CUPA Representative
United Divers of San Pedro
11841 Wembley Road

Los Alamitos, CA 90720

Ms. Grace Aaron
Southern California Sane Freeze Campaign for Global Security
P.O. Box 31285
Los Angeles, CA 90031

Mr. Gilbert Beezley
Ozone Research Group
228 South A Street
Oxnard, CA 93032

Mr. Donald M. Davis
Ventura Chapter-The Retired Officer's Association
3621 Ketch Avenue
Oxnard, CA 93035

Mr. Mark Chytilo
Environmental Defense Center
906 Garden Street Suite #2
Santa Barbara, CA 93101

Dr. Linda Phillips
Citizen's Planning Association of Santa Barbara County
916 Anacapa
Santa Barbara, CA 93101

Mr. Bob Fletcher, President
Sportfishing Association of California
2917 Canon Street
San Diego, CA 92106

Mr. J. Andrew Caldwell
Coalition of Labor, Agriculture & Business
P.O. Box 7523
Santa Maria, CA 93456

Ms. Krista Hanni
The Marine Mammal Center
Marin Headlands GGNRA
Sausalito, CA 94965

Mr. Brian Brennan
Surfrider Foundation
567 San Jon Road
Ventura, CA 93001

Mr. Terrell Cryer
Ventura County Commercial Fisherman's Association
458 South Anacapa Street
Ventura, CA 93001

Colorado

The Sheep Mountain Alliance
Executive Board
Box 389
Telluride, CO 81435

Florida

Ms. Betty Jean Londono
Franklin & Southern Gulf County Realtor Association
P.O. Box 205
Apalachicola, FL 32329

Mr. Jim Breitenfeld
Economic Development Council of Okaloosa County
P.O. Box 4097
Fort Walton Beach, FL 32549

President G.A. Mallini
Economic Development Council
P.O. Box 4097
Fort Walton Beach, FL 32549

Ms. Janet Larken
Navarre Chamber of Commerce
P.O. Box 5241
Navarre, FL 32556

W.C. McGee
Cape San Blas Taxpayers Association
HC-1 Box 344
Port St. Joe, FL 32456

Ms. Christina Larson
Patriots for Peace
P.O. Box 1092
Shalimar, FL 32579

Mr. Robert A. Larson
Patriots for Peace
4 Longwood Drive
Shalimar, FL 32579

New Mexico

Mr. Bill Reed, President
New Mexico Wildlife Federation
3240-D Juan Tabo, NE, Suite 8
Albuquerque, NM 87111

Mr. Richard Becker, President
Albuquerque Wildlife Federation
1005 Indiana, SE
Albuquerque, NM 87018

Ms. Sherry Robinson
Zuni Mountain Coalition
217 Maple, NE
Albuquerque, NM 87106

Mr. Anthony F. Marianito, Sr.
Church Rock Mutal Help Housing Homeowners
P.O. Box 22
Church Rock, NM 87311

Sally and Robert Noe
Gallup Historical Society
1911 Mark Avenue
Gallup, NM 87301

Mr. David & Cora Candelaria
Ice Cave Bandera Volcano
12000 Ice Cave Road
Grants, NM 87020

Ms. Joanie Berde
La Comunidad & Carson Forest Watch Citizen Group
Box 15
Llano, NM 87543

Ms. Shelia Brewer, President
Los Amigos del Malpais
P.O. Box 2336
Milan, NM 87021

Mr. Juan Montes
Rural Alliance for Military Accountability
P.O. Box 855
Questa, NM 87556

Ms. Mary Lou Jones
Zuni Mountain Coalition
P.O. Box 39
San Rafael, NM 87051

Ms. Carol Cooper
Museum of Indian Arts and Culture and
Laboratory of Anthropology
Director of Education
P.O. Box 2087
Santa Fe, NM 87504-2087

Ms. Carol Cooper
Director of Education
Museum of Indian Arts and Culture and
Laboratory of Anthropology
P.O. Box 2087
Santa Fe, NM 87504-2087

Ms. Gwen Wardwell, Chair
The Rio Grande Chapter of the Sierra Club
945 Camino de Chelly
Santa Fe, NM 87501

Mr. Thomas Billings
Cottonwood Gulch Foundation
P.O. Box 969
Thoreau, NM 87323

Mr. John Van Sickle
Cottonwood Gulch Foundation
P.O. Box 969
Thoreau, NM 87323-0969

Texas

Mr. Thomas Brasfield
5223 Santa Elena
El Paso, TX 79932

Utah

Mr. Scott Groene
Southern Utah Wilderness Alliance
P.O. Box 758
Moab, UT 84532

Mr. Dan Kent
Earth Mother
1337 Powerhouse Lane #5
Moab, UT 84532

Mr. Gene Nodine, Vice Chairman

Grand County Republican Party
109 Arbor Drive
Moab, UT 84532

Mr. Alex Hoppus
Sierra Student Coalition
8753 North Goryoza Drive
Park City, UT 84060

Mr. Ray Bailey
Utah Rock Art Research Association
1705 South 600 East Apt. D
Salt Lake City, UT 84105

Ms. Susan Biesele
Utah Rock Art Research Association
3303 Oakcliff Drive
Salt Lake City, UT 84124

Mr. William Biesele
Utah Rock Art Research
3303 Oakcliff Drive
Salt Lake City, UT 84124

Mr. Steve Erickson
Downwinders Inc.
966 East Wilson Avenue
Salt Lake City, UT 84105

Ms. Rosemary Holt
Women Concerned-Utahns United
1589 Devonshire Drive
Salt Lake City, UT 84108

Mr. Steve Koteff
Southern Utah Wilderness Alliance
1471 South 1100 East
Salt Lake City, UT 84105

Ms. Heidi McIntosh
Southern Utah Wilderness Alliance
1471 South 1100 East
Salt Lake City, UT 84105

Mr. William J. Nicholls II
Utah Mountain Bike Association
1149 South Douglas Street
Salt Lake City, UT 84105

Mr. Ken Red
Southern Utah Wilderness Alliance
1471 South 1100 East
Salt Lake City, UT 84105

Wyoming

Ms. Leila Stanfield
Native Ecosystems Council and Friends of the Bow
P.O. Box 6032
Laramie, WY 82070

LOCAL BUSINESS ORGANIZATIONS

Alabama

Ms. Pat Cleveland
United International Engineering Inc.
1500 Perimeter Parkway
Suite 123
Huntsville, AL 35806

Mr. Larry R. Foor
Director, Huntsville Operations
Orbital Sciences Corporation Space Data Division
620 Discovery Drive, Suite 120
Huntsville, AL 35806

Mr. Russell George
Tybrin Corporation
4900 University Square, Suite 28
Huntsville, AL 35816

Mr. Jerry A. Rankin
Physitron Inc.
3304 Westmill Drive
Huntsville, AL 35805

Ms. Christine Steen
Aerotherm Corporation
1500 Perimeter Parkway
Huntsville, AL 35806

Teledyne Brown Engineering
Cummings Research Park
300 Sparkman Drive
Huntsville, AL 35807

Dr. Thomas Cawthon
Montgomery Otolaryngology
1722 Pine Street

Montgomery, AL 36106-1155

Arizona

Ms. Fran Barbano
The Carefree Enterprise Magazine
P.O. Box 1145
Carefree, AZ 85377

Ms. Donita C. Cotter
Jones and Stokes Associates
3030 North Third Street, Suite 200
Phoenix, AZ 85012

Ms. Donna Knipschild
Administrative Assistant, SEC Inc.
Rojo Vista Building
20 Stutz Bearcat Drive #6
Sedona, AZ 86336-5244

California

Mr. Bob Shea, President
San Diego Urchin Producer Association
5847 Beaumont Avenue
La Jolla, CA 92037

Ms. Phyllys Day
Allstate Insurance
305 Huntington Place
Lompoc, CA 93436

Mr. Robert Hatch
Lompoc Valley Chamber of Commerce
P.O. Box 626
Lompoc, CA 93436

Mr. DeWayne Holmdahl, President
Lompoc Chamber of Commerce
604 East Ocean Avenue, Suite H
Lompoc, CA 93436

Mr. John P. Lizarraga
ACECO Equipment Co.
1401 North O Street
Lompoc, CA 93436

Ms. Barbara Reynolds
Lompoc Chamber of Commerce
411 West Willow Avenue
Lompoc, CA 93436

Mr. Orlando C. Severo Jr.
Western Commercial Space Center
245-A Burton Mesa Boulevard
Lompoc, CA 93436

Mr. Donald D. Smith
Western Commercial Space Center
245-A Burton Mesa Boulevard
Lompoc, CA 93436

Sudden and Hollister Ranch
1211 Pellham Drive
Lompoc, CA 93436

Mr. Gilberto B. Ruiz
Myra L. Frank & Associates, Inc.
811 West 7th Street, Suite 800
Los Angeles, CA 90017

Mr. Michael Pedicini
M & M Property Management
3976 Woodlake Manor
Moorpark, CA 93021

Ms. Aimee Houghton
Pacific Study Center
222B View Street
Mountain View, CA 94041

Mr. Brent S. Stewart
Staff Scientist
Hubbs-Sea World Research Institute
1700 South Shores Road
San Diego, CA 92109

Mr. Kenneth Bornholdt
Walter & Bornholdt
679 Monterey Street
San Luis Obispo, CA 93401

Mr. John M. Baucke
Bixby Ranch Company
125 East Victoria Street, Suite L
Santa Barbara, CA 93101

Mr. John Buse, Staff Attorney
Environmental Defense Center
906 Garden Street, Suite 2
Santa Barbara, CA 93101

Mr. Roger Bunch, Chief Operations Officer
Arbor Medical Group
1414 East Main Street, Suite 103
Santa Maria, CA 93454

Ms. Vicki L. Clift, Director
Clift and Associates
361 Town Center West, Suite 200
Santa Maria, CA 93454

Mr. James A. Diani, President
A.J. Diani Construction Co. Inc.
295 North Blosser
P.O. Box 636
Santa Maria, CA 93454

Mr. Donald E. Lahr, CEO
Lahr Electric Motors Inc.
119 West Mill
Santa Maria, CA 93454

Mr. Mike Mitchell
Minerals Management Service
222 West Carmen Lane
Santa Maria, CA 93454

Ms. Dottie Renfrow
Economic Development Association
P.O. Box 6009
Santa Maria, CA 93456

Mr. Joseph Sesto
Santa Maria Valley Economic Development Association
715 South Bradley, #25
Santa Maria, CA 93454

Ms. Laurie Tamura
Santa Maria Chamber of Commerce
1000 South Broadway
Santa Maria, CA 93454

Mr. Mike Warren, President
Santa Maria Valley Chamber of Commerce
614 South Broadway
Santa Maria, CA 93454

Mr. Vic Bouquet
Astrotech Space Operations
P.O. Box 5097
Vandenberg AFB, CA 93437

Mr. Bob DeSanto
BD Systems, Inc.
SSD/MEF, Building 8500, Room 137
Vandenberg AFB, CA 93437

Mr. Richard Harter
Harter & Associates
938 Via Cielito
Ventura, CA 93003

Mr. Keith Howell
Project Land Representative
Chevron USA Production Company
P.O. Box 6917
Ventura, CA 93006

Colorado

Mr. Michael Behrendt
Horse Thief Range
910 West Hallam, Apt. #6
Aspen, CO 81611

Mr. Charles M. Searle, President
Citizens State Bank of Cortez
P.O. Drawer T
77 West Main Street
Cortez, CO 81321

Ms. Ruth Slickman
Crow Canyon Archaeological Center
23390 County Road K
Cortez, CO 81321

Ms. Kate Booth-Doyle
La Garita Llamas
32995 County Road 41G
Del Norte, CO 81132

Ms. Lenore Anderson
Environmental Resource Manager
Colorado Outward Bound School
945 Pennsylvania Street
Denver, CO 80203-3198

Dr. David C. Deaver
Southwest Surgical Associates P.C.
1800 East Third Avenue, Suite 103
Durango, CO 81301

Steve & Deborah Ilg
Harmony Now!
10 Town Plaza, 240
Durango, CO 81301

Ms. Janet Lever
Blue Heron Pottery
11753 North 85th
Longmont, CO 80503

Florida

Mr. William S. Ruic
Apalachicola Airport
8 Airport Road, Box 518
Apalachicola, FL 32329-0518

Mr. Edward Ellegood
Spaceport Florida Authority
150 Cocoa Island Boulevard
Cocoa Beach, FL 32931

Mr. Ray Navitsky
Chamber of Commerce
1021 Highway 98 East, Suite A
P.O. Box 8
Destin, FL 32540

Ms. Vivian Susenbach
The University of West Florida
P.O. Box 1527
Eglin AFB, FL 32542

Mr. Basil L. Bethea, Jr.
Realty House Inc.
99 Eglin Parkway, Suite 46
Fort Walton Beach, FL 32548

Mrs. Lynne Christen
Chamber of Commerce
P.O. Box 640
Fort Walton Beach, FL 32849

Mr. John Gerdine
Veda, Inc.
197 Eglin Pkwy
Fort Walton Beach, FL 32548

Mr. Chuck Kelley
Niceville-Valparaiso-Bay Area Chamber of Commerce
37 Bay Drive, SE
Fort Walton Beach, FL 32548

Marion S. Skalka
CSA Inc.
528 Mooney Road
Fort Walton Beach, FL 32547

Mr. Winston Walker
Ready Bank
P.O. Box 4400
Fort Walton Beach, FL 32549

Mr. Terrance Cake
Alvarez Lehman and Associates
2444 NE 1st Boulvard, Suite 500
Gainesville, FL 32609

Mr. Don Collins, President
Niceville-Valparaiso-Bay Area Chamber of Commerce
P.O. Box 280
Niceville, FL 32578

Dr. James R. Richburg, President
Okaloosa-Walton Community College
100 College Boulevard
Niceville, FL 32578

Mr. Walter F. Spence, Jr.
Spence Brothers Fish Company
301 Bayshore Drive
Niceville, FL 32578

Mr. Michael W. Haynes
Panama City - Bay County Regional Airport
3173 Airport Road, Box A
Panama City, FL 32405

Mr. Frank R. Miller
Pensacola Regional Airport
2430 Airport Boulevard, Suite 225
Pensacola, FL 32504

Mr. John F. Cullen
Gulf Aviation, Inc.
Route 1, Box 695
Port St. Joe, FL 32456

Ms. Tamara Laine
Chamber of Commerce
P.O. Box 964
Port St. Joe, FL 32456

Ms. Lisa Mahlkov, Assistant Director
Gulf County of Chamber of Commerce
1308 Garrison Avenue
Port St. Joe, FL 32456

Ms. Cheryl Summers
Coldwell Banker Summer Property
HCI Box 210
Port St. Joe, FL 32456

Mr. Jack Summers
Cap'n Jack's
HCI Box 210
Port St. Joe, FL 32456

Mr. John Thorpe, President
Lighthouse Utilities Co.
P.O. Box 428
Port St. Joe, FL 32456

Ms. Barbara Ann Rodgers-Hendricks
Green Party of Florida
Route 1, Box 950
Santa Rosa Beach, FL 32459

Mr. Jerry Cox
SPARTA, Inc.
9 Lake Lorraine Circle
Shalimar, FL 32579

Dr. J.P. Halstead
Orlando Technology Incorporated
P.O. Box 855
Shalimar, FL 32579-0855

Mr. Lou James
Gulf Coast Realty
P.O. Box 90
St. George Island, FL 32320

Ms. Sandra Monod
Anchor Realty & Mortgage Co.
212 Franklin Boulevard
St. George Island, FL 32320

Mr. William Coulter
Florida Airport Manager's Association
P.O. Box 929
Tallahassee, FL 32302

Mr. Don Lawley
Vitro Technical Services Inc.
P.O. Box 35
Wewahitchka, FL 32465

Idaho

Mr. Jim Jensen
Dames & Moore
1750 Front Street, Suite 100
Boise, ID 83702

Kansas

Ms. Susan Jacobson
Jacobson & Jacobson
526 West Sicth Street
P.O. Box 1167
Junction City, KS 66441-1167

Massachusetts

Mr. Gary Robinson
Senior Research Scientist
Aerodyne Research Inc.
45 Manning Road
Billerica, MA 01821-3976

Mr. Peter J. Coppola
Raytheon Service Company
2 Wayside Road
Burlington, MA 01803

Mr. Richard W. Miller
Raytheon Company
2 Wayside Road
Burlington, MA 01803

New Mexico

Ms. Valerie S. Begay, Certified PLS
Nordhaus Haltom Taylor Taradash & Frye
Suite 1050
500 Marquette Avenue, NW
Albuquerque, NM 87102

Ms. Lila Bird
Water Information Network
P.O. Box 4525
Albuquerque, NM 87106

Dr. William J. Hanratty
635 Chavez, NW
Albuquerque, NM 87107

Ms. Shelly Herbst
Marien and Associates
3615 Rio Rancho Boulevard
Albuquerque, NM 87114

Ms. Teresa Juarez
New Mexico Alliance
930 20th Street, NW
Albuquerque, NM 87104

Mr. Shel Neymark
Shel Neymark Architectural Cermanics
P.O. Box 125
Embudo, NM 37531

Mr. Jeff Condrey
Chief Executive Officer
Fort Wingate MRS Inc.
P.O. Box 595
Fort Wingate, NM 87316

Mr. Jeffrey Alford, Manager
Ice Caves Bandera Crater
12000 Ice Caves Road
Grants, NM 87020

Mr. Joel Giblin
Advanced Sciences, Inc.
555 Telshor, Suite 310
Las Cruces, NM 88011

Mr. James E. Groepler
Bear Springs Ranch Headquarters
P.O. Box 1115
Magdalena, NM 87825-1115

Ms. Barbara Berge
Candy Kitchen Wolf Hybrid Rescue Ranch
HCI 61 Box 22
Ramah, NM 87321

Mr. Paul Davis
Ramah Land & Cattle Co.
P.O. Box 399
Ramah, NM 87321

Mr. Louis Gross
El Morro RV Park
Route 2 Box 44
Ramah, NM 87321

Ms. Wilhelmina K. Gross
El Morro Enterprises
Route 2 Box 44
Ramah, NM 87321

Mr. Charles Mallery
Mallery Ranch
Box 546
Ramah, NM 87321

Paul and Patricia Merill
Doubletree Ranch
P.O. Box 58
Ramah, NM 87321

Mr. Robert Mills
Pine Meadow Ranches
P.O. Box 857
Ramah, NM 87321

Aurelia Najar
New Mexico Alliance
305 East Reed
Roswell, NM 88201

Mr. Jack Mattox
New Mexico Environmental Law Center
103 Cienega Street
Santa Fe, NM 87501

Mr. Roger S. Peterson
New Mexico Natural History Institute
1750 Camino Corrales
Santa Fe, NM 87505

Mr. Steven Sugarman
Attorney at Law
612 Old Santa Fe Trail, Suite B
Santa Fe, NM 87501

Mr. Doug Wolf, Staff Attorney
New Mexico Environmental Law Center
103 Cienega Street
Santa Fe, NM 87601

Mr. Philip J. Kozushko
EMRTC
New Mexico Institute of Mining and Technology
Socorro, NM 87801

Nevada

Mr. Jack Alexander
Resource Concepts Inc.
340 North Minnesota Street
Carson City, NV 89702

Ms. Sheila Anderson
Resource Concepts
340 North Minnesota Street
Carson City, NV 89703

Oregon

Mr. Andrew Linehan
CH2M Hill
825 Northeast Multonomah
Suite 1300
Portland, OR 97232-2146

Tennessee

Mr. Harry Bryson
Camber Corporation
5728 Wooded Acres Drive
Knoxville, TN 37921-3919

Texas

Mr. Douglas Saunders
Taylor/Herring Company
Executive Vice President
P.O. Box 2805
Amarillo, TX 79105

Utah

Lynn Patterson
Two Swipe Cattle Inc.
1420 North Blue Mountain Road (9-1)
Blanding, UT 84511

Ms. Liza Doran
Cow Canyon Trading Post/Restaurant
Box 88
Bluff, UT 84512

Mr. Jim Hook
Recapture Lodge
P.O. Box 309
Bluff, UT 84512

Mr. Stan Johnson, Chairman
San Juan County Service Area No. 1
P.O. Box 310
Bluff, UT 84512

East Carbon Constructors
P.O. Box 880
East Carbon, UT 84520

Ms. Odell Anderson
G & O Inc.
Box 357
Green River, UT 84525

Mr. Fred Gene Dunham
Dunham Land & Livestock
Box 540
Green River, UT 84525

Mr. Rob Lindgren
Redtail Aviation
Box 606
Green River, UT 84525

Ms. Valerie Newland, Member
Chamber of Commerce
Box 313
Green River, UT 84525

Mr. Rodney L. Silliman
Rod's Welding Service
155 North Clark Street
Green River, UT 84525

Mr. Amos L. Hancock
Andrulis Research Corp.
4816 West 5135 South
Kearns, UT 84118

Mr. Kevin Dwyer
Circle K Ranch
128 West 200 North
Moab, UT 84532

Southeast Utah Republican Party Coalition
109 Arbor Drive
Moab, UT 84532

Ms. Jessica Stabrylla
Laibab Mountain Bike Tours
P.O. Box 339
Moab, UT 84532

Mr. David Wilson
464 East Center Street
Moab, UT 84532

Ms. Lisa Wolfson
Nichols Expeditions
2960 Roberts Drive
Moab, UT 84532

Mr. Gary Karriker
Rust Geotech, Inc.
P.O. Box 909
Monticello, UT 84535

Heidi Redd
Indian Creek Cattle Company
P.O. Box 609
Monticello, UT 84535

Ms. Frieda Becker
Advance Enterprises Inc.
277 Sky Harbor #1157
Salt Lake City, UT 84116

Ms. Laurie Hilzer
Bryner Clinic
745 East Third South
Salt Lake City, UT 84102

Mr. J. Jeffrey Kosewski, Jr.
Dames & Moore
127 South 500 East, Suite 300
Salt Lake City, UT 84102-1959

Ms. Jan Wright
Watercolors by Jan Wright
209 A Street
Salt Lake City, UT 84103-2507

Jimmie & MaryAnn Rosenbruch
Glacier Guides, Inc.
P.O. Box 460
Santa Clara, UT 84765

Virginia

Mr. David Meeks
Tetra Tech
4700 King Street, Suite 500
Alexandria, VA 22302

Dr. Richard Harris
Labat-Anderson, Inc.
2200 Clarendon Boulevard, Suite 900
Arlington, VA 22201

Mr. Richard J. Mally
SRS Technologies
P.O. Box 12707
Arlington, VA 22209-2415

MEDIA ORGANIZATIONS

Arizona

Navajo Times
Highway 264 & Route 12
Window Rock, AZ 86515

California

Ms. Teri Harber
Lompoc Record
P.O. Box 578
Lompoc, CA 93438

Mr. David Stringer
Lompoc Record
504 Colbert Drive
Lompoc, CA 93436

Ms. Nora Wallace
Santa Barbara News-Press
908 North H Street

Lompoc, CA 93436

Ms. Encarnita Pyle
Oxnard Press-Courier
300 West 9th Street
Oxnard, CA 93030

Mr. Keith Hammond
Pacific News Service
516 Waller Street
San Francisco, CA 94117

Mr. Todd Bauer
KSBY-TV
467 Hill Street
San Luis Obispo, CA 93405

Ms. Martha Saddler
Santa Barbara Independent
Santa Barbara, CA 93101

Mr. Nick Welsh
Santa Barbara Independent
1221 State Street, Suite 200
Santa Barbara, CA 93101

Ms. Jeanine Scully
Santa Maria Times
P.O. Box 400
Santa Maria, CA 93455

Maia Davis
Los Angeles Times
5200 Valentino Road, Suite 140
Ventura, CA 93003

Mr. Rich Gualano
KVEN Radio
3897 Market Street
Ventura, CA 93002

Ms. Maureen Magee
Ventura County Star Free Press
5250 Ralston Street
Ventura, CA 93003

Mr. Ken Weiss
Los Angeles Times Ventura Edition
5200 Valentino Road, Suite 140
Ventura, CA 93003

Colorado

Mr. Kit Miniclier
Denver Post
1560 Broadway
Denver, CO 80202

Ms. Electa Draper
Durango Herald
1275 Main Avenue
Durango, CO 81301

Ms. Catherine Bill
High Country News
Box 1090
Paonia, CO 81428

Mr. Art Goodtimes
Telluride Times Journal
P.O. Box 1765
Telluride, CO 81435

Florida

Mr. George Cain
WAAZ-FM/WJSB-AM
P.O. Box 267
Crestview, FL 32536

Mr. Reed A. Sampson
The Destin Log
P.O. Box 957
Destin, FL 32540

Mr. Thomas W. Hoffer
Franklin County Chronicle
P.O. Box 590
Eastpoint, FL 32328

Mr. Michael Allen
WOYS
P.O. Box 527
Eastpoint, FL 32328

Ms. Gail Boxrud
Northwest Florida Daily News
P.O. Box 2949
Fort Walton Beach, FL 32549

Military Writer
Northwest Florida Daily News
P.O. Box 2321
Fort Walton Beach, FL 32549

Mr. Del Lessard
Bay Beacon
203 West John Simms Parkway
Suite 2
Niceville, FL 32578

Mr. Brenton Peacock
WKEGC
5230 West Highway 98
Panama City, FL 32401

Ms. Sharon Worecester
Panama City News Herald
501 West 11th Street
Panama City, FL 32402

Mr. John Fritz
Pensacola News
1 News Journal Plaza
Pensacola, FL 32501

New Mexico

Mr. Jack Moore
Alamogordo Daily News
P.O. Box 870
Alamagordo, NM 88311

Mr. Dick Bainbridge
El Hispano News
900 Park Avenue SW
Albuquerque, NM 87102

Mr. Rod Green
KOAP TV News
3801 Carlisle
Albuquerque, NM 87101

Mr. Larry Spohn
Albuquerque Tribune
P.O. Drawer T
Albuquerque, NM 87103

Mr. Mervyn Tilden
Navajo Times
P.O. Box 457
Church Rock, NM 87311

Mr. Jeff Graves
Daily Times
P.O. Box 450
Farmington, NM 87499

Mr. Steve Bard
Gallup Independent
P.O. Box 1210
Gallup, NM 87305

Mr. John McBreen
KQMM FM
401 East Coal
Gallup, NM 87301

Mr. Patrick Murphy
KOBF TV Farmington NM
206 West Hill Avenue
Gallup, NM 87305

Mr. Mike Scanlon
El Paso Times
225 East Idaho #33
Las Cruces, NM 88005

Mr. Doug Desgorges
Associated Press
P.O. Box 2326
Santa Fe, NM 84504

Mr. Barry Massey
Associate Press
P.O. Box 2326
Santa Fe, NM 87504

Ms. Gwen Roath
Socorro Defensor Chieftain
P.O. Box Q
Socorro, NM 87801

Utah

Mr. F.A. Barnes
Canyon Country Publication
P.O. Box 963
Moab, UT 84532

Ms. Theresa King
Canyonlands Advertising
76 South Main #18
P.O. Box 698
Moab, UT 84532

Mr. Jim Stiles
The Zephyr Newspaper
P.O. Box 327
Moab, UT 84532

Mr. Samuel Autman
The Salt Lake Tribune
143 South Main
P.O. Box 867
Salt Lake City, UT 84110

Ms. Nicole A. Bonham
Deseret News
P.O. Box 1257
Salt Lake City, UT 84111

FNA News
Box 11999
Salt Lake City, UT 84147

Mr. John Hollenhorst
KSL-TV Channel 5
Broadcast House
55 North 3rd West
Salt Lake City, UT 84110-1160

Mr. Rod C. Jackson
KTVX-TV
1760 South Fremont Drive
Salt Lake City, UT 84104

Mr. Mark Mesesan
KTVX-News
1760 Fremont Drive
Salt Lake City, UT 84104

Mr. Ted Olsen
BMD Monitor
3123 Teton Drive
Salt Lake City, UT 84109

Chris Smith
Salt Lake Tribune
143 South Main
Salt Lake City, UT 84111

Mr. Robert Smith
KUER-FM
University of Utah
101 Wasatch Drive
Salt Lake City, UT 84114

Virginia

Mr. Richard Lardner
Inside the Army
1225 Jefferson Davis Highway
Suite 1400
Arlington, VA 22202

Washington, DC

Mr. Chris Rosche
Washington Correspondent-Oxnard
Press-Courier
Thomson Newspapers, Washington Bureau
1331 Pennsylvania Avenue, Suite 524
Washington, DC 20004

Mr. Clyde Weiss
Donrey Media Group
937 National Press Building
Washington, DC 20045

PRIVATE CITIZENS

Alabama

Alto Jackson
1722 Pine Street #402
Montgomery, AL 36194

Arizona

Ms. Irene Hamilton
P.O. Box 2088
Chinle, AZ 86503

Ms. Melvina Jimmy
P.O. Box 2173
Chinle, AZ 86503

Ms. Tammy Walker
P.O. Box 782
Chinle, AZ 86503

Ms. Lisa Kearsley
5557 White Horse Drive
Flagstaff, AZ 86004

Mr. Donald R. Keller
302 West Juniper Avenue
Flagstaff, AZ 86001

Mr. Frank Protiva
310 North Mogollon, #1
Flagstaff, AZ 86001

Mr. Charlie Silver
720 West Aspen
Flagstaff, AZ 86001

Mr. Michael Yard
Route 4, Box 966
Flagstaff, AZ 86001

Ms. Autumn Boloz
P.O. Box 825
Ganado, AZ 86505

Ms. Rochelle Brown
P.O. Box 726
Ganado, AZ 86505

Mr. David Cloresko-Wharton
Social Studies Teacher
Ganado Middle School
P.O. Box 1757
Highway 264
Ganado, AZ 86505

Mr. Derek Echohawk
P.O. Box 1196
Ganado, AZ 86505

Mr. Keith Hurctry
P.O. Box 1001
Ganado, AZ 86505

Mr. Ray Jamy
P.O. Box 1303
Ganado, AZ 86505

Ms. Shawna Nez
Box 1303
Ganado, AZ 86505

Mr. Lennie Peshlakai
P.O. Box 213
Ganado, AZ 86505

Ms. Allissa Reid
P.O. Box 944
Ganado, AZ 86505

Ms. Sherry Shondee
P.O. Box 404
Ganado, AZ 86505

Ms. Rochelle Tsosie
P.O. Box 1072
Ganado, AZ 86505

Ms. Lisa Wauneka
P.O. Box 677
Ganado, AZ 86505

Ms. Tamara Wilcox
P.O. Box 657
Ganado, AZ 86505

Mr. Brian Yazzie
P.O. Box 932
Ganado, AZ 86505

Ms. Evonn Yazzie
P.O. Box 446
Ganado, AZ 86505

Mr. Robert F. Green
1858 East Brown Road
Mesa, AZ 85203

Dan & Harriett Jackson
5350 East Ford Circle
Mesa, AZ 85215

Mr. Mike Morgan
P.O. Box 7128
Nazlini, AZ 86540

Mr. David Beard
3723 West Davidson Lane
Phoenix, AZ 85051

Mr. William Wilcox
815 North Hayden Road, B-16

Scottsdale, AZ 85257

Mr. Joel Kantor
First State Plaza, Suite 3A
1785 West Highway 89A
Sedona, AZ 86336

Mr. Paul T. Zmuida
4812 Corte Vista
Sierrra Vista, AZ 85635

Ms. Rolanda Begay
Box 712
St. Michaels, AZ 86511

Ms. Tishannon Curtis
P.O. Box 385
St. Michaels, AZ 86511

Dr. R. McDonald-Jacobs
P.O. Box 1096
St. Michaels, AZ 86511

Ms. Sandra W. Gomez
c/o P.O. Box 27377
Tempe, AZ 85285

Ms. Brenda Shears
2014 East Alameda Drive
Tempe, AZ 85282

Ms. Shannon Begaye
P.O. Box 808
Window Rock, AZ 86515

Ms. Karen Francis
P.O. Box 910
Window Rock, AZ 86510

Ms. Gloria Hale-Showalter
P.O. Box 144 - Route 12
Window Rock, AZ 86515

Mr. Amos Johnson
P.O. Box 750
Window Rock, AZ 86515

Ms. Natasha Shirley
P.O. Box 813
Window Rock, AZ 86515

California

Ms. Lynda Larsen
3720 Canyon Crest Road
Altadena, CA 91001

Anne E. Beckett
3459 Gregory Drive
Bay Point, CA 94565

Mr. Matthew Bandy
2811 Stanton
Berkeley, CA 94702

Ms. Jeanette Barcroft
1351 Mobil Avenue
Camarillo, CA 93010

Ms. Karen M. Sargent
51 Geneive Street
Camarillo, CA 93010

Ms. Maryann Argyres
4220 North Canyon Road
Camino, CA 95709

Mr. Rod Holmgren
3398 Taylor Road
Carmel, CA 93923

Ms. Kathy Silveri
333 Laurel Court
Channel Islands Beach, CA 93035-4428

Mr. Leon Berry
P.O. Box 1695
Glendale, CA 91209

Ms. June Ringer
129 East Fairview Avenue, Apt. 2
Glendale, CA 91207

Mr. Howard James Whitaker
2041 Campton Circle
Gold River, CA 95670-8301

Ms. Sally S. Reed
560 21st Street
Hermosa Beach, CA 90254

Mr. James H. Beattie, Jr.

3765 Miguelito Canyon
Lompoc, CA 93436

Mr. & Mrs. Edward Benhart
1328 West Loquat Avenue
Lompoc, CA 93436

Gene & Dawn Branch
P.O. Box 2016
Lompoc, CA 93438

Mr. Gary L. Bushee
1007 North E Place
Lompoc, CA 93436

Mr. Thomas C. Calkins
P.O. Box 336
Lompoc, CA 93438

Mr. Maurice Greg Cooper
805 North Seventh Street
Lompoc, CA 93436

Mr. Brian A. Gore
604 B North 4th Street
Lompoc, CA 93436

Mr. Thomas Hom
4468 Sirius
Lompoc, CA 93436

Ms. Sally Keane
236 South J Street
Lompoc, CA 93436

Mr. John Larsen
310 South F Street
Lompoc, CA 93436

Ms. Michelle MacEachern
733 North 4th Street
Lompoc, CA 93436

Thomas and Vicky Matthews
Matthews Properties
P.O. Box 87
Lompoc, CA 93438

Mr. Jon Picciuolo
4185 Vanguard
Lompoc, CA 93436

Mr. Martin Prochazka
4240 Constellation Road
Lompoc, CA 93436

Mr. George Rauh
951 San Pasqual
Lompoc, CA 93436

Mr. Charles E. Schermerhorn
821 Calvert Avenue
Lompoc, CA 93436

Mr. LeRoy Scolari
423 North G Street
Lompoc, CA 93436

Ms. Linda Sehgal
4412 Titan Avenue
Lompoc, CA 93436

Mr. Adam Signorelli
P.O. Box 904
Lompoc, CA 93438

Joe and Sylvia Signorelli
P.O. Box 173
Lompoc, CA 93436

Mr. Peter A. Signorelli, Jr.
R.F.D. 86
Lompoc, CA 93436

Mr. James Sloan
251 La Salle Road
Lompoc, CA 93436

Mr. Roger N. Tanner
2384 Sweeney Road
Lompoc, CA 93436

Mrs. George Vance
C/O Grossman & Cox
P.O. Box 458
Lompoc, CA 93436

Mr. Gary Williams
19 Aldebaran Avenue
Lompoc, CA 93436

Ms. Claire Zimmer
904 West Fir

Lompoc, CA 93436

Mr. Michael DiGregorio
9401 Alcott Street
Los Angeles, CA 90035-3113

Mr. Mike Solaegui
P.O. Box 580
Moss Beach, CA 94038

Mr. John Stager
4255 Rim Crest Drive
Norco, CA 91760

Ms. Betsy Clapp
503 North Drown
Ojai, CA 93023

Mr. James Cano
2444 Alvarado Street, Apt. #A7
Oxnard, CA 93030

Mr. Gregory Dobbins
3058 Sunset Lane
Oxnard, CA 93035

Michele and Tom Loe
1801 El Cajon Avenue
Oxnard, CA 93035

Mary K. & Brian Sargent
211 Louisiana Place
Oxnard, CA 93030-1210

Mr. Rolf Klibo
3465 Bryant Street
Palo Alto, CA 94306

Mr. Jim Koeller
16341 Shadburn
Placentia, CA 92670

Mr. Jeffrey T. Davis
526 North Paulina
Redondo Beach, CA 90277

Ms. Tracy Landauer
8009-H Caminito De Pizza
San Diego, CA 92108

Mr. J. Wesley Miller
P.O. Box 26047
Santa Ana, CA 92799

Mr. John Cloud
University of California
C/O Geography Department
Santa Barbara, CA 93106

Mr. Mark Holmgren
Department of Biology
University of California Santa Barbara
Santa Barbara, CA 93106

Chester & Joyce Phillipson
957 Via Esparto
Santa Barbara, CA 93110

Mr. Charles Snouffer
1617 Delavina Street
Santa Barbara, CA 93101

Mr. William C. Byrd
1013 East Boone Street
Santa Maria, CA 93454

Mr. Paul Dailey
1045 Foxenwood Drive
Santa Maria, CA 93455

Mr. Don Lahr, Jr.
2336 South Meredith
Santa Maria, CA 93455

Mr. Kenneth L. Wolf
P.O. Box 5673
Santa Maria, CA 93456

Ms. Rita Naman
P.O. Box 411
Santa Ynez, CA 93460

Mr. and Mrs. David Walker
435 Santa Victoria
Solana Beach, CA 92075

Mr. Victor Magistrale
207 Oaklawn Avenue
South Pasadena, CA 91030

Mr. Carl Henry
P.O. Box 348

Stenson Beach, CA 94970

Ms. Miriam Becker
1987 Campbell Avenue
Thousand Oaks, CA 91360

Mr. Guy F. Cooper
484 Rancho Drive
Ventura, CA 93003

Ms. Christine Dowell
771 Seneca Lane, D-48
Ventura, CA 93001

Mr. A.D. Godley
365 East Main Street
Ventura, CA 93001

Ms. Judee Hauer
1735 Monita Drive
Ventura, CA 93001

Ms. Candace Holden
4220 Dean Drive
Ventura, CA 93003

Ms. Jane Kelly
261 North Catalina Street
Ventura, CA 93001

Ms. Peggy M. McGuire
365 East Main Street
Ventura, CA 93001

Mr. Dan Misenhimer
2545 Yuma Court
Ventura, CA 93001

Ms. Stacy Morris
1066 Poli Street
Ventura, CA 93001

Thomas & Koleen Murray
1337 Poli Street
Ventura, CA 93001

Mr. Robert Stapleton
352 North Victoria Avenue
Ventura, CA 93003

Ms. Barbara J. Wilson
1142 Norwood Court
Ventura, CA 93004

Colorado

Mr. David Ussery
7784 Lewis Street
Arvada, CO 80005

Mr. Bert Fingerhut
1520 Silver King Drive
Aspen, CO 81611

Ms. Janis Bellipanni
1301 South Foothills Highway
Boulder, CO 80303

Mr. Myron Chadowitz
755 34th Street
Boulder, CO 80303

Mr. Robert Clickner
2979 Shady Hollow East
Boulder, CO 80304

Ms. L. Cramlett
7651 Berwick Court
Boulder, CO 80301-4024

Mr. Jack DeBell
2401 Walnut #8
Boulder, CO 80302

Mrs. Judy Gross
P.O. Box 4161
Boulder, CO 80306

Ms. Jeanie Hale
1955 Glenwood Drive
Boulder, CO 80304

Mrs. Nina Judd
2505 Juniper
Boulder, CO 80304-1959

Ms. Ann Phillips
211 Hawthorn
Boulder, CO 80304

Premeno
P.O. Box 1038

Boulder, CO 80306-1030

Dr. James G. Biggins
735 Canyon Drive
Cortez, CO 81321

Ms. Roberta Conway
Box 474
Cortez, CO 81321

Ms. Lynn Dyer
P.O. Box 668
Cortez, CO 81321

Mr. Paul Ermigiotti
312 East Third Street
Cortez, CO 81321

Mrs. Eleanor Guenther
21862 County Road G
Cortez, CO 81321

Ms. Leslie Gustave-Vigil
410 East Empire Street
Cortez, CO 81321-2864

Mr. Monte Mills
642 Alameda
Cortez, CO 81321

Ms. Pattye Pennington
6258 Highway 160
Cortez, CO 81321

Ms. Julia Roanhorse
24357 County Road L
Cortez, CO 81321

Ms. Dottie Sanders
20193 County Road S.7
Cortez, CO 81321

Donald & Jeanne Tucker
920 Balsam Street
Cortez, CO 81321-2608

Ms. Pam Wheat
410 West 6th Street #2
Cortez, CO 81321

Ms. Jane Yazzie
P.O. Box 884
Craig, CO 81626-0884

E.C. Mueller
P.O. Box 216
Crestone, CO 81131

Ms. Patricia Richmond
P.O. Box 113
Crestone, CO 81131

Ms. Kim Rea
145 South Clarkson
Denver, CO 80209

Ms. Susan Smith
1662 Colorado Boulvard
Denver, CO 80220

Mr. George Mathews
2057 Jasmine Street
Denver, CO 80207

Mr. James Taylor
2311 S. Franklin Street
Denver, CO 80210

Mr. Dan Townsell
135 West Irvington Place, Apt. 4
Denver, CO 80223-1538

Melissa J. Churchill & J. Duane Daniels
P.O. Box 1087
Dolores, CO 81323

Ms. Kari Chalker
P.O. Box 177
Dolores, CO 81323

Ms. Mary C. Etzkorn
23608 C. R. T
Dolores, CO 81323

Mr. Richard A. Fleming
23608 C. R. T
Dolores, CO 81323

Mr. Wayne Rice
P.O. Box 746
Dolores, CO 81323

Mr. & Mrs. W.C. Vanden Bose
P.O. Box 647
Dove Creek, CO 81324

Mrs. Robert Barr
22 County Road 22
Durango, CO 81301

Mr. & Mrs. Kenneth Belles
130 Elk Tel Road CR 205
Durango, CO 81301

Ms. Judith A. Brey
3 Pinetree Way
Durango, CO 81301

Ms. Margi Buiso
1549 Meadow Road
Durango, CO 81301

Ms. Gretchen G. Chadwick
P.O. Box 3753
Durango, CO 81302

Ms. Claudia Clemens
115 East Meadow Road
CR 224
Durango, CO 81301

Ms. Nanc Cole
2524 Delwood
Durango, CO 81301

Ms. Cathie Duncan
3055 East 6th Avenue
Durango, CO 81301

Pamela & James Furze
875 East 6th Avenue
Durango, CO 81301-5510

Ms. Judith L. Gilmore
84 Ponderosa Trail
Durango, CO 81301

Mr. John Hall
2355 C. R. 204
Durango, CO 81301

Jessie Hastings
Box 1791
Durango, CO 81302

Ms. Elyse Klingener
3235 North Main Avenue
Durango, CO 81301

Ms. Barbara Lawson
105 Rockridge Circle
Durango, CO 81301

David G. & Sandra K. McEwen
50 Danielle Circle DWII
Durango, CO 81301
Ms. Shawna Off
678 East 7th Street
Durango, CO 81301

Mr. Bradley Jay Phipps
3047 East Fifth Avenue
Durango, CO 81301

Bruce & Emmeline Polich
202 Pine Ridge Loop
Durango, CO 81301

Ms. Holly Rankin
1834 Florida Road
Durango, CO 81301

Ms. Beth Richman
670 CR 207 #5C
Durango, CO 81301

Mr. Peter Schertz
112 Alamo Drive
Durango, CO 81301

Mr. Robert A. Steele
141 Gambel Circle
Durango, CO 81301

Mr. Louis Teal
P.O. Box 3481
Durango, CO 81302

Mr. Christopher Vogl
333 North East Circle
Durango, CO 81301

Ms. Debra Walker
440 Canty Road 232 #16

Durango, CO 81301

Ms. Charlotte E. Ware
3 Hummingbird Lane
Durango, CO 81301

Ms. Ellie Caryl
P.O. Box 2841
Glenwood Springs, CO 81602-2841

Ms. Alison Kirk
2241 Rockcress Way
Golden, CO 80401

Ms. Patricia Kolm
128 Burgess Avenue
Golden, CO 80401

Mr. Tom Reynolds
225 Allen Street
Golden, CO 80401

Ms. Susan Gronwall
126 Donaldson Road
Grand Junction, CO 81503

Mr. Daniel McGill
533 Sunburst Court
Grand Junction, CO 81504

Joanne & Ed Costa
1400 Shenandoah Drive
Hesperus, CO 81326

Eric & Pam Giesel
1311 Mud Lane
Ignacio, CO 81137

Jean Edson Vick
416 CR 513
Ignacio, CO 81137

Ms. Kelly McAndrews
20839 County Road West
Lewis, CO 81327

Ms. Pamela Baker
1549 Cambridge Drive
Longmont, CO 80503

Mr. Quentin Baker
1549 Cambridge Drive
Longmont, CO 80503

Mr. Asa Reed, Jr.
1238 Carbide Court
Longmont, CO 80501

Chuck & Mary McAfee
479 Green Mountain Drive
Loveland, CO 80537

Mr. Herb Folsom
Box 716
Mancos, CO 81328

Ms. Carla Waldron
P.O. Box 143
Mancos, CO 81328

Ms. Elizabeth Wheeler
Box 716
Mancos, CO 81328

Mr. Rick De Selm
P.O. Box 1738
Telluride, CO 81435

Ms. Liza Hawk
P.O. Box 2662
Telluride, CO 81435

Mr. Chistopher Shields
P.O. Box 2421
Telluride, CO 81435-2421

Ms. Wendy Smith
P.O. Box 722
Telluride, CO 81435

Canada

Renee Friedman
Box 225
Whaletown, B.C., Canada VOP 1Z0

Florida

Mr. Ed Catz
P.O. Box 154
Apalachicola, FL 32329

Mr. Jack Jolley
66 15th Street
Apalachicola, FL 32320

Mr. James F. Stokes
P.O. Box 776
Apalachicola, FL 32320

Ms. Betty C. Neill
Barrier Dunes Unit #7
Cape San Blas, FL 32328

Mr. Will Morris
P.O. Box 710
Carrabelle, FL 32322

Ms. Kay Housh
625 Gulf Shore Drive
Destin, FL 32541

Mr. Chuck Morgan
P.O. Box 669
Destin, FL 32541

Mr. Terry Phillips
PKD
1218 Quail Wood Drive
Destin, FL 32541

Mr. George Warren
5 Coosa Court
Destin, FL 32541

Mr. Kelly Windes
P.O. Box 632
Destin, FL 32541

Mr. James L. Atkinson
840 Overbrook Drive
Fort Walton Beach, FL 32547

Rill G. Banks
568 Mooney Road
Fort Walton Beach, FL 32547

Mr. William P. Childress
421 Verb Street
Fort Walton Beach, FL 32547

Mr. D.F. Gillispie
132 New Castle Circle
Fort Walton Beach, FL 32547

Mr. John J. Lavin
144 Homewood Drive
Fort Walton Beach, FL 32548

Mr. Roger Peters, Executive Director
Greater Fort Walton Beach Chamber of Commerce
P.O. Box 640
Fort Walton Beach, FL 32549

Mr. Richard W. Oates
906 Mar Walt, Suite D
Fort Walton Beach, FL 32547

Eddie May Owens
228 Mooney Road
Fort Walton Beach, FL 32547

Mr. David Straub
221 Cloverdale Boulevard
Fort Walton Beach, FL 32548

Superintendent
Gulf Islands National Seashore
1801 Gulf Breeze Parkway
Gulf Breeze, FL 32561

Mr. W. Wesley Poole
Route 2, Box 96
Laurel Hill, FL 32541

S.C. Harrison
#8 Kimbrough Avenue
Mary Esther, FL 32569

Mr. Dan B. Robeen
3 Shamrock Drive
Mary Esther, FL 32569

Ms. Catherine Sellers
18 Azalea Drive
Mary Esther, FL 32569

Mr. F.W. Burgess
P.O. Box 13646
Mexico Beach, FL 32410

Mr. Joe Morin
P.O. Box 5471

Navarre, FL 32566

Mr. Steve Riggs
2009 Clay Court
Navarre, FL 32566

Mr. J. Louie Yilling
8203 Calle Mio Street
Navarre, FL 32566

Mr. G.T. Chisholm
P.O. Box 1086
Niceville, FL 32588

Mr. Alvin G. Jordan
178 Beach Drive
Niceville, FL 32578

Mr. John P. Sullivan
2413 Roberts Drive
Niceville, FL 32578

Mr. Troy Deal
1331 West Central Boulevard
Orlando, FL 32802

Mr. Ron Cox
6521 Hiwassee Street
Panama City, FL 32404

Mr. Dale Donavan
5230 West Highway 98
Panama City, FL 32401

Mr. Richard Stone
232 Wilson Avenue
Panama City, FL 32401

Mr. Tom Heffernan
3545 Lemmington Road
Pensacola, FL 32504

Mr. Andy Anderson
Route 1 Box 539
Port St. Joe, FL 32456

Mr. Norman Bixler
2003 Cypress Avenue
Port St. Joe, FL 32456

Cheryl, Hilda, and Jim Cagle
Star Route 1, Box 403
Port St. Joe, FL 32456-0138

Mr. John Callen
Star Route 1, Box 695
Port St. Joe, FL 32456

Ms. Sally Demp
Star Route 1, Box 123
Port St. Joe, FL 32456

Mr. Bill Koran
Box 945
Port St. Joe, FL 32456

R.E. McClain
2109 Long Avenue
Port St. Joe, FL 32456

Mr. Mike McDonald
P.O. Box 204
Port St. Joe, FL 32456

Mr. Don Ray
111 Duval Street
Port St. Joe, FL 32456

Mr. Don Schreck
P.O. Box 526
Port St. Joe, FL 32456

Mr. Harry Smith
Star Route 1, Box 403
Port St. Joe, FL 32456-0138

Ms. Jeannine Smith
Star Route 1, Box 403
Port St. Joe, FL 32456-0138

Mr. John J. Waymire
HCI Box 562
Port St. Joe, FL 32456

Mr. Dennis Weaver
Star Route 1, Box 220
Port St. Joe, FL 32456

Mr. & Mrs. L.H. Kellogg
Star Route 1, Box 4910
Santa Rosa Beach, FL 32459

Mr. Edwin A. Markham
Star Route 1, Box 2030
Santa Rosa Beach, FL 32459

Mr. Charles J. Gore
P.O. Box 663
Shalimar, FL 32579

Mr. Joe J. Harrison
4 Elkwood Court
Shalimar, FL 32579

Ms. Bernadette Taylor
30 Holly Avenue #303-0
Shalimar, FL 32579

Ms. Helen Marsh
Box 226
St. George Island, FL 32328

Ms. Pam Vest
1499 Gulf Beach Drive East
St. George Island, FL 32328

Ms. Shirley Taylor
1414 Hill Top Drive
Tallahassee, FL 32303

Mr. Pete Delaune
107 Azalea Circle
Valparaiso, FL 32580

Ms. Jean Mallory
P.O. Box 365
Wewahitchka, FL 32465

Georgia

Dr. Thomas W. Schoborg
285 Boulevard, NE, Suite 215
Atlanta, GA 30312

Mr. Robert A. Frechette
P.O. Box 657
Helen, GA 30545

Mr. Frank Edwards
102 Deerwood Drive
Milledgeville, GA 31061

Idaho

Ms. Jacquie Moore
HC 15 Box 100
Kooskia, ID 83539

Illinois

Kate & Bill Stevens
502 Oakdale
Glencoe, IL 60022

Mr. Larry Oparka
42 Hale Court
Glendale Heights, IL 60139

Indiana

Edward and Lorain Olsen
24 Summit Drive
Chesterton, IN 46304-1024

Kansas

Ms. Carolyn Smith
5317 East 39th North
Wichita, KS 67220

Louisiana

Mr. Erin Guisry
17336 Regina Coeh
Covington, LA 70433

Maryland

Ms. Hilary Sanders
214 Hopkins Road
Baltimore, MD 21212

Ms. Maxine McCloskey
5101 Westbard Avenue
Bethesda, MD 20816

Dr. Thomas F. King
410 Windsor Street
Silver Springs, MD 20910-4242

Massachusetts

Ms. Pat Wakeley
1431 Cambridge Street

Cambridge, MA 02139

Ms. Susan Singleton
228 Long Pond Road
Great Berrington, MA 01230

Minnesota

Major Ralph Seekle
827 Claymore Street
Duluth, MN 55803

Mr. John Swanson
3400 Edmund Boulevard
Minneapolis, MN 55406

Nevada

Ms. Grace Bukowski
P.O. Box 5339
Reno, NV 89513

New Hampshire

Mr. Hume Davenport
#4 Nubanusit Road
Marlborough, NH 03455

New Jersey

Mr. S. Halpern
520 King George Road
Cherry Hill, NJ 08034

Ms. Erma Martin Yost
223 York Street
Jersey City, NJ 07302

Mr. Leon Yost
223 York Street
Jersey City, NJ 07302

Mr. Peter Allan
4 Barry Lane
Short Hills, NJ 07078

Ms. Kathleen Sullivan
15 Wilkins Court
Tinton Falls, NJ 07724

New Mexico

Mr. Carlos Pino
P.O. Box 210
Acoma, NM 87034

Mr. Jim Wilks
P.O. Box 10097
Alameda, NM 87184

Mr. Paul F. Anderson
2830 Florida, NE
Albuquerque, NM 87110

Mr. Robert L. Anderson
115-32 Columbia, SE
Albuquerque, NM 87106

Mr. James Baca
2400 Rio Grande Boulevard, NW
Suite 1-211
Albuquerque, NM 87104-3222

Mr. Harold Behl
7400 Chaco Road, NE
Albuquerque, NM 87109

T.M. Billings, Jr.
P.O. Box 14957
Albuquerque, NM 87191

Ms. Doreleu Bunting
5021 Guadalupe Trail, NW
Albuquerque, NM 87107-3342

Mr. Lorena Cavazos
320 Utah, SE
Albuquerque, NM 87108

Mr. Philip Chambless
1007 Pampas Drive, SE
Albuquerque, NM 87108

Mr. Ron Faich
9400 Snow Heights Boulvard, NE
Albuquerque, NM 87112

Mr. John Fleck
P.O. Box Drawer J
Albuquerque, NM 87103

Mr. Bobby Gonzales

4916 Olympia NW
Albuquerque, NM 87105

Ms. Patricia Gonzalez-Lamb
320 Utah, SE
Albuquerque, NM 87108

Ms. Barbara Graham
816 Hermosa, NE
Albuquerque, NM 87110

Mr. Carl Hakenson
2912 Tennessee, NE
Albuquerque, NM 87110

Andrez Juarez
P.O. Box 81975
Albuquerque, NM 87198-1975

Reyna Luz Juarez
930 20th Street, NW
Albuquerque, NM 87104

Ms. Karen A. Knight
4816 Osuna Place, NE
Albuquerque, NM 87111

Mr. Thomas Latta
7529 La Madera, NE
Albuquerque, NM 87109

M.C. and Peggy Maloney
P.O. Box 40304
Albuquerque, NM 87196

Mr. William Meikle
5301 Arvia, NE
Albuquerque, NM 87110

Ms. Joyce Mendel
5119 Sunningdale NE
Albuquerque, NM 87110

Ms. Adriana Merino
2206 Williams, SE
Albuquerque, NM 87102

Mr. Jack Noel
1021 Forrester NW
Albuquerque, NM 87102

Vee Platuch
7303 Montgomery, NE
Albuquerque, NM 87109

Ms. Ann Sasahara
P.O. Box 6738
Albuquerque, NM 87197

Mr. Gregory Scheib
3504 Campus NE
Albuquerque, NM 87106

Mr. Don Schrader
1810 Silver, SE, Apartment B
Albuquerque, NM 87106

Ms. Laurel Shand
1632 Columbia SE
Albuquerque, NM 87106

Mr. Douglas Smathers
3608 Parisian Way, NE
Albuquerque, NM 87111

A. Smith
P.O. Box 9123
Albuquerque, NM 87119

Mr. Matthew Soto
9204 Camino Del Sol, NE
Albuquerque, NM 87111

Ms. Barbara Stone
3520 Eastern Avenue, SE
Albuquerque, NM 87106

Mr. Ronald Thompson
1519 Anderson Place
Albuquerque, NM 87108

Mr. David Tracy
3708 Cheraz NE
Albuquerque, NM 87111

Ms. Priscilla Tracy
3708 Cheraz
Albuquerque, NM 87111

Ms. Sabina Vanish
P.O. Box 26452
Albuquerque, NM 87125-6452

Mr. David H. Vomacka
P.O. Box 14802
Albuquerque, NM 87191

Ms. Natalie Vytlacil
1510 Standford, NE
Albuquerque, NM 87106

Mr. Richard W. Wilson
324 Homesite Lane, NW
Albuquerque, NM 87114

Ms. Cynthia Wood
320 Laguagra Drive, NE
Albuquerque, NM 87108

Mr. Gary Yazzie
Residence Center 1440
University of New Mexico
Albuquerque, NM 87131

Ms. Karen Monson
P.O. Box 534
Cedar Crest, NM 87008

Mr. Peter A. Meyer
6500 Tsetyat
Cochiti Lake, NM 87083-6021

Ms. Laverne Abeita
Box 1581
Crownpoint, NM 87313

Mr. Emery Chee
P.O. Box 328
Crownpoint, NM 87313

Mr. Cecil Largo
P.O. Box 518
Crownpoint, NM 87313

Mr. Sam Jeff
P.O. Box 631
Crownpoint, NM 87313

Mr. Leonard Witter
P.O. Box 920
Crownpoint, NM 87313

Ms. Sheri Enlowe
P.O. Box 64
Datil, NM 87821

Ms. Carole Roberson
P.O. Box 17
Datil, NM 87821

Ms. Elizabeth Riedel
P.O. Box 125
Embudo, NM 87531

Ms. Paula Seaton
P.O. Box 144
Embudo, NM 87531

R.J. Agee
610 East 30th
Farmington, NM 87401

Mr. Chris Chaney
P.O. Box 3594
Farmington, NM 87499

M. Hanley
2013 North Tucker
Farmington, NM 87401

Ms. Verva Wilson
P.O. Box 2778
Farmington, NM 87499

Ms. Sherry Lehman
P.O. Box 296
Fort Wingate, NM 87316

Ms. Kami Bonafede
207 South Second
Gallup, NM 87301

Mr. Fred W. Bowen
1413 Red Rock
Gallup, NM 87301

Mr. D.E. Chalk
407 East Hill
Gallup, NM 87301

Ms. Theresa Dowling
1309 Pinon Lane
Gallup, NM 87301

Ms. Jana Gunnell
1919 College Drive
Gallup, NM 87301

Mr. Jim Hurlbut
805 Country Club
Gallup, NM 87301

Mr. George Kozeliski
102 West Hill
Gallup, NM 87301

Ms. Suzanne Larsen
911-D Buena Vista
Gallup, NM 87301

Ms. Laura Marcus
714 East Green
Gallup, NM 87301

Mr. Douglas McCleary
105 Coyote Canyon Drive
Gallup, NM 87301

Ms. Joanne Metzler
200 Western Skies Road #4
Gallup, NM 87301

Ms. Angela S. Miller
303 South Strong
Gallup, NM 87301

Mr. Robert Noe
P.O. Box 502
Gallup, NM 87305

Mr. William B. Pratt
304 Hidden Cove
Gallup, NM 87301

Ms. Nancy Wade
P.O. Box 27
Gallup, NM 87305

Ms. Amy Adshead
334 Oso Ridge Route
Grants, NM 87020

Charly & Cathy Bullock
338 Oso Ridge #8
Grants, NM 87020

Pat & Shannon Bullock
13000 Oso Ridge
Grants, NM 87020

Ms. Jane Chilton
11750 Ice Cave Road
Grants, NM 87020

Mr. Steven Dapra
1025 Chestnut
Grants, NM 87020

Ernest & Norma Davis
336 Oso Ridge Route
Grants, NM 87020

Ms. Brenda McBride de Chaves
P.O. Box 51
Grants, NM 87020

Mr. Denis Dixon
P.O. Box 465
Grants, NM 87020

Ms. Virginia Ehrgan
Oso Ridge Route, Box 750
Grants, NM 87020

C.J. Henry
480 Oso Ridge
Grants, NM 87020

Mr. Rick Jones
604 Gunnison
Grants, NM 87020

Mr. Ben Lowney
800 Oso Ridge Route
Grants, NM 87020

Mr. Raymond Madson
Box 268
Grants, NM 87020

Mr. & Mrs. Karl Herr
P.O. Box 977
Jamestown, NM 87347

I. Dempsey
CR Road 6193 #10

Kirtland, NM 87417

Ms. Linda Lawrence
137 Highland Meadows
Laguna, NM 87026

Mr. Ed Boykin
3035 Hillrise Drive
Las Cruces, NM 88001-4703

Ms. Debbie Edwards
1212 Edgewood
Las Cruces, NM 88005

Mr. James LeNoir
2845 Swartz Road
Las Cruces, NM 88005

Mr. Rolf Mitchel
4986 Beryl Street
Las Cruces, NM 88001

Ms. Deborah Paris
1955 Telshore Boulevard #51
Las Cruces, NM 88011

J. Nowicki
General Delivery
Lemitar, NM 87823

Mr. Ross B. Ynigst
Box 255
Lemitar, NM 87823

Mr. Hugh R. Lehman
331 Potrillo Drive
Los Alamos, NM 87544

Mr. Fred March
1599 Camino Madio
Los Alamos, NM 87544

Ms. Cindy Sewell
130 Monica Road
Los Lunis, NM 87031

Mr. D.R. Thornton
132 Monica Road
Los Lunas, NM 87031

Ms. Marcia Thornton
132 Monica Road
Los Lunas, NM 87031

Mr. Karl Beasley
P.O. Box 488
Magdalena, NM 87825

Mr. Don Caron
Box 450
Magdalena, NM 87825

Ms. Caroline Fisher
P.O. Box 267
Magdalena, NM 87825

Mr. Jay Fisher
P.O. Box 267
Magdalena, NM 87825

J. Halpern
P.O. Box 246
Magdalena, NM 87825

Mr. A.B. Harris
Outlaws
Box 85
Magdalena, NM 87825

Ms. Mary N. Hart
P.O. Box
582 Elm Street
Magdalena, NM 87825

Ms. Charlotte Henderson
P.O. Box
64 S. Chestnut
Magdalena, NM 87825-0064

Mr. Jon Hertz
P.O. Box 633
Magdalena, NM 87825

Mr. Roger Kelly
P.O. Drawer 66
Magdalena, NM 87825

Mr. Ruben Martinez
P.O. Box 765
Magdalena, NM 87825

Ms. Colleen R. Wyckoff

P.O. Box 1009
Magdalena, NM 87825

Mr. John D. Wyckoff
P.O. Box 1009
Magdalena, NM 87825

Mr. John J. Wyckoff
P.O. Box 1009
Magdalena, NM 87825

Ms. Marlee Garza
P.O. Box 3420
Milan, NM 87021

Ms. Barbara J. McKim-Evans
P.O. Box 2610 Zuni Canyon
Milan, NM 87021

Ms. Jean Sawyer
HC 66 Box 16
Mountainair, NM 87036

Ms. Kaye Stillion
P.O. Box 416
Mountainair, NM 87036

Mr. Paul Lisko
P.O. Box 6402
Navajo Dam, NM 87419

Ms. Nancy Coonridge
Star Route 47
Pie Town, NM 87827

Chris Karsa
Alamocita Gardens
P.O. Box 616
Pie Town, NM 87827

Mr. Danny Faldana
P.O. Box 157
Pine Hill, NM 87357

Mr. Paul Gooris
P.O. Box 310
Pine Hill, NM 87357

Ms. Joan Lantzy
3300 Candy Kitchen Road
Pine Hill, NM 87357-1087

Ms. Cristina Pascalidis
P.O. Box 58
Pine Hill, NM 87357

Ms. Frances Wooten
P.O. Box 248
Pine Hill, NM 87357-0248

Mr. Hoskie Kee
Box 15
Prewitt, NM 87045

Mr. Olsen Nez
Box 181
Prewitt, NM 87045

Ken & Pam Adams
Route 2, Box 43
Ramah, NM 87321

B.E. Allen
P.O. Box 761
Ramah, NM 87321

Mr. John Allen
P.O. Box 369
Ramah, NM 87321

Ms. Vera Baumann
P.O. Box 565
Ramah, NM 87321

Mr. Evan H. Bowman
HC-61, Box 5015
Ramah, NM 87321

Mr. Leo Brereton
Box 85
Ramah, NM 87321

Ms. Winabell Crooks
Route 2, Box 26
Ramah, NM 87321

Mr. Mike Daugherty
HC 61, Box 5030
Ramah, NM 87321

Ms. Lorene A. Dieguez
Route 2, Box 14

Ramah, NM 87321

Mr. Gary Dike
Route 2, Box 40G
Ramah, NM 87321

Ms. Cheryl Duty
P.O. Box 737
Ramah, NM 87321

Verny Eccles
Route 2, Box 29
Ramah, NM 87321

Mr. Leonard J. Eriacho
Box 306
Ramah, NM 87321

Mr. MacDaniel Eriacho
Box 161
Ramah, NM 87321

Kenneth & Doreen Forlow
P.O. Box 884
Ramah, NM 87321

Ms. Kathryn Gallagher
Box 64
Ramah, NM 87321

Norma & Bob Gordon
Route 2, Box 24
Ramah, NM 87321

Ms. Margaret Gross
Route 2, Box 44
Ramah, NM 87321

Ms. Susan C. Hendrick
Route 2, Box 40-D
Ramah, NM 87321

Mr. Robert Hymer
P.O. Box 447
Ramah, NM 87321

Paul & Kathy Johnson
P.O. Box 887
Ramah, NM 87321

Ms. Valerie C. King
P.O. Box 550
Ramah, NM 87321

Ms. May Lee
Box 454
Ramah, NM 87321

Mr. Dave Mallery
P.O. Box 520
Ramah, NM 87321

Mr. Joseph K. Martine
Box 218
Ramah, NM 87321

Ms. Diana Morrow
Artistic Oils
P.O. Box 486
Ramah, NM 87321

Ms. Nancy Mulvihill
P.O. Box 811
Ramah, NM 87321

Ms. Francesca Premi
Star Route 2, Box 32
Ramah, NM 87321

Ms. Sandy Romero
P.O. Box 533
Ramah, NM 87321

Ms. Barbara Wilson
P.O. Box 772
Ramah, NM 87321

Ms. Kathryn Wilson
P.O. Box 81
Ramah, NM 87321

Mr. Emil Shaw
2203 Twisted Juniper Road
Rio Rancho, NM 87124

Mr. Robert Pine
P.O. Box 614
Sandia, NM 87047

Mr. Scott Jones
P.O. Box 39
San Rafael, NM 87051

Ms. Molly Donlan
616A Paseo De La Cuma
Santa Fe, NM 87501

Mr. Philip Voegelin
306 Calle Oso
Santa Fe, NM 87501

L. Ahakai
P.O. Box 2444
Shiprock, NM 87420

J. Baldwin
Box 392
Shiprock, NM 87420

L. Becenti
Box 943
Shiprock, NM 87420

J. Begay
P.O. Box 1472
Shiprock, NM 87420

Ms. Vicki Dixon
P.O. Box 983
Shiprock, NM 87420

Mr. Larry Emerson
Box 3541
Shiprock, NM 87420

Mr. Edward R. Garrison
P.O. Box 580
Shiprock, NM 87420

Mr. Perry Garuenez
P.O. Box 777
Shiprock, NM 87420

Mr. Tito Gutierrez
P.O. Box 357
Shiprock, NM 87420

Mr. Ned Harper
P.O. Box 580
Shiprock, NM 87420

Ms. Veda E. Harris
P.O. Box 2745
Shiprock, NM 87420

Ms. Pamela Harrison
P.O. Box 2847
Shiprock, NM 87420

Mr. Orson Hobson
Box 2652
Shiprock, NM 87420

Mr. Robert Hurley
P.O. Box 580
Shiprock, NM 87420

Mr. Larry D. Joe
P.O. Box 1112
Shiprock, NM 87420

Mr. William Lee
P.O. Box 576
Shiprock, NM 87420

Terrilane Long
Box 2204
Shiprock, NM 87420

J. Nelson
P.O. Box 2803
Shiprock, NM 87420

Mr. Kee R. Sandoval
P.O. Box 2989
Shiprock, NM 87420

Rosemary & David Shorthair
Box 3242
Shiprock, NM 87420

Mr. Nelson Lee Sims
P.O. Box 1076
Shiprock, NM 87420

Ravi Srivastava
C/O NDEL NCC
Navajo Community College
P.O. Box 580
Shiprock, NM 87420-0580

Mr. Lawrence Dean Tsosie
P.O. Box 2855
Shiprock, NM 87420

Richard & Shirley Bailey
P.O. Box 901
Socorro, NM 87801

Mr. Dan Bastion Jr.
504 Melody Lane
Socorro, NM 87801

Mr. Paul Hofmann
710 Liles Street
Socorro, NM 87801

Mr. Jeremy Howe
205 Grant
Socorro, NM 87801

Mr. Robert Pine
1824 Evergreen Drive
Socorro, NM 87801

Mr. Steve Thompson
101 Smith Road
MBU 4
Socorro, NM 87801

Mr. Neil Whitehead
1700 Spring Street
Socorro, NM 87801

Ms. Linda Coddington
P.O. Box 938
Thoreau, NM 87323

Ms. Stephanie De Boyes
618 Willow Lane
Tularosa, NM 88352

Mr. Randy Benally
P.O. Box 429
Waterflow, NM 87421

Mr. & Mrs. Kaul
CR 6875 #26
Waterflow, NM 87521

Ms. Emily Khul
P.O. Box 698
Waterflow, NM 87421

Mr. Chester Ladahie
P.O. Box 273
Waterflow, NM 87421

Ms. Corisea Thomas
P.O. Box 429
Waterflow, NM 87421

Abigati Amesoli
P.O. Box 1336
Zuni, NM 87327

Mr. Brandon Archambeau
P.O. Box 157
Zuni, NM 87327

Ms. Jessica Banteah
P.O. Box 1331
Zuni, NM 87327

Mr. Garvis Bellson
P.O. Box 916
Zuni, NM 87327

Ms. Kimberly Edaakie
P.O. Box 680
Zuni, NM 87327

Ms. Antoinette Escobar
P.O. Box 884
Zuni, NM 87327

Mr. Armondo Espino
P.O. Box 833
Zuni, NM 87327

Ms. Emily Graeser
P.O. Box 1427
Zuni, NM 87327

Ms. Alicia Hannaweeke
P.O. Box 207
Zuni, NM 87327

Ms. Elvira Hannaweeke
P.O. Box 991
Zuni, NM 87327

Mr. Jakob Lain
P.O. Box 1382
Zuni, NM 87327

Ms. Jocelyn Lewis

Box 944
Zuni, NM 87327

Mr. Alton Malani
P.O. Box 623
Zuni, NM 87327

Ms. Michele Martinez
P.O. Box 680
Zuni, NM 87327

Ms. Jolene Masse
P.O. Box 896
Zuni, NM 57327

Ms. Amy Nevitt
Box 626
Zuni, NM 87327

Mr. Sylvester Noche
P.O. Box 680
Zuni, NM 87327

Ms. Melyssa Ohmsattie
P.O. Box 1162
Zuni, NM 87327

Ms. Cynthia Peynetsa
P.O. Box 1468
Zuni, NM 87327

Ms. Jolene Qualo
P.O. Box 1038
Zuni, NM 87327

Mr. Kenny Qualo
P.O. Box 1312
Zuni, NM 87327

Ms. Allison Wallace
P.O. Box 1364
Zuni, NM 87327

Ms. Martha Weeka
P.O. Box 898
Zuni, NM 87327

Ms. Loren Wocondo
P.O. Box 54
Zuni, NM 87327

New York

Mr. Steven Fetsch
25 Captain Richard Lane
Fort Salonga, NY 11768

Mr. John Savarese
74 Mobile Avenue
Staten Island, NY 10306

Ohio

Ms. Vicky Deppisch
800 Belleauwood Drive
Akron, OH 44303

Ms. Thelma W. Walton
5500 Laurent Avenue #423
Cleveland, OH 44129

Oregon

Mr. Mark Endrizzi
1290 West 5th Avenue
Eugene, OR 97402

Mr. Michael Halle
526 Northwest 18th Avenue
Portland, OR 97209

Pennsylvania

Mr. Gino Moraga
RD2, Box 4170
Jonestown, PA 17038

Mr. Hugh Young
5746 Aylesboro Avenue
Pittsburgh, PA 15217

A. E. Luloff
Penn State University
111 Armsby Building
University Park, PA 16802

Tennessee

Mr. Pascale Maish
301 Royal Oaks Boulevard #3606
Franklin, TN 37064

Ms. Jo Baker
5525 Normandy Road
Memphis, TN 38120

Texas

Mr. Douglas Sanders
Taylor/Herring Company
Executive Vice President
P.O. Box 2805
Amarillo, TX 79105

Mr. Ed Setliff
209 Wooddale, NE
Euless, TX 76039

Ms. Sally Hubbard
Rice University
Assistant Editor/Business Manager
P.O. Box 1892
Houston, TX 77251

Mr. Marty Baumann
602 Oak Ridge Trail
Kennedale, TX 76060

Mr. Ronnie Rogers
2934 Thistledown
League City, TX 77573

Utah

Mr. John McIntosh
P.O. Box 8040
Alta, UT 84092

Ms. Michelle Wurth
General Delivery
Alta, UT 84092

Robert & Sandra Hayden
722 East 300 South (100-7)
Blanding, UT 84511

Ms. Summer Patterson
380 East Apple Lane 9-2
Blanding, UT 84511

Orly Hersh
P.O. Box 332
Bluff, UT 84512

Erin Hubbell
P.O. Box 401
Bluff, UT 84512

Mr. David Negri
P.O. Box 338
Bluff, UT 84512

Ms. Nancy Negri
P.O. Box 338
Bluff, UT 84512-0338

Mr. John P. Rice
P.O. Box 160
Bluff, UT 84512

Mr. Jonathan Till
P.O. Box 341
Bluff, UT 84512

Ms. Shannon Wilson
P.O. Box 432
Bluff, UT 84512-0432

Mr. Dave Brown
1195 South Westwood Road
Bountiful, UT 84010

Mr. Colin Gardner
1677 South 75 East
Bountiful, UT 84010

R. E. Hamon
2173 South 1150 East
Bountiful, UT 84101

Mr. Glen Wanczyk
527 Applewood Drive
Bountiful, UT 84010

Dr. J. Dennis Willigan
P.O. Box 2702
Castle Valley, UT 84532

Mr. Paul W. Mortensen
1051 North Hughes Street
Centerville, UT 84014

Ms. Bonnie L. Johnson
2452 West 1800 North

Clinton, UT 84015

Mr. Curt Alloway
P.O. Box 896
Delta, UT 84624

Dr. Luther Giddings
438 Ocampo Road
Elk Ridge, UT 84651

Mr. Charles Fisher
852 North Main
Farmington, UT 84025

Ms. Deborah Allen
P.O. Box 135
Green River, UT 84525

Mr. Glenn Baxter
741 East Kings Lane
Green River, UT 84525

Ms. Dallyn Bayles
P.O. Box 493
Green River, UT 84525

Mr. Ben C. Coomer
P.O. Box 33 - 385 Elberta
Green River, UT 84525

Mr. Milton Copenhaver
140 East 34 South
P.O. Box 274
Green River, UT 84525

Mr. Gary Cox
P.O. Box 325
Green River, UT 84535

Ms. Nancy Dunham
P.O. Box 540
Green River, UT 84525

Ms. Carol Ann Ekker
Box 32
Green River, UT 84525

Ms. Joanne Ekker
P.O. Box 232
Green River, UT 84525

Mr. Ted Ekker
P.O. Box 211
Green River, UT 84525

Mr. Brad Fail
Box 633
245 East Kings Lane
Green River, UT 84525

Ms. Kathy Farnsworth
P.O. Box 106
Green River, UT 84525

Mr. Ray Fletch
P.O. Box 162
Green River, UT 84525

Mr. Randy Ford
P.O. Box 363
Green River, UT 84525

Mr. Bill Foreman
Box 325
Green River, UT 84525

Mr. Harry Hanson
Box 390
Green River, UT 84525

Mr. Dan Harrison
P.O. Box 75
Green River, UT 84525

Ms. Marissa Harrison
P.O. Box 75
Green River, UT 84525

Royd Hatt
974 West Long Street
Green River, UT 84525

Toni Hatt
P.O. Box 134
Green River, UT 84525

N.D. Hawkinson
P.O. Box 235
Green River, UT 84525

Bonnie and Rob Lindgren
Box 606

Green River, UT 84525

Mr. Walter Maldonado
P.O. Box 482
Green River, UT 84525

Ms. Kristy Mouery
P.O. Box 461
Green River, UT 84525

Ms. Kaye Nelson
250 North Solomon
Green River, UT 84525

Kelly Quinn
Box 540
Green River, UT 84525

Mr. Thomas Quinn
P.O. Box 540
Green River, UT 84525

Mr. Robert Quist
Box 116
Green River, UT 84525

Mr. Robert Scott
Box 84
Green River, UT 84525

Ms. Charlotte L. Seely
Box 130 Thompson Avenue
Green River, UT 84525

Mr. Douglas Shorts
Box 174
Green River, UT 84525

Kim Steiner
P.O. Box 30
Green River, UT 84525

Ms. Mary Jean Thompson
33 East 130 South
Green River, UT 84525

Ms. Jacqueline Vetere
P.O. Box 175
50 N. 480 East
Green River, UT 84525

Tim and LuRey Vetere
392 North Long Street
Green River, UT 84525

Ms. Norma Vincent
P.O. Box 462
Green River, UT 84525

Mr. Guy Webster
P.O. Box 73
Green River, UT 84525

Mr. Michael R. Winters
P.O Box 137
Green River, UT 84525

Ms. Barbara Zinn
P.O. Box 325
Green River, UT 84525

Mr. Mark Maryboy
P.O. Box F
Huntington, UT 84528

Jeanette and Ralph Ramstetter
P.O. Box 83
La Sal, UT 84530

A.F. Patterson
2581 North 2450 East
Layton, UT 84040

Mr. Howard Gross
597 North 600 East
Logan, UT 84321

Mr. Guss Guanivo
P.O. Box 310488
Mexican Hat, UT 84531

Mr. Stephen Keller
Box 310004
Mexican Hat, UT 84531

Ms. Marilee Foote
217 East 6790 South
Midvale, UT 84047

Ms. Janis Adkins
Box 1261
Moab, UT 84532

Ms. Melanie Allardale
230 East 300 South
Moab, UT 84532

Ms. Maris Allen
530 Bowen Circle
Moab, UT 84532

Mr. Carl Anderson
CVSR 2210
Moab, UT 84532

Mr. David Bennett
P.O. Box 923
Moab, UT 84532

Ms. Connie Blaine
141 North 400 East
Moab, UT 84532

Mr. Jimbo Buickerood
Colorado Outward Bound School
Box M
Moab, UT 84532

Mr. Brad Chisholm
497 North Main Street
Moab, UT 84532

Mr. John M. Cochran
1600 North Highland
Moab, UT 84532

Mr. Paul Cowan
775 Hillside Drive
Moab, UT 84532

Mr. Marvin B. Day
P.O. Box 326
Moab, UT 84532

Mr. David L. Everist
1110 Duchesne Avenue
Moab, UT 84532

Ms. Sandra Fielden
P.O. Box 353
Moab, UT 84532

Mr. Patrick Flannigan
2451 Spanish Valley Road
Moab, UT 84532

Mr. K. Corey Folsom
618 Locust
Moab, UT 84532

Mr. Curtis C. Freeman
1739 Mill Creek Drive
Moab, UT 84532

Randy Garn
P.O. Box 612
Moab, UT 84532

Annette and Bob Greenberg
Grand County Airport
453 East Center
Moab, UT 84532

Mr. Ronald L. Greene
794 Mountain View Drive
Moab, UT 84532

Mr. Gary A. Hazen
P.O. Box 422
Moab, UT 84532

Mr. Ralph E. Herrick
402 Mountain View
Moab, UT 84532
Mr. Marc Horwitz
CVSR 2507
Moab, UT 84532

Mr. Charles Howard
31 LaSal Road
Moab, UT 84532

Mr. Jim Huebner
P.O. Box 762
Moab, UT 84532

Ms. Kaki Hunter
Box 1051
Moab, UT 84532

Mr. Le Inskip
366 East 100 North
Moab, UT 84532

John E. and Mary Keogh
Box 274
Moab, UT 84532

Mr. Tim Keogh
Box 396
Moab, UT 84532

Mr. Ben Knight
1717 North Highland Drive
Moab, UT 84532

Mr. Jose Knighton
604 Bartlett Street
Moab, UT 84532

Ms. Roberta Knutsen
1180 Knutsen Corner
Moab, UT 84532

Mr. Kevin Kwyer
128 West 200 North
Moab, UT 84532

Ms. Jeanne M. Lambla
590 North 500 West
Moab, UT 84532

Ms. Catherine Landis
P.O. Box 1281
Moab, UT 84532

Ms. Martha Little
1650 Murphy Lane
Moab, UT 84532

Ms. Maria Loe
2709 CVSR
Moab, UT 84532

Ms. Janet Lowe
75 South 400 East
Moab, UT 84532

Ms. Eve Maher
399 East 100 North
Moab, UT 84532

Ms. Sarah Marshall
P.O. Box 321
Moab, UT 84532

Mr. A. Richard Martin
Box 941
Moab, UT 84532

Mr. Bruce McCabe
P.O. Box 754
Moab, UT 84532

Mr. Dan McRoberts
P.O. Box 123
Moab, UT 84532

Mr. Steve Meleski
3270 Rimrock Lane
Moab, UT 84532

Ms. Gail Menard
2800 Angel Rock Road
Moab, UT 84532

Mr. Charles Mercier
1251 Millcreek Drive #3
Moab, UT 84532

Ms. Mary Moran
P.O. Box 572
Moab, UT 84532

Mr. Nolan Morse
706 McCormick
Moab, UT 84532

Mr. Steve Mulligan
P.O. Box 753
Moab, UT 84532

Mr. Brian Murray
560 Riversands Road
Moab, UT 84532

Ms. Deb Nester
P.O. Box 1190
Moab, UT 84532

Mr. Dale Lee Ogden
P.O. Box 1255
Moab, UT 84532

Mr. Tom O'Keeffe
400 North Main

Moab, UT 84532

Francis Olesen
370 Marcus Court
Moab, UT 84532

Ms. Sonja Paspal
31 La Sal Road
Moab, UT 84532

Fred and Sherry Patton
P.O. Box 507
Moab, UT 84532

Mr. Robert A. Phillips
2962 Desert Road
Moab, UT 84532

Mr. Lloyd Pierson
3101 Sunset Drive
Moab, UT 84523

Ms. Judy Powers
440 North Apple Lane
Moab, UT 84532

Mr. Ed Price
275 East 300 South
Moab, UT 84532

Mr. Tom Rathke
P.O. Box 1314
Moab, UT 84532

Mr. Kenneth L. Robbins
P.O. Box 187
Moab, UT 84532-0187

Ms. Karen Robinson
2871 East Bench Road
Moab, UT 84532

Ms. Janet Roper
85 East Knob Hill
Moab, UT 84532

Ms. Karry Rowley
1251 South Murphy Lane
Moab, UT 84532

Ms. Vicki Stone
P.O. Box 1124
Moab, UT 84532

Ms. Heather Sudbury-Allen
4087 Sunnydale Lane
Moab, UT 84532

Ms. Serena Supplee
P.O. Box 579
Moab, UT 84532

Ms. Jessica Taylor
P.O. Box 339
Moab, UT 84532

Ms. Raven Tennyson
371 East 100 North
Moab, UT 84532

Mr. Brad Tollerson
497 North Main
Moab, UT 84532

Mr. Bill Viavant
Box 2002 CV
Moab, UT 84532

Mr. Kevin Walker
3481 Redcliff Road
Moab, UT 84532-3848

Mr. Lu Warner
P.O. Box 411
Moab, UT 84532

Terry W. Warner
820 Locust Lane
Moab, UT 84532

Ms. Julie Weiser
CVSR 2410
Moab, UT 84532

E.P. West
125 West 200 South
Moab, UT 84532

Dan & Mary White
706 Palisade Drive
Moab, UT 84532

Lee A. Bennett
P.O. Box 656
Monticello, UT 84535

Ms. Dawn Boyle
P.O. Box 155
Monticello, UT 84535

M. Val Dalton
P.O. Box 8
Monticello, UT 84535

Sue Halliday
480 West Central
Monticello, UT 84535

Ms. Diane Johnston
565 Circle Drive Box 1164
Monticello, UT 84535-1164

De Mar Perkins
Box 248
Monticello, UT 84535

Mr. Howard Ransdell
P.O. 396
Monticello, UT 84535

Mr. Bill Redd
Box 9
Monticello, UT 84535

Mr. Owen Severance
P.O. Box 1015
Monticello, UT 84535

Mr. Garth Skouson
P.O. Box 1185
Monticello, UT 84535

Ms. Susan L. Smith
P.O. Box 776
Monticello, UT 84535

Ms. Alice Taylor
P.O. Box 395
Monticello, UT 84535

Mr. Michael Wolfe
Box 832
Monticello, UT 84535

Mr. Rigby Wright
Box 753
Monticello, UT 84535

Ms. Annette Oslek
364 North 125 East
North Salt Lake City, UT 84054

Mr. Gary N. Hicken
921 30th Street
Ogden, UT 84403-0254

Mr. Paul E. Puebla
1220 Liberty Avenue
Ogden, UT 84404

Mr. Daniel V. Schroeder
4380 Harrison #13
Ogden, UT 84403

Mr. Dick Schultz
507 25th Street
Ogden, UT 84401

Ms. Suzanne Storer
1799 Navajo Drive
Ogden, UT 84403

Ms. Barbara Howell
918 South 725 West
Orem, UT 84058

Roger & Jean Lahn
2129 Three Kings Court
Park City, UT 84060

Ms. Nancy Wagner
2364 West Daybreaker Drive
Park City, UT 84060

Mr. George R. Blake
2215 North 1400 East
Provo, UT 84604

Mr. James L. Farmer
222 East 4200 North
Provo, UT 84604

John S. Higley
489 South Utah Avenue

Provo, UT 84606

Ms. Sondia Aggeler
4645 Hedgemont Drive
Salt Lake City, UT 84124

Ms. Susan Baker
1433 East 1700 South
Salt Lake City, UT 84105

Ms. Connie Bartos
828 Fourth Avenue
Salt Lake City, UT 84103

Lynn Bohs
1627 East 900 South
Salt Lake City, UT 84105

Ms. Priscilla & Frank Burton
1057 South Windsor Street
Salt Lake City, UT 80105

Ms. Tami R. Choles
837 Menlo Avenue
Salt Lake City, UT 84102

Ms. Margaret H. Christensen
266 Fourth Avenue #108
Salt Lake City, UT 84103

Ms. Bonnie W. Christiansen
1222 South Naylor Court
Salt Lake City, UT 84105

Ms. Mary C. Cline
257 East 200 South #9
Salt Lake City, UT 84103

Ms. Sue Corth
600 North East Capitol Street
Salt Lake City, UT 84103

Mr. Robert Coulter
715 East 3rd Avenue #3
Salt Lake City, UT 84103

Mr. Noel Denevers
1416 East Butler Avenue
Salt Lake City, UT 84102

Ms. Rhonda Devereaux
380 North Center Street
Salt Lake City, UT 84103

Ms. Ellen Lea Eckles
4780 Idlewild Circle
Salt Lake City, UT 84124

Mr. Brian Ellison
Box 2497
Salt Lake City, UT 84110

Mr. John R. Gooding
250 South 800 East, Apt. L
Salt Lake City, UT 84102

Ms. Lisa Harrison
2282 East 3205 South
Salt Lake City, UT 84109-2615

Mr. Mark Hazel
628 East 10th Avenue
Salt Lake City, UT 84103

Ms. Gail Hoskisson
1650 East 1300 South
Salt Lake City, UT 84105

Mr. Wayne Hoskisson
1650 East 1300 South
Salt Lake City, UT 84105

Ms. Jodie Hunt
1065 2nd Avenue
Salt Lake City, UT 84103

Mr. Boyer Jarvis
2357 Blaine Avenue
Salt Lake City, UT 84108

Mr. Robert Jennings
543 South 1200 East
Salt Lake City, UT 84102

Cory & Cindy Jenson
1061 South Windsor Street
Salt Lake City, UT 84105

Mr. Michael Johnson
130 South 1300 East #804
Salt Lake City, UT 84102

Suzanne Lindberg & Kent Jones
1050 South Windsor Street
Salt Lake City, UT 84105

Mr. Jason Justice
583 E Street
Salt Lake City, UT 84103

Kathy & Eric Kankainen
1174 Harrison Avenue
Salt Lake City, UT 84105

Dr. Steve Lacy
820 Jefferson
Salt Lake City, UT 84101

Mr. Randy Long
8610 Kings Hill Drive
Salt Lake City, UT 84121

Mr. Thomas H. Lynesse
745 East 3005
Salt Lake City, UT 84102

Anthony & Teresa Musci
625 East 9th Avenue
Salt Lake City, UT 84103-3130

Ms. Vera Naputi
1060 4th Avenue
Salt Lake City, UT 84103-4122

Brigadier General Dave Nydam
U.S. Army (Retired)
8439 South Dynasty Way
Salt Lake City, UT 84121

Mr. Justin James Quigley
1062 Yale Avenue
Salt Lake City, UT 84105

Mr. Ronald P. Raunikar
1060 4th Avenue
Salt Lake City, UT 84103-4122

Mr. Robert Rice
1434 South McClelland
Salt Lake City, UT 84105

Ms. Kandy W. Richards
1749 East Kensington
Salt Lake City, UT 84108

Mr. & Mrs. Ripplinger
1064 South Windsor Street
Salt Lake City, UT 84105

Ms. Jean Roberts
1427 Roberta Street
Salt Lake City, UT 84115

Mr. Richard Rogers
P.O. Box 58564
Salt Lake City, UT 84158

Mr. Dean Rowell
436 Bearcat Drive
Salt Lake City, UT 84115

Mr. Julian Salas
5463 Hunt Road
Salt Lake City, UT 84117

Deborah Levine & Boyd Sampson
1053 South Windsor Street
Salt Lake City, UT 84105

Mr. Joseph T. Sargent
1792 Emigration Canyon
Salt Lake City, UT 84108

Mr. Jeff Schmerker
784 East 9th Avenue
Salt Lake City, UT 84103-3613

Mr. Jerry Schmidt
2603 Elizabeth Street
Salt Lake City, UT 84106

Mr. Tom Sernka
2939 East Delsa Drive
Salt Lake City, UT 84124

Stephen & Jo Smith
2280 Preston Street
Salt Lake City, UT 84106

Clarey Smocka
43 Smokey Lane
Salt Lake City, UT 84108

Mr. Rick Stednitz

P.O. Box 16721
Salt Lake City, UT 84116

Mr. David Sucec
832 Sego Avenue
Salt Lake City, UT 84102

Mr. Mano Swartz
849 Conner Street
Salt Lake City, UT 84108

Ms. Marianne Swartz
849 Connor Street
Salt Lake City, UT 84108

Mr. James W. Thompson
3801 South Viking Road
Salt Lake City, UT 84109

Mr. William B. Thompson
863 East 13th Avenue
Salt Lake City, UT 84103

Mr. William B. Thompson
P.O. Box 58855
Salt Lake City, UT 84158

Ms. Linda L. Timmins
1063 South Oak Hills Way
Salt Lake City, UT 84108

Mr. Bruce Turner
255 K Street, #2
Salt Lake City, UT 84103

Ms. Kathy Van Dame
1148 East 6600 South #E-7
Salt Lake City, UT 84121

Ms. Danni Vorwaller
35 F Street #109
Salt Lake City, UT 84103

Ms. Barbara White
P.O. Box 58564
Salt Lake City, UT 84158

W. White
1047 South Windsor Street
Salt Lake City, UT 84105

C. Dean and Carol Withrow
519 Northmont Way
Salt Lake City, UT 84103

Mr. Leonard Wojcik
2284 East 6200 South
Salt Lake City, UT 84121

Ms. Cherry Wong
1509 East Springleaf Drive
Salt Lake City, UT 84117

Mr. Bradley N. Yates
208 Canyon Road #2
Salt Lake City, UT 84103

Mr. Joseph W. Gelo
9302 South Tortellini Drive
Sandy, UT 84093

Mr. Ed Gunderson
2668 East Partridge Way
Sandy, UT 84093

Mr. John C. McKay
8185 South Main Drive
Sandy, UT 84093

Mr. John Smith
9914 South Albury Road
Sandy, UT 84092

Toni Wall
2105 East Powerhouse Road
Spanish Fork, UT 84660

George & Gloria Rogan
2057 Moonglow Place
St. George, UT 84770

Phidias Cinaglia
700 Aspen Drive
Summit Park, UT 84060

Ms. Margaret Patterson
P.O. Box 40031
Thompson Springs, UT 84540

Mr. Joseph Shaffer
P.O. Box 953
Vernal, UT 84078

Mr. Alan E. Barber
6837 South 1520 West
West Jordan, UT 84084

Mr. David Bresnahan
P.O. Box 269
West Jordan, UT 84084-0269

Virginia

Mr. Thomas J. Messenger
2900 South Glebe Road, #508
Arlington, VA 22206-2742

Washington

Ms. Sandy Johnson
4322 North West Road
Bellingham, WA 98226

Mr. Harry E. Wilson
2120 North Callow Avenue
Bremerton, WA 98312-2908

Ms. Jenny Murphy
5893 North West Road
Ferndale, WA 98248

Mr. Lee Bennett
3114 Northeast 117th
Seattle, WA 98125

Ms. Doris Lee
13124 East 23rd
Spokane, WA 99216

Wisconsin

Mr. Craig Jackson
24 North Webster Street, #7B
Madison, WI 53703

Ms. Hilari A. Hinnant
783 Saddle Ridge
Portage, WI 53901

Wyoming

Mr. David R. Christiansen
P.O. Box 520
Laramie, WY 82070-0520

9.0 COMMENTS REGARDING WESTERN RANGE CANDIDATE TEST AREA (DRAFT EIS)

This section presents copies of the transcripts (Section 9.1), exhibits (Section 9.2), and written comments (Section 9.3) received during the public comment period associated with the publication of the Draft EIS that pertain to the Western Range Candidate Test Area. The public comment period ran from February 4 to March 28, 1994. The commenter number appears in the upper left corner, and categorized comments are shown in the right margin.

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U.S. ARMY SPACE AND STRATEGIC DEFENSE COMMAND

PUBLIC HEARING FOR THE

THEATER MISSILE DEFENSE EXTENDED TEST

RANGE DRAFT ENVIRONMENTAL IMPACT STATEMENT

OXNARD, CALIFORNIA

TUESDAY, FEBRUARY 22, 1994

7:00 P.M.

REPORTED BY:
SHELLEY J. WATKINS
CSR NO. 5321

CERTIFIED COPY

APPEARANCES:

Program Overview:

MAJOR THOMAS A. McWHORTER
ARMY THEATER MISSILE DEFENSE PROGRAM OFFICE

Environmental Impact Statement
Process and Overview:

RANDY GALLIEN, USASSDC
ARMY THEATER MISSILE DEFENSE PROGRAM OFFICE

Meeting Moderator:

SUE ESTES

SPEAKERS

Robert Fletcher.....26
A. D. Godley.....30
Peggy McGuire.....34
Donald M. Davis.....36
Terrell Cryer.....37
Brian Brennan.....39

Oxnard, California

Tuesday, February 22nd, 1994; 7:08 p.m.

MS. ESTES: Good evening and welcome to tonight's public hearing. My name is Sue Estes and I have been asked by the U.S. Army Space and Strategic Defense Command to moderate tonight's meeting.

Before I go over tonight's agenda and ground rules, I would like to take this opportunity to introduce you to the Army representatives who are here with us tonight.

Representing the Army Theater Missile Defense Program Office from Huntsville, Alabama, is Major Thomas McWhorter. Also from the U.S. Army we have Randy Gallien of the Space and Strategic Defense Command's Environmental and Engineering office. Also in the audience tonight are other technical representatives from the Ballistic Missile Defense Organization, Army, Vandenberg Air Force Base and Pt. Mugu who are here tonight to listen to your comments.

To start the meeting, I would like to take a minute to briefly outline the purpose of tonight's meeting and go over the agenda so that you will know what to expect as we proceed.

Tonight's public hearing has three essential purposes. The first is to describe to you the nature of the

program that is being examined in the Environmental Impact Statement - in this case, the Theater Missile Defense Extended Test Range Proposal. The second is to briefly describe the Environmental Impact Statement process and some of the findings in the Draft Environmental Impact Statement or "EIS" as it's known by its initials. The third, and primary purpose, is to listen to your suggestions, concerns, and comments on the Draft EIS. Your comments tonight will then be used in the preparation of the Final EIS.

The agenda, then, for tonight's meeting is as follows: After I finish my introductory remarks, we will show a brief video on the Army's proposal, followed by two short presentations.

The first presentation by Major McWhorter will provide a brief overview of the Theater Missile Defense Extended Range Tests, particularly as they relate to activities that could have potential environmental impacts.

In the second presentation, Randy Gallien will describe the environmental process being followed by the Army in the development of the EIS. He also will provide examples of some of the potential environmental impacts and mitigations that the Army has identified in the EIS.

If you have any questions of clarification about the presentations, we have a written comment sheet available which can be used to write down your questions. We ask that

you hand in your written questions during the break that follows the presentations. Major McWhorter and Mr. Gallien will then look at those questions during the break and answer any of them that they can when we come back from the break.

The second-to-the-last item on the agenda, "Public Comments," is really the most important. Remember that the Draft EIS is just that, a draft. This is your opportunity to tell us how it could improve its analysis of potential environmental impacts, before the document is finalized and before a decision is made on whether or not to proceed with the proposed action.

The final item on the agenda will be closing remarks by Major McWhorter.

A few administrative points on making comments. If you have already signed up to speak tonight, that's great. If not, and you would like to speak tonight, please go to the registration table and sign up. Everyone is welcome to speak, but it makes the process run more smoothly if I can call on people from a sign-up list. Everyone will have five minutes to speak. Then, after everyone has had a chance to speak, and if time permits, you're welcome to take a second turn to offer additional oral comments.

By the way, we have a court reporter here tonight to make a verbatim transcript of this hearing so that all of

your oral comments will be recorded accurately. As a part of preparing the transcript, an audio recording of tonight's hearing will be made as well.

Also, you may make your comments in writing if you wish to, and there are three ways to do that: You may hand in written comments you brought with you tonight to me or at the registration table; you can write on your written comment sheets that are available at the registration table and hand them in to me or turn them in at the registration table; you may mail in written comments to the name and address which appears on the back of the agenda you should have received when you walked in the door. Whichever option you choose, your written comments will be entered into the formal record of the public comments on the Draft EIS and they will be given the same consideration as oral comments received tonight. If you choose to mail in comments, please be sure to send them in by March 28th, 1994, which is the closing date for the comment period.

If you want to receive a copy of the Final EIS when it becomes available, there are three ways to do that: If you received a Draft EIS in the mail, you are already on the mailing list and will receive the Final; if you comment on the Draft EIS, either orally or in writing, and provide us with your name and address, you will be placed on the list to receive the Final EIS; if you are not already on the

list and you do not plan on making comments, there is a sign-up sheet at the registration table where you can receive the EIS.

The Army also has a mailing list of interested individuals, so even if you don't want the EIS, you can receive further notices of its availability and the decision that is eventually made if you sign the attendance list.

Finally, it is important for you to understand that the Department of Defense representatives are not here tonight to make a decision. Their role is to take the results of the public comment process, include the comments received at this hearing, and make sure that they are considered in the preparation of the Final EIS.

Their main purpose in being here tonight is to listen to your suggestions and concerns firsthand.

We will now begin tonight's meeting with a brief video on the Theater Missile Defense Extended Test Range Proposal.

(Video played.)

MAJOR McWHORTER: Good evening. My name is Major Tom McWhorter, and I am here representing the Army Theater Missile Defense Program Office, located in Huntsville, Alabama.

Since the main purpose for us being here tonight is to listen to your comments, I would like to keep my

remarks relatively brief, and as much as possible, not repeat what you have already seen on the video. Instead, I will concentrate on the features of the proposed Theater Missile Defense Program that are probably of greatest interest to you.

Let me first briefly summarize the proposed action that was evaluated in the Draft Environmental Impact Statement.

We propose to launch target missiles and defensive missiles from existing ranges and proposed off-range launch locations.

Tests would include missile-to-missile intercepts over existing military ranges or open sea areas and surface-to-surface flights in which missiles would impact on existing ranges or within open sea areas.

These flights would be realistic in most respects except that the target missiles would not contain any nuclear, chemical, or biological weapons. Instead, these missiles will contain materials designed to safely simulate the various characteristics of those weapons, such as size and weight.

The proposed off-range locations could include both land and sea-based launch sites.

And we propose to conduct approximately 100 such tests between the year 1994 and the year 2000, from one or

more location. In fact, it is unlikely that one launch location could satisfy all test needs.

This slide shows the basic type of test being proposed using one or more extended test range. As you can see on the left, there is a target missile that would be launched from up to several hundred miles away toward an existing range such as White Sands Missile Range. Some of these target missiles would have a one-stage booster and others would have a two-stage booster. These boosters separate during the flight of the target missile and would land on the existing range and possibly on one of the extended ranges proposed.

These areas, called booster drop zones, are evaluated in the Draft EIS and will be further discussed in my presentation and afterwards by Mr. Gallien. The target will continue on its flight, and after being detected by a tracking radar, a defensive missile would be launched for a planned intercept point over an existing military range or open sea area. In some cases, the defensive missile may itself have a booster that would separate prior to the intercept and fall back to earth within the existing range area.

So how does your community figure into all this? In order to evaluate a full range of possible options with these extended range tests, four alternative test ranges and

areas, as shown in these maps, have been evaluated in the Draft EIS. Potential flight paths for the target and interceptor missiles are represented by the dotted lines. Where the two arrows meet is the point of intercept. In the event of a missed intercept, both the target and defensive missile would land within the range area.

Three of these potential extended range alternatives now allow missile flights over water. They include the Western Range off the coast of Southern California, Eglin Air Force Base with launches in the Gulf of Mexico off Florida, and the Kwajalein Missile Range in the mid-Pacific Ocean. The fourth extended range alternative is the White Sands Missile Range with potential launch sites at the Green River Launch Complex, Utah, and the Fort Wingate Depot Activity in New Mexico.

Keep in mind that we propose to test more than one type of Theater Missile Defense System. This means that different tests may require different range characteristics. For example, the White Sands Missile Range provides the best opportunity to recover debris because a missile intercept would occur over land.

On the other hand, the Western Range may provide more flexibility in terms of altitude, speed, and angle of attack for the target missiles, because intercepts would occur over the Pacific Ocean. As a result, it is likely the

EIS could result in a decision to conduct testing at more than one range.

Let me now focus on the range that is undoubtedly of most interest to you. This map shows proposed defensive missile flight paths from Vandenberg Air Force Base, San Nicolas Island, and San Clemente Island, California. Because most defensive missiles and their sensor systems are fully mobile and self-contained, facility construction requirements at these sites are expected to be minimal. The target missile would be launched from a mobile sea launch platform for a planned intercept well off the coast of California.

As pointed out in the video, there's also one test scenario that involves launching a surface-to-surface defensive missile from Vandenberg Air Force Base that would impact on San Clemente Island. A flight path for this test is not shown here because a specific missile trajectory over the ocean has not yet been determined. The defensive missile could, however, approach San Clemente Island from the west so as to avoid overflying the island prior to falling within the existing impact area near the island's south end.

All impact points for missiles and missile debris are proposed for open sea areas with the exception of the surface-to-surface missile test from Vandenberg that would

impact on San Clemente Island. Recovery of spent boosters or intercept debris is not anticipated, but could be required under special circumstances.

Now I'm going to show you maps of the proposed launch locations for defensive missiles which are located on land. Shown here is a map of San Nicolas Island, which is operated by the Naval Air Warfare Center - Weapons Division at Point Mugu. The two shaded circles represent the launch hazard areas surrounding the two proposed launch sites. These circles indicate the areas that must be cleared of nonessential personnel prior to a launch.

Also shown here is the proposed Theater Missile Defense portable radar test site as indicated by the star near the south end of the island. The purpose of the radar would be to track both defensive and target missiles in flight over the ocean. Appropriate safety zones would be set up in front of the radar during its operation.

Here is a map for San Clemente Island, which is operated by the Naval Air Station North Island in San Diego. It also has shaded launch hazard areas and a portable radar test site.

For the proposed surface-to-surface defensive missiles launched from Vandenberg Air Force Base, the proposed site of impact would be within the existing FSA-2 impact area at the south of San Clemente Island. For these

particular tests, explosive warheads may be used on the defensive missiles.

Here are the launch hazard areas for the two potential launch sites on southern Vandenberg Air Force Base. But what you should notice is that the launch hazard areas on the last three maps I have shown you include land under the control of the military or ocean areas; that is, no public or private lands are involved.

The one exception to this pattern is found on this map of northern Vandenberg Air Force Base. Two of the potential launch hazard areas would include off-base land, roads, and beaches. If these launch hazard areas were to be used, it would be necessary to execute or obtain evacuation agreements with owners of the off-base property. It would also be necessary to close roads and beaches that extend into the launch hazard areas.

The launch hazard areas and other test areas where missile debris could fall would need to be cleared of all nonessential personnel. To accomplish this, we propose the following: The anticipated closure period for the launch hazard areas at each Western Range installation would be approximately one hour per missile launch, with a minimum of 48 hours between launches. The number of launches is not expected to exceed four per month at any location.

As you probably know, the temporary closure and

evacuation of local beach parks at Vandenberg Air Force Base is a safety measure routinely taken by the base during operations.

Vandenberg Air Force Base would execute and/or sign an agreement with private landowners within the launch hazard areas north of the base that would allow the areas to be evacuated.

Commercial and private aircraft and sea vessels would be notified prior to any test flights through the Federal Aviation Administration and the U.S. Coast Guard, respectively. These notices are usually issued several days in advance for a specified time period.

Test areas will be monitored and verified clear of aircraft and watercraft before missile launches.

At this time, I would like to turn the microphone over to Mr. Randy Gallien so he can describe the Draft EIS that is the subject of tonight's meeting.

MR. GALLIEN: Good evening. My name is Randy Gallien with the U.S. Army Space and Strategic Defense Commands' Environmental and Engineering Office. Our organization is responsible for preparing the Environmental Impact Statement for the Theater Missile Defense Extended Test Range proposal. Before I give you an overview of the EIS, however, I would like to acknowledge some of the other agencies that have participated in its preparation.

The Army Theater Missile Defense Program Office and U.S. Army Space and Strategic Defense Command are proponents for the Theater Missile Defense Extended Test Range proposal.

The Ballistic Missile Defense Organization is a cooperating agency for the EIS and has been directly involved in its preparation. The Ballistic Missile Defense Organization is also responsible for all Theater Missile Defense programs within the Department of Defense.

Because the use of U.S. Navy and Air Force facilities are a part of the proposed action, they are also directly involved in the preparation of the EIS.

Within the Federal government, the Federal Aviation Administration has jurisdiction over use of air space and therefore is participating in the preparation and review of the environmental analysis. Additionally, the U.S. Coast Guard will be involved in review of the analysis of any over-water activities.

The Bureau of Land Management will have direct involvement in the preparation of a Final EIS and the establishment of booster drop zones and launch hazard areas involving BLM property for the overland option.

In addition to these cooperating agencies, many other federal, state, and local agencies have or will participate in reviewing and commenting on the EIS.

Throughout the EIS process, we rely upon the participation of these organizations to help us develop a thorough objective document, just as we rely on your participation in this process. Your input is an integral part of the process for ensuring that we make well informed decisions.

There are several purposes for preparing an Environmental Impact Statement: The main purpose of an Environmental Impact Statement is to ensure that the potential impact, environmental impacts are identified and considered in the federal decision-making process.

The EIS also provides a means of informing the public and other agencies of programs and actions proposed by the Federal Government. More importantly, it provides a means of obtaining your input before a final decision is made.

The EIS identifies reasonable alternatives to the proposed action and evaluates potential impacts from them. It also identifies measures which could be taken to reduce or avoid these impacts. These are called mitigations.

Finally, the decision makers use the environmental information contained in the EIS and your comments on them to decide whether or not to proceed with one of the proposed alternatives, also taking into account other relevant technical, economic, mission, and national policy

considerations.

This slide outlines the EIS process we have been following: As I mentioned before, a key characteristic of this process is the public's opportunity to comment before the proposed action. We've began the process by conferring with other federal and state agencies and by holding nine scoping meetings to ask you, the public, for your ideas.

The next phase was the preparation of the Draft EIS, which was then distributed to the public and the agencies for comment. The public comment period which we are now in includes public hearings and the opportunity to provide written and oral comments. During the public comment period, we want you to tell us if we have analyzed or considered all environmental areas that could potentially be affected by the proposal.

Your comments on the Draft EIS will then be evaluated and addressed in the Final EIS.

The final step is Record of Decision. This decision on whether or not to proceed with the proposed action or one of the alternatives will not be made until at least 30 days after the distribution of the Final EIS. The decision will be made by senior level DOD officials and senior level officials in the Army. It is only after this decision that we proceed with any of the scenarios.

In the Record of Decision we will discuss all the

alternatives considered and state whether all practicable means to avoid or minimize environmental harm have been adopted. In the case of the Theater Missile Defense Extended Test Range EIS, this decision could be to use one or more off-range launch locations at one or more candidate test range. In other words, we are not faced with an "either/or" situation with regard to the alternative ranges being considered.

The other action that could be chosen is the no-action alternative. The no-action alternative literally means a decision to not proceed with any ground-based Theater Missile Defense system tests using these new range extensions. Testing, however, would continue to occur using existing ranges.

I think we missed a slide there. Go on to the next one.

This is the process that we just covered.

This next chart shows the list of environmental topics covered in the Draft EIS. It's obvious that this list is much longer than I can cover completely in this brief overview, but hopefully you have had a chance to look at the Draft EIS and review its analysis.

At this point I would like to highlight some of the more significant environmental issues that we have encountered and analyzed in the Draft EIS, particularly

those that may have been raised during the scoping process.

The next several charts are a summary of the potential impacts that we identified for each of the resource areas, as well as any potential mitigations to reduce these impacts. I'll try to leave the chart up long enough for you to read each one, but in the interest of time, I'm going to just highlight a few of the topics.

For the first chart, let me highlight Biological Resources. Our analysis shows noise from defensive missile launches has the potential for disturbing shore birds and marine mammals. We have identified as a potential mitigation the avoidance of such launches during the breeding or nesting seasons for these animals.

For San Clemente Island, there is a potential concern that live ordnance from a surface-to-surface defensive missile could start a fire that could affect habitat for the loggerhead shrike. To reduce these potential impacts, we have identified as potential mitigations the avoidance of such tests during the nesting season as well as support for the captive breeding program currently underway on San Clemente Island for the loggerhead shrike.

On this chart, let's look at Hazardous Materials and Waste. The EIS identifies potential impacts from the shipment of propellents and the generation of additional

hazardous waste. These materials and waste, however, are similar to the ones currently handled by the Air Force and Navy at the facilities involved during normal operation. The Air Force and Navy have established procedures in place for their shipment and disposal. By ensuring that all Theater Missile Defense-related activities follow these procedures, we found that the potential impacts would not be significant.

On this chart I would like to highlight Health and Safety. In our analysis we found the primary potential for adverse impacts comes from the handling and use of live ordnance and propellents and the creation of missile debris from the test. To mitigate potential hazards from live ordnance and propellents, the EIS states that all operations involving their use would be performed by experienced personnel following approved procedures. In the case of missile debris, evacuation of a potentially affected area is the primary mitigation.

Here let me highlight Socioeconomics. We expect the temporary influx of launch-related personnel to create increased demand for motel rooms, particularly in Oxnard and Lompoc. We concluded there was a small potential for this motel demand to hurt tourism only if the launches occur during a special event in one of these cities. As a potential mitigation, we identified the possibility of

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scheduling launches so that they would avoid major tourist festivals and events.

Another potential adverse impact would be the temporary restriction of commercial and sport fishing in the proposed test area coastal waters, particularly around San Clemente Island. A potential mitigation for this would be to provide advance notification to the Sports Fishing Association of California and commercial fishermen regarding launch events.

I've taken time only to highlight a few of the findings of the Draft EIS. The Draft EIS has a wealth of information and analysis in it that I hope you have had the opportunity to review. If not, we have available at the registration table an executive summary from the Draft EIS that contains a more complete overview than time permits me.

Also keep in mind that while the Army takes responsibility for conclusions reached in the EIS, this preparation has been and will continue to be a team effort in which we consult and coordinate with state, local, and other federal agencies to reach our conclusions.

Our main purpose of being here tonight is not to talk, but to listen. It's because your input is very important to us as we proceed through the development of the EIS, and I can assure you that your input will be fully considered by the decision makers along with the other

information.

A few points of interest here is the closing date for receiving comments on the Draft EIS is March 28th. The final EIS will be available, it's anticipated, late spring, with the Record of Decision, at least 30 days after the issuance and the distribution of the Final EIS in the summer of this year.

Again, if you are going to submit written comments after tonight's meeting, please mail them to the address shown here. Thank you very much.

Sue.

MS. ESTES: Thank you, Mr. Gallien.

We are now going to take a 10-minute break. However, before we do, if you have any questions concerning the presentations, we would ask that you write them down on the comment sheets that were provided at the registration table and turn them in to the registration table or myself. Then when we come back, Major McWhorter and Mr. Gallien will try to answer any questions they can before we start taking your comments. Thank you.

(Recess taken.)

MS. ESTES: We have collected the questions you submitted during the break, and Major McWhorter and Mr. Gallien have been reviewing them. They will try to answer the questions they can, particularly those that

provide clarification on the presentation. Keep in mind that some of the questions do not have answers at this point, prior to the Final EIS being prepared and the Record of Decision that will follow. But whatever they can clarify, they would like to take just a few minutes here to do so.

MR. McWHORTER: Let me first read off the question, and then I will give a brief answer or clarification. TOQ-0001

First question was, "With the Western Range, what will be the extent of closure time on San Nicolas and San Clemente islands?"

Right now we're looking at a one-hour -- hopefully a maximum one-hour closure time per missile launch. That's based on a nominal flight, and also based on that, it would be 48 hours between missile launches. But as far as I can articulate on that right now, there are anomalies that occur. The possibility would exist, and that's approximately, as I mentioned, a one-hour period. I believe the areas could be closed for up to a 12-hour period, maximum. And we will be in constant communication with the various agencies interested in various activities around those areas. TOQ-0002

How much notice, specifically to commercial fishermen, my understanding is that the normal policy with Vandenberg, for example, is about a 72-hour notice prior to

launch closures, and that would be the same with the FAA and Coast Guard getting notices out as well. TOQ-0003

"Why are existing test ranges not usable?"

If you saw from one of the slides presented, the existing ranges, for example, White Sands, is fairly small compared to the capabilities of the systems, so sufficient distance currently does not exist to fully test the Theater Missile Defense defensive missiles in terms of the current threat-representative-type systems. TOQ-0004

"Who has overall range safety responsibility?"

The lead range would be responsible for the overall system -- or safety responsibility. That would be Point Mugu or Vandenberg, Vandenberg Air Force Base.

"Will the interceptor missile have flight safety -- or flight termination systems?" TOQ-0005

Yes. They will all be equipped with flight termination systems. TOQ-0006

"How will you provide range safety tracking data on the two missiles at the same time?"

There are two radars in redundant fashion tracking each missile. Also, the possibility exists of integrating global positioning system, GPS, onto missiles for even more accurate tracking. TOQ-0007

"I see no provision for errant missiles."

A flight termination system is that provision for

errant missiles. Each missile is provided a flight corridor. Any deviations from that flight corridor, the range safety personnel have numerous opportunities to terminate the flight.

MS. ESTES: Is that it?

Okay. We're now ready to start calling the names of those of you who have indicated you would like to make comments tonight. I have a list of people who have signed up so far, and I will be calling you in the order in which you signed up. I will start out by calling the first several names so that you can get ready to come up to the front here to use the podium.

Because we want to record your comments fully and accurately, we ask that you speak clearly into the microphone. Also, if you would, please state your name for the court reporter.

Finally, we request that you observe the five-minute time limit for oral comments. We have used the five-minute time limit in these hearings to give everyone a fair and equal chance to give their comments. Keep in mind that after everyone has had a chance to speak for five minutes, you may have a second turn, but we want to let as many people speak as early in the evening as we can.

To aid you in knowing when the five-minute time limit is up, I have a simple method for indicating times.

After four minutes, I will put my index finger like this, indicating that you have one minute left. This should help you find a comfortable place to wrap up your comments.

At the end of five minutes, I will put my closed hand up like this, indicating it is time for you to finish your comments. We greatly appreciate your cooperation and understanding in observing the five-minute time limit.

Also keep in mind that oral comments are only one way to share your thoughts and concerns regarding the EIS. You can also hand in written comments tonight or mail them in by March 28th. As I mentioned, written comments are given the same considerations as oral comments offered here tonight.

Also, if you would like to see a copy of the Draft EIS, it's available at local libraries in your area. A complete list of the information repositories are available at the registration table in the back.

I'm going to start calling the names now. The first one I have is Robert Fletcher, and the person after him will be A. D. Codley, and the next one will be Peggy McGuire. Okay.

TO-0001

MR. FLETCHER: Good evening. For the record, my name is Bob Fletcher. I'm the president of the Sport Fishing Association of California, known by the acronym SAC. I'm sure you're all familiar with acronyms after looking at this

TO-0001

EIS. There are pages of acronyms.

SAC was founded in 1972. It represents legitimate interests of about 65 to 70 percent of the commercial passenger, fishing, and sport diving boats here in Southern California.

Our fleet operates from ports as far north as Morro Bay and all the way down to San Diego. We have been operating passenger-carrying, fishing, sport diving, whale watching trips since before the war, this fleet, and have spent many, many days at sea and have worked very closely over the last several decades, SAC has, with the Navy in trying to coordinate activities so that the Navy can complete their important missions while minimizing disruption to our fleet.

After having looked at your EIS and trying to understand just the magnitude of the impact on the operations of this fleet that carries about 775,000 passengers a year on these various commercial fishing and diving and whale watching activities, I think if I had to come up with one word that would summarize my concern, it's "communication."

1

We have worked with the Navy at times in the past where we have struggled to communicate. One of the biggest areas of concern for us with your proposed activities would be communication. For example, the Navy will announce plans

TO-0001

for a major operation at San Clemente Island that would necessitate a closure for up to ten miles around the island. San Clemente is probably, of all the islands, the most heavily used by my fleet for both diving and sport fishing activities, and this takes place all year-round.

Once that notice of a closure took place, the boats reluctantly rescheduled their operations, and the passengers, recognizing that that more fertile ground is off limits, chose not to go fishing. And then the Navy didn't run the activity. We could have made fairly good wages for the boats and the fleet had we been able to access those grounds, but because of a lack of communication, we were unable to do so.

So once again, I would go back to urging you to recognize that if you choose the Western Range and if you have to adversely impact any of the grounds -- and let me digress a minute. When I talk about grounds, sport fishing takes place in different ocean areas for different reasons. Year to year, oceanic conditions change. The last seven or eight years we've had warmer than normal waters, and this has brought different kinds of fish species to the boats and they've fished different areas. So you can't look at the historical record and say, "Well, you haven't been fishing here in the last ten years," because just as sure as you say that, conditions will change and the fish will move into

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TO-0001

that area. So it goes back to a matter of communication. 2

And we also would encourage you to recognize that summer months are the most important for us. We carry a great majority of our offshore fishing passengers and diving passengers during the summer months. Also, the early part of October is the opening of the lobster season for both the sport and commercial fishermen. Lobster is an extremely attractive species, and as you're well aware, if you bought it in a restaurant, it's something that both commercial and sport fishermen highly prize, and there's a lot of activity during that early October time frame. Another more valuable time frame is on the weekends. So if you can schedule any 3 of your operations during the weekdays, that would be very, very important for us.

And lastly, most of our best activities, not all, 4 but the majority of them are during the morning hours. So if you could schedule anything for the afternoon, that would be helpful to us, although we run a lot of multiple day trips where we fish from dawn until dark, so that isn't always the best time for those multiple day boats, but the day boats have to head back in the afternoon hours.

While we would prefer that you chose another range, we understand -- and I watched with fascination, as many of Americans did, the SCUD missile attacks and the interception by the PATRIOT's. It was pretty exciting. And

TO-0001

I recognize the value of that technology and I wouldn't want to affect that by demanding that you go somewhere else if that's not in the best interest. I just urge you to communicate with my fleet and with myself, communicate with all those private boats and commercial vessels that are using those grounds, and recognize that sometimes when 5 things go wrong, you can reschedule, but we've lost. That day on the water is gone forever and we can't make it up.

And so with that, I would wrap up and say that I'll be glad to be involved in the development of this Final EIS, and anything that I can provide by way of background or information on the fleet or its characteristics, I'm more than willing -- am willing to provide. And thank you very much for the opportunity.

MR. McWHORTER: Thank you, Mr. Fletcher.

MS. ESTES: A. D. Godley?

TO-0002

MR. GODLEY: Good evening. My name is Alan Godley. I represent Earth Island Institute and various other coalitions of environmental organizations and alliances.

We were not given much time to prepare on this, and I heard about it, you know, just as late as this afternoon. But I can only say this: That you guys are really going to -- your timing was probably very poor in doing this in light of the ship shock controversy that's going on right now.

TO-0002

There is probably -- the hearing I went to in Long Beach, I counted in the representation of organization membership excluding Greenpeace -- they weren't even there -- was over two million. And that's growing. That's been since the hearing. So you're up against formidable opposition in this community, in this five-county area as to this happening here.

There is -- a lot of people are starting to -- and we are going to court on the other issue. There's three legal entities, different law firms that are already 1 involved.

I wonder, you know, with the one-hour closure, if -- just the things that we got tonight, if these closures aren't going to go, you know, because of an accident, longer, I wonder if these closures aren't going to be maybe indefinite if there's a spill or, say, we want to study something that if we had to abort, and I wonder if it's going to close certain land-base things. From what I understand of it, you know, even national monuments and that. 2

But, you know, why is it we can't use existing ranges? Why can't we enlarge the ranges that we have now? Why is it that it has to be chosen over -- one of the most pristine habitats in -- literally in the world, you know. A lot of the third world, the environment is so degraded that

TO-0002

it will probably never recover. I mean, some of the -- I 3 work with a lot of the freshwater dolphins, and some of them number 200, some of them number 50 left in the whole world, you know, before they're gone, but we have those out here as well.

But why can't this happen like at Bikini Island or 4 someplace where it's so thrashed already that it's not going to cause much more harm? You know, why can't it happen where there's degradation to a magnitude that, you know, is a Superfund site? I mean, there's places -- not to be ludicrous, but, you know, you hear stories of decommissioned radioactive boats in San Francisco Harbor and things like that. Make that the target.

I'm not trying to be flip, but out here there's 27 varieties of marine mammals, five of which are pinnipeds, you know, a number of these are endangered. We have new whales that lived out here for three months at a time last year. They're called the red -- the red shrimp. There's a family of humpbacks that live out here. There's a family of orcas. A lot of the fishermen don't even know they're -- or admit that they exist, and I have them on film.

There's a film that our organization had the phone number to -- or the trailer and on the video the front end, Free Willy. Three months ago, we had 100,000 calls from the kids. We have recaptured their imagination what it is for

TO-0002

them to be in the -- for an orca to live in the wild. That video was then released, and I would venture to say we're looking at 250,000 calls now. That's what you guys are facing in taking away the kids' hope.

The, you know, impacts already from ship shock of eardrum and bladder damage and sonic injuries to these animals, you know, inclusive of sea turtles, marine mammals all the way up to the birds is formidable, and it's going to have a major impact on the fishing industry that is being hammered already. You know, there's a lot of foreign influences that are taking from our waters already. And this is not getting any better. 5

But I had one question as to the missiles themselves as to the ozone degradation, the solvents that are emitted, you know, with an ozone that is in very bad shape right now, no matter what Rush Limbaugh says. There's kids that in certain parts of the world really always having to wear long sleeves and cover their hair -- cover their -- cover themselves from skin cancer, and I'm just wondering if there's any mitigation going to be in the propellant or the CFC's or solvents that will be dumped into the air. 6 7

You're hammering the tourist industry, the hotel, the restaurant industry, and these -- in California, we've had enough fun already. You know, everybody needs to have a chance at this.

TO-0002

I'll try to wrap it up. But I just wonder what you're going to tell the kids, what you're going to tell your grandchildren when, you know, we fouled what Cousteau calls a gem of the world, a pristine, natural habitat matched nowhere in the world. That if you can do it anywhere else, please, but if you do it here, we won't be borrowing from our kids; we'll be stealing from them. Borrowing means you intend to pay back the debt. Stealing is you have no intention. Thank you very much.

MR. McWHORTER: Thank you.

MS. ESTES: Peggy McGuire.

TO-0003

MS. McGUIRE: Hi. I'm Peggy McGuire and I represent myself.

The last two speakers stated that they understood why these tests needed to be. And I don't understand why at all. We've had a recent war. Some of the missiles that were used in Desert Storm were not tested, but they seemed to work real well, and those down in Panama, of course, that worked when we didn't even tell them what they were doing. 1

I don't understand the purpose. Let's see. You want to do it to see if they fly in a straight line or they go a certain speed or -- and if you're not going to fill them with the explosions you -- or the nuclear stuff that you use in your real wars, you know, I just -- that part I don't understand.

TO-0003

I also don't understand that there are some countries right now that are in war that need protecting, but if we were to go there and protect them we don't really get any benefit like Kuwait; we got the safety of getting oil.

With the -- this -- I went to the Navy hearing about the -- them doing ship shock testing, and there were so many representatives from all types of environmental groups, from, you know, movie star people and things like that, and it went hours and hours it seemed like people talking against it, and we have tons of information on why not, and they're going to do it anyway, and knowing that they're going to be killing a lot of marine mammals, well, they're not humans, I guess, so that's okay. 2

It just seems to me that these hearings are something that's supposed to be done for it to pacify the public. I think they're not really heard and they're not really, you know, fair. It would be nice if it was front-page news that you gave your side and we gave our side and let the public decide, but that's probably too Democratic.

Again, there's different areas that -- I don't know whether it was the Army or who that manufactured bombs in Washington State and South Carolina that they ruined the whole entire area, not to mention Chernobyl or Three-Mile

TO-0003

Island. And, you know, I just don't know why you can't reuse what you've already destroyed, because you can't make it worse. What's dead is dead.

So -- but again, I don't understand why you're doing this in the first place. If you wanted to test these weapons out, why don't you go to Bosnia and help those people or, you know, do some humanitarian thing that have no real material value, but humanistic value. Thank you.

MR. McWHORTER: Thank you.

MS. ESTES: Okay. The next three speakers are Donald Davis, Terrell Cryer, and Brian Brennan.

TO-0004

MR. DAVIS: I'm Donald Davis. I'm a resident of Oxnard. I own and live in a townhouse over on the southwest side of town, and that's my primary concern, is I don't want stuff falling on my house. 1

I've had a lot of experience in bridge safety, and I foresee serious problems with all of your scenarios except Kwajalein Island. I strongly recommend that you give that serious consideration. You read some of my comments there. 2

So that's all I have to say.

MR. McWHORTER: Thank you, sir.

MS. ESTES: Mr. Cryer.

TO-0005

MR. CRYER: Hello. My name's Terrell Cryer, and I represent the Ventura County Commercial Fishermen's Association. And we work exclusively -- or not exclusively,

TO-0005

but a majority of the time at San Nicolas and San Clemente Island, and we work hand in hand, I'd like to say, but a lot of times it doesn't seem so, with the Department of Navy.

It's an ongoing, always-changing scenario. There's programs going and starting and stopping and changing from one moment to the next. And what I'm concerned about is will you be able to communicate with us any better than the Department of Navy? It's a 54-mile run out there, and once we commit to going, we get within a few miles of the island, we can be met with a Navy boat to turn us around or stand us off for three or four hours, and the one hour ends up being a full-day deal. And it just seems like -- I don't know what you mean by one hour. Does that mean the whole zone has to be cleared, so if a boat does five knots, if you've got to clear 20 miles, it's going to take him four hours to get out of the zone. So it can turn into a full-day deal.

1

If you have plenty of notice, if you have 72 hours, that would be great, but typically you get a 72-hour warning from the Navy and you head out there, and they'll tell you they've got it divided into Alpha, Bravo, Charlie, it looks like you were dealing mainly with the Bravo area. Alpha's typically closed anyway or they try to close it, so that leaves you one section of the island that you can stay at. Well, you know, it's like they move you around like a

TO-0005

ping-pong ball out there. I mean, it's their island, so you almost have to be at the mercy of them to say cooperate or they flat just, you know, chase you out of there and never let you back.

But it's going to have a hell of an influence on the commercial fishing activities out there. A lot of the gear's in the water for multi-days. Guys get one window shot of weather to get out there, pull their gear, rebait and set again, and they might only get a 12-hour shot before they get their butts kicked getting home. And if it happens when this one-day deal or multi-day test, you know, your gear gets ruined. It can cost thousands of dollars.

2

And that's just -- you know, if they can give us enough notice, that's great. If things don't have to change, you know, that's great. But it's like it seems like with the Navy and with their Pacific Missile Range activities, that it's just a -- it's like from one moment to the next -- I mean, I'll call and talk to them in the morning, get out there, and I'll be -- the ship will be chasing me out where they told me I could be. I get out there, they'll be chasing, and I'll be saying, "Are you sure you got it right this time?" because I called and they said they'd be in this area.

3

Well, again, it's like it really influences the small fisherman like myself. You know, it's costly and

TO-0005

using up your gear, and a lot of times it can become pretty unsafe. If they move you out of an area, a lee shore out to a foul area that's exposed, I mean, it's just putting us at more and more jeopardy, and it's a dangerous enough occupation as it is.

4

So I'd just like you to know that you're going to have a heck of an impact on the commercial fishermen. And we try cooperate the best we can, because we know it cost millions of dollars to run these operations, but, you know, we're concerned about our environment out there and the impact, and we'll be keeping a close eye out and hope you can keep us posted. Thank you very much.

MR. McWHORTER: Thank you.

MS. ESTES: Mr. Brennan.

TO-0006

MR. BRENNAN: My name is Brian Brennan. I'm a resident of -- here of Ventura. I'm a surfer, a sailor, a member of the Surf Rider Foundation. I'm here as an individual this evening just to gather some information and listen and voice some concerns. Surf Rider Foundation is mainly interested in ocean quality, improving access to the ocean for not just surfers, but everybody that uses that; fishermen, sailors.

One of the things that caught my eye just looking at the mitigating -- what you're saying here in terms of some of the problems that would come up and how to mitigate them was addressing the water quality issue. Certainly,

1

TO-0006

there's a huge ocean out there and maybe the thought is, gosh, whatever falls in, that's it. I notice that there was going to be nothing done to mitigate any of the -- what is it -- propellents or whatever they are that were put into the ocean. The idea was it will just be diluted and buffered out somewhere down the road.

I guess my only answer to that is, I guess that's been the way of thinking for a number of years. Not just by yourselves; by the public in general. And I would just like to state that I think you can make a stand at one point in time and decide there is something we can do about this and, my God, let's try to do -- make a step in the right direction. Especially when this testing is concerned.

And in closing, I would just like to say it's true that we have a very pristine environment here. There's numerous areas throughout not only the country -- and I'm not saying, "Hey, do it, do it in somebody else's back yard," but if it's something that you definitely have to do, you know, I'd ask you to really search your conscience, and if it's something that you really have to do, then try to find someplace where the mitigating circumstances would be a lot better than they would be here. Thank you very much.

MAJOR McWHORTER: Thank you.

MS. ESTES: That's all of the list of speakers that I have here. Is there anyone else who would like to make a

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comment?

Okay.

MR. GALLIEN: Take a short break.

MS. ESTES: Okay. We're going to take about a five-minute break and we'll be right back.

(Recess taken.)

MS. ESTES: If we could go ahead and get started.

Are there any more comments that anyone would like to make? Any further comments? If not, I'll turn it over to Major McWhorter.

MR. McWHORTER: Again, thank you very much for coming tonight. We appreciate the time and effort that you put into reviewing and commenting on the Draft EIS as well as the other concerns and suggestions that you've shared with us tonight.

I assure you that we will consider all of your comments carefully in preparing the final Environmental Impact Statement, and your concerns and suggestions will be communicated to the decision makers for their use in making the decision.

Again, thank you. And thank you, Mr. Michaelson and Mr. Estes, for your support.

MS. ESTES: We'll now close the hearing at 8:38. Thank you.

--oo0oo--

CERTIFICATE OF CERTIFIED SHORTHAND REPORTER

--oo0oo--

I, Shelley J. Watkins, Certified Shorthand Reporter No. 5321 in and for the State of California, do hereby certify that the foregoing proceeding was taken at the time and place as herein set forth; that said proceeding was taken down in shorthand by me and thereafter transcribed into typewriting, and I hereby certify the foregoing 41 pages contain a full, true, and correct computer-assisted transcription of my shorthand notes so taken.

I further certify that I am not interested in the event of the action.

In witness whereof, I have hereunto subscribed my name this 3rd day of March, 1994.

Shelley J. Watkins, CSR No. 5321

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IN RE THE PUBLIC HEARING FOR THE THEATER MISSILE DEFENSE (TMD) EXTENDED TEST RANGE DRAFT ENVIRONMENTAL IMPACT STATEMENT (EIS)

TRANSCRIPT OF PROCEEDINGS

Lompoc, California

Wednesday, February 23, 1994

7:00 p.m.

Reported by: LORA L. SHOFFSTALL, CSR No. 9271, RPR
Reference No. 43-152

THE TRANSCRIPT OF PROCEEDINGS was taken at the Porto Finale Hotel, 940 East Ocean Boulevard, Lompoc, California, before Lora L. Shoffstall, CSR No. 9271, RPR, on Wednesday, February 23, 1994, commencing at the hour of 7:00 p.m.

APPEARANCES:

Representing the Earth Techonology Corporation:

SUE M. ESTES, Moderator

Representing the Army Theater Missile Defense Program Office:

MAJOR THOMAS McWHORTER, U.S. Army

Representing the Space and Strategic Defense Command's Environmental and Engineering Office:

RANDY GALLIEN, U.S. Army

Lompoc, California, Wednesday, February 23, 1994

TRANSCRIPT OF PROCEEDINGS

MS. ESTES: Good evening and welcome to tonight's public hearing. My name is Sue Estes, and I have been asked by the U.S. Army Space and Strategic Defense Command to moderate tonight's meeting. Before I go over tonight's agenda and ground rules, I would like to take this opportunity to introduce you to the Army representatives who are here with us tonight.

Representing the Army Theater Missile Defense Program Office from Huntsville, Alabama, is Major Thomas McWhorter. Also from the U.S. Army, we have Randy Gallien of the Space and Strategic Defense Command's Environmental and Engineering Office. Also in the audience tonight are other technical representatives from the Ballistic Missile Defense Organization, Army, and Vandenberg Air Force Base, who are here tonight to listen to your comments.

To start the meeting, I would like to take a minute to briefly outline the agenda, the purpose of tonight's meeting, and to go over the agenda so that you will know what to expect as we proceed.

Tonight's public hearing has three essential purposes. The first is to describe to you

the program that is being examined in the Environmental Impact Statement -- in this case, the Theater Missile Defense Extended Test Range Proposal. The second is to briefly describe the Environmental Impact Statement process and some of the findings in the Draft Environmental Impact Statement, or "EIS" as it's known by its initials. The third and primary purpose is to listen to your comments, concerns, and suggestions on the Draft EIS. Your comments tonight will then be used in the preparation of the final EIS.

The agenda, then, for tonight's meeting is as follows: After I finish my introductory remarks, we will show a brief video on the Army's proposal. The first presentation by Major McWhorter will provide a brief overview of the Theater Missile Defense Extended Test Range Proposal, particularly as they relate to activities that could have potential environmental impacts.

The second presentation, Randy Gallien will describe the environmental process being followed by the Army in the development of the EIS. He will also provide some examples of the potential environmental impacts and the mitigations the Army has identified in the EIS.

If you have any questions and

clarifications about the presentations, we have a written comment sheet available which can be used to write down your questions. We ask that you hand in your written questions during the break that follows the presentations. Major McWhorter and Mr. Gallien will look at these questions during the break and answer any of them they can when we come back from the break.

The second to the last item on the agenda, "Public Comments," is really the most important. Remember that the Draft EIS is just that, a draft. This is your opportunity to tell us how to improve this analysis of potential environmental impacts before the document is finalized and before a decision on whether or not to proceed with the proposed action is made.

The final item on the agenda will be closing remarks by Major McWhorter.

A few administrative points on making comments:

If you've already signed up to speak, that's great. If not, and you would like to speak tonight, please go to the registration table and sign up. Everyone is welcome to speak, but it makes the process run more smoothly if I can call on people from a sign-up list. Everyone will have five minutes to

speak. Then, after everyone has had a chance to speak, and if time permits, you're welcome to take a second turn to offer additional oral comments.

By the way, we have a court reporter here tonight to make a verbatim transcript of this hearing so that all of your oral comments will be recorded accurately. Also, as part of preparing the transcript, we will be making an audio recording of tonight's hearing.

Also, you may make your comments in writing if you wish to, and there are three ways to do that: First, you can hand in comments that you brought with you tonight. The second is to write down comments on the written comment sheets that are available at the registration table and hand them in tonight, or you can mail comments in to the address that's on the back of the agenda by March 28th, 1994. Whichever option you choose, your written comments will be entered into a formal record of public comments on the Draft EIS, and they will be given the same consideration as oral comments received tonight. Just remember, if you do choose to mail in your comments, be sure and send them in by March 28th, 1994, which is closing date for the comment period.

If you want to receive a copy of the Final

EIS when it becomes available, there are three ways to do that also: If you've already received the draft EIS in the mail, you're already on the mailing list and will receive a copy of the Final. If you comment on the Draft EIS, either orally or in writing, and provide us with your name and address, you will automatically receive the Final EIS. If you're not on the list and you don't plan to comment but you'd like to receive the document, there is a sign-up list at the registration table for that. The Army also has a list of the interested individuals, so even if you don't want to receive the Final EIS, you can still receive further notices of its availability and the decision that is eventually made.

Finally, it is most important to understand that the Department of Defense representatives are not here tonight to make a decision. Their role is to take the results of the public comment process, including the comments received at this hearing, and make sure that they are considered in the preparation of the Final EIS. Their main purpose in being here tonight is to listen to your suggestions and concerns firsthand.

We will now begin tonight's meeting with a brief video on the Theater Missile Defense Extended

Test Range Proposal.

(Video.)

MAJOR McWHORTER: Good evening. I'm overwhelmed with the turnout and am very pleased.

My name is Major Tom McWhorter, and I'm here representing the Army Theater Missile Defense Program Office located in Huntsville, Alabama.

Since the main purpose for us being here tonight is to listen to your comments, I'm going to keep my comments relatively brief and not repeat, as much as possible, what you've already seen in the video. Instead, I'll concentrate on the features of the proposed Theater Missile Defense program that are probably of greatest interest to you.

Let me first briefly summarize the proposed action that is evaluated in the Draft Environmental Impact Statement.

We propose to launch target missiles and defensive missiles from the existing ranges and proposed off-range launch locations. Tests would include missile-to-missile intercepts over existing ranges or open-sea areas and surface-to-surface flights in which missiles would impact on existing ranges or within open-sea areas.

These flights would be realistic in most

respects, except that the target missiles would not contain any nuclear, chemical, or biological weapons. Instead, these missiles will contain materials designed to safely simulate the various characteristics of these weapons, such as size and weight.

The proposed off-range locations could include both land- and sea-based launch sites. And we propose to conduct approximately 100 such tests between the year 1994 and the year 2000, from one or more locations. In fact, it is unlikely that one launch location could satisfy all of the test needs.

This slide shows the basic type of test being proposed using one or more extended test ranges. As you can see, on the left, there is a target missile that would be launched from up to several hundred miles away toward an existing range, such as White Sands Missile Range. Some of these target missiles would have a one-stage booster, and others would have a two-stage booster. These boosters separate during the flight of the missile and would land on the existing range and possibly on one of the extended ranges proposed. These areas, called booster drop zones, are evaluated in the Draft EIS and will be further discussed in my presentation and in the presentation given by Mr. Gallien.

The target would continue on its flight, and after being detected by a tracking radar, a defensive missile would be launched for a planned intercept point over an existing military range or open-sea area. In some cases, the defensive missile may itself have a booster that would separate prior to the intercept and fall back to earth within the existing range area.

So how does your community figure into this? In order to evaluate a full range of possible options for these extended range tests, four alternative test range areas, as shown by these maps, have been evaluated in the Draft EIS. Potential flight paths for the target and interceptor missiles are represented by the dotted lines. Where the two arrows meet is the point of intercept. In the event of a missed intercept, both the target and defensive missile would land within the range area.

Three of these potential extended range alternatives allow missile flights over water. They include the Western Range, off the coast of Southern California; Eglin Air Force Base, with launches in the Gulf of Mexico off Florida; and the Kwajalein Missile Range in the mid-Pacific Ocean. The fourth extended range alternative is White Sands Missile Range with

potential launch sites at the Green River Launch Complex, Utah, and the Fort Wingate Depot Activity in New Mexico.

Keep in mind that we propose to test more than one type of Theater Missile Defense system. This means that the different tests may require different range characteristics. For example, the White Sands Missile Range provides the best opportunity to recover debris, because the missile intercept point would occur over land. On the other hand, the Western Range may provide more flexibility in terms of altitude, speed, and angle of attack for the target missile, because intercepts would occur over the Pacific Ocean. As a result, it is likely the EIS could result in a decision to conduct testing at more than one range.

Let me now focus on the range that is undoubtedly of most importance to you. This map shows proposed defensive missile flight paths from Vandenberg Air Force Base, San Nicolas Island, and San Clemente Island, California. Because most defensive missiles and their sensor systems are fully mobile and self-contained, facility construction requirements at these sites are expected to be minimal. The target missile would be launched from a mobile sea-launch platform for a planned intercept well off the coast of

California.

As pointed out in the video, there is also one testing area that involves launching a surface-to-surface defensive missile from Vandenberg Air Force Base that would impact on San Clemente Island. A flight path for that test is not shown here because a specific missile trajectory over the ocean has not yet been determined. The defensive missile could, however, approach San Clemente Island from the west so as to avoid overflying the island prior to falling within an existing impact area near the island's south end.

All impact points for missiles and missile debris are proposed for open-sea areas, with the exception of surface-to-surface missile tests from Vandenberg that would impact on San Clemente Island.

Now I'm going to show you maps of the proposed launch locations for defensive missiles which are located on land. Shown here is a map of San Nicolas Island, which is operated by the Naval Air Warfare Center, Weapons Division at Point Mugu. The two shaded circles represent the launch hazard areas surrounding the two proposed launch sites. These circles indicate areas that must be cleared of all non-essential personnel prior to a launch.

As shown here is a proposed Theater Missile Defense portable radar test site, as indicated by the star near the southeast end of the island. The purpose of the radar would be to track both defensive and target missiles in flight over the ocean. Appropriate safety zones would be set up in front of the radar during its operation.

Here's a map for San Clemente Island, which is also operated by the Naval Air Station North Island in San Diego. It also has similarly shaded launch hazard areas and a portable radar test site.

For the proposed surface-to-surface defensive missiles launched from Vandenberg Air Force Base, the proposed site of impact would be within the existing FSA-2 impact area at the south of San Clemente Island. For these particular tests, explosive warheads may be used on the defensive weapon.

Here are the launch hazard areas for the two potential launch sites on southern Vandenberg Air Force Base. What you should notice is that the launch hazard areas on the last three maps I have shown you include land under the control of the military or ocean areas, that is, no public or private lands are involved.

The one exception to this pattern is found

on this map of northern Vandenberg Air Force Base. Two of the potential launch hazard areas would include off-base land, roads, and beaches. If these launch areas were to be used, it would be necessary to execute or to obtain evacuation agreements with owners of the off-base property. It would also be necessary to close roads and beaches that extend into the launch hazard area.

The launch hazard area and other test areas where missile debris could fall would need to be cleared of all non-essential personnel. To accomplish this, we propose the following:

The anticipated closure period for the launch hazard areas at each Western Range installation would be approximately one hour per missile launch with a minimum of 48 hours between launches. The number of launches is not expected to exceed four per month at any location.

As you probably know, the temporary closure and evacuation of local beach parks at Vandenberg Air Force Base is a safety measure routinely taken by the base during launches.

Vandenberg Air Force Base would execute and/or sign an agreement with private landowners within the launch hazard areas north of the base that would

allow the areas to be evacuated.

Commercial and private aircraft and sea vessels would be notified prior to any test flights through the Federal Aviation Administration and the U.S. Coast Guard, respectively. These notices are usually issued several days in advance for a specified time period. Test areas would be monitored and verified clear of aircraft and watercraft before launches.

At this time, I'd like to turn the microphone over to Mr. Randy Gallien so that he can describe the Draft EIS that is the subject of tonight's meeting.

MR. GALLIEN: Good evening. I am Randy Gallien with the United States Army Space and Strategic Defense Command's Environmental and Engineering Office. Our organization is responsible for preparing the Environmental Impact Statement for the Theater Missile Defense Extended Test Range proposal. Before I give you an overview of the Draft EIS, however, I would like to acknowledge some of the other agencies that have participated in this preparation.

The Army Theater Missile Defense Program Office and the U.S. Army Space and Strategic Defense Command are proponents for the Theater Missile Defense

Extended Test Range proposal.

The Ballistic Missile Defense Organization is a cooperating agency for the EIS and has been directly involved in its preparation. Additionally, the Ballistic Missile Defense Organization is responsible for all Theater Missile Defense programs within the Department of Defense. Because the use of U.S. Navy and Air Force facilities are a part of the proposed action, they are also directly involved in the preparation of the EIS.

Within the federal government, the Federal Aviation Administration has jurisdiction over use of air space and is participating in the preparation and review of the environmental analysis. Additionally, the U.S. Coast Guard will be involved in review of any analysis of overwater activities. The Bureau of Land Management will have direct involvement in the preparation of the Final EIS and the establishment of booster drop zones and hazard areas involving BLM property for the overland alternative.

In addition to these cooperating agencies, many other federal, state, and local agencies have or will participate in reviewing and commenting on the EIS.

Throughout the EIS process, we rely on

participation of these organizations to help us develop a thorough, objective document, just as we rely on your participation. Your input is an integral part of the process for ensuring that we make well-informed decisions. And we really do appreciate the time you've taken to be here tonight.

There are several purposes for preparing an EIS. The main purpose of an EIS is to ensure that potential environmental impacts are identified and considered in the Federal decision-making process.

The EIS also provides a means of informing you the public and other agencies of programs and actions proposed by the Federal Government. More importantly, it provides a means of obtaining your input before a final decision is made.

The EIS identifies reasonable alternatives to the proposed action and evaluates the potential environmental impacts of each. It also identifies measures which can be taken to avoid or minimize these impacts. These are called mitigations.

Finally, the decision makers use the environmental information contained in the EIS and your comments to decide whether or not to proceed with one of the proposed alternatives, also taking into account other relevant technical, economic, mission, and

national policy considerations.

This slide outlines the EIS process we have been following:

As I mentioned before, a key characteristic of the process is the public's opportunity to comment on the proposed action. We began the process by conferring with other Federal, state, and local agencies and by holding nine scoping meetings to ask you, the public, for your ideas.

The next phase was the preparation of the Draft EIS, which was then distributed for public and agency comment. The public comment period, which we are now in, includes public hearings and the opportunity to provide written and oral comments. During the public comment period, we want you to tell us if we've analyzed or considered all environmental areas that potentially could be affected by the proposal. Your comments on the Draft EIS will then be evaluated and addressed in the Final EIS.

The final step is the Record of Decision. The decision on whether or not to proceed with the proposed action will not be made until at least 30 days following the distribution of the Final EIS. This decision will be made by senior-level officials in the Department of Defense and the Army. It's only after

this decision that we will proceed with any of the actions.

In the Record of Decision, we will discuss all the alternatives considered and state whether all practical means to avoid or minimize environmental harm have been taken. In the case of the Theater Missile Defense Extended Test Range EIS, this decision could be to use one or more off-range locations at one or more candidate test range areas. In other words, we are not faced with an either-or decision with regard to the alternative ranges.

The other action that could be chosen is the no-action alternative. The no-action alternative literally means a decision not to proceed with any ground-based Theater Missile Defense tests using these new range extensions. Testing, however, would continue to occur using the existing ranges.

This chart shows a list of the environmental topics covered in the Draft EIS. It's obvious that this list is much longer than I can cover in a brief overview, but hopefully you've had a chance to look at the Draft EIS and review its analysis. So at this point I'm only going to highlight some of the more significant environmental issues we encountered and analyzed in the Draft EIS, particularly those that

may have been raised during the scoping process.

The next several charts are a summary of potential impacts that we identified for each of the resource areas, as well as any potential mitigations to reduce these impacts. I'll try and leave the charts up here a moment so you can read them. But in the interest of time, I'm just going to highlight a few of the areas.

For this first chart, I'd like to highlight Biological Resources. Our analysis shows noise from defensive missile launches has the potential for disturbing shorebirds and marine mammals. We've identified as a potential mitigation the avoidance of such launches during the breeding or nesting seasons for these animals.

For San Clemente Island, there is a potential concern that live ordnance from a surface-to-surface defensive missile could start a fire that could affect habitat for the loggerhead shrike. To reduce these potential impacts, we've identified as a potential mitigation the avoidance of such a test during the nesting season, as well as support for the existing captive breeding program currently underway.

On this next chart, let's look at Hazardous Materials and Waste. The EIS identifies

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potential impacts from the shipment of propellants and the generation of additional hazardous waste. These materials and wastes, however, are similar to the ones currently handled by the Air Force and Navy at the facilities involved. The Air Force and Navy have established procedures in place for the shipment of disposal. By ensuring that all Theater Missile Defense and related activities follow these procedures, we found that the potential impacts would not be significant.

On this chart, I'd like to highlight Health and Safety. In our analysis, we found the primary potential for adverse impacts comes from the handling and use of live ordnance and propellants in the creation of missile debris from the test. To mitigate the potential hazards from the live ordnance and propellants, the EIS states that all operations involving their use would be performed by experienced personnel following approved procedures. In the case of missile debris, evacuation of potentially hazardous areas is the primary mitigation.

Here I'd like to highlight Socioeconomics. We expect the temporary influx of launch-related personnel would create increased demand for motel rooms, particularly in Oxnard and Lompoc. We concluded

there was a small potential for this motel demand to hurt tourism only if the launches occurred during a special event in one of these cities. As a potential mitigation, we identified the possibility of scheduling launches so that they would avoid major tourist festivals or events.

Another potential adverse impact would be the temporary restriction of commercial and sport fishing in the proposed test area of coastal waters, particularly around San Clemente Island. A potential mitigation for this would be to provide advance notification to the Sport Fishing Association of California and commercial fishermen regarding launch events.

I've only had time to highlight a few of the findings in the Draft EIS. The Draft EIS has a wealth of information and analysis that I hope you either have or will have the opportunity to review. If not, we have available at the registration table a summary of information on the Draft EIS, and it provides a more complete overview than time permits me.

I'd like for you to also keep in mind that while the Army takes responsibility for the conclusions in the EIS, its preparation has been and will continue to be a team effort in which we consult and coordinate

with state, local, and other federal agencies to reach our conclusions.

Our main purpose in being here tonight is not to talk, though, but to listen. This is a very important part of the process and in the development of the EIS. I assure you that your input will be fully considered by the decision makers along with other information.

A few other points on scheduling. The closing date for receipt of comments on the Draft EIS is March 28th of this year. The Final EIS will then be prepared and made available to the public in late spring of this year, and a Record of Decision will be issued no earlier than 30 days following the release of the Final EIS. We expect this in mid summer.

Again, if you're going to submit written comments after tonight's meeting, please mail them to the address shown here. We do appreciate your being here. And with that, I'll turn it over to the moderator.

MS. ESTES: Thank you, Mr. Gallien.

We're now going to take a 10-minute break. However, before we do, if you have any questions concerning the presentations, please write them down on the comment sheets provided and hand them in at the

registration table. Then when we come back, Major McWhorter and Mr. Gallien will try and answer any questions they can before we start taking your comments. Thank you.

(Recess.)

MS. ESTES: We'd like to go ahead and get started again.

We have collected the questions you submitted during the break, and Major McWhorter and Mr. Gallien have been reviewing them. They will try to answer all the questions they can, particularly those providing clarification on their presentations. Keep in mind that some of these questions do not have answers at this point. Prior to the Final EIS being prepared and the Record of Decision that will follow, they do not have answers. But whatever they can clarify, they would like to take just a few minutes here to do so.

Major McWhorter?

MAJOR McWHORTER: We do have two comments and question sheets, and we appreciate those very much. I'll just read the question and then I will provide an answer.

First one is will interceptor rockets that miss explode in the water. Well, in the unlikely event

TLQ-0001

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of a miss -- we hope -- if in the unlikely event that that does happen, all the missiles are equipped with flight-termination systems. And in the event of a miss, the flight-termination system would be initiated, and the debris -- all the debris would fall within the specified flight corridor or debris hazard areas.

TLQ-0002

Another question. What is the probable ratio of hits to misses? I wish I knew that answer. We obviously hope to achieve 100 percent hits. So far with the ERINT missile, we're two-for-two with hits, not misses. The Congress sets very stringent requirements on the program, and our intent is obviously to meet those requirements and to hopefully achieve 100 percent hit.

TLQ-0003

One of the other questions I'd like to address was the policy of transporting rocket fuels to Vandenberg Air Force Base. And that's something that Vandenberg, I'm sure, has been dealing with for as long as Vandenberg has been in existence. And should the rockets, which comes to almost 1,700, I'm told, very soon here -- apparently, they hit number 1,700 -- by the transportation requirement, we would be in accordance with the U.S. Department of Transportation and Department of Defense regulations and standard procedures for safely transporting any hazardous

materials. Missiles would be transported by truck, ship, or military aircraft. In all cases, propellants and other hazardous materials would be shipped in approved, authorized, safety containers. As a result, evacuation along transportation routes is not anticipated.

TLQ-0004

MR. GALLIEN: There are a couple of comments on the effect of booster debris, booster impact, the missile impact on marine life. Okay. In particular, one -- I think the answer is the same to both, but one in particular is that what impact would the testing have on whale migration.

TLQ-0005

The analysis we've conducted shows that the probability of missile debris impacting whales is very remote. I looked in here. I don't have the volume. Volume II has an appendices which shows the whale densities that are documented for the areas of concern. However, even though that possibility is remote, the potential mitigation that has been identified in the analysis is that of not to conduct tests during periods of migration, if at all possible.

Okay. As well as just the broad question on the impact on marine life, in addition to marine mammals, the analysis that's conducted -- and we've reached the conclusion that there's not a

potentially -- the potential for a significant impact is not there. This is accomplished through both the probability of striking marine mammals as well as an analysis of the materials that would be deposited in the ocean itself.

TLQ-0006

Are boosters and other debris toxic? There is some material associated with the boosters, propellants, et cetera, that is toxic. And this, as in other analysis, we've looked at these potential impacts. The conclusions we've reached, especially with solid booster propellants, is that the concentrations of toxic material in the substance is bound such that any material, in the event of deposition, would be that the material would be small, and the quantity would be small, and that any material that is deposited, the migration of these toxic materials from this binder is such a slow rate that a toxic level is not reached at any distance from the materials.

TLQ-0007

Okay. The next comment or question is "The concern I have is the potential Point Sal launch site just north of Point Sal. It's a nesting area for least tern and snowy plover. Last year there was an increase in the least tern nest. I asked that the Point Sal site be removed from the candidate list."

This is documented in the EIS itself, and the mitigation we've identified is to avoid these areas during nesting and breeding seasons. We're also in the process of consulting with the public as well as the various expert agencies, federal, state, and local agencies who study the different threatened and endangered species and other species available and have a great deal of knowledge on ways to avoid or minimize environmental harm to them. We will consider their comments as well as the public's comments on additional mitigations or ways to avoid impacts to these species as a part of the preparation of the filing act, and we welcome any of the comments that you have.

I think that's it. Oh, there's one other here. A number of organizations give hikes in the area of Point Sal, Mussel Rock and Dunes. I think here, as well as a few other areas that haven't been identified to us, communication is the key. And the Air Force and Navy representatives who operate the ranges understand this and are dedicated to communicate as closely as possible with all interested groups, such that recreational activities as well as commercial fishing and other type activities are impacted as little as possible by these missions.

That's it.

MS. ESTES: Okay. We're ready to start calling the names of those of you who have signed up to make comments tonight. I have a list of people who have already signed up so far, and I will be calling you in the order in which you signed. I will start out by calling the first several names so that you can get ready to come up to use the podium.

Because we want to record your comments clearly, fully, and accurately, we ask that you speak into the microphone and also state your name for the court reporter and any group or firm that you represent.

Finally, we request that you observe the five-minute time limit for oral comments. We use this five-minute limit at these hearings to give everyone a fair and equal chance to comment. Keep in mind that after everyone has had a chance to speak for five minutes, you may have a second time. But we want to let as many people speak early in the evening as possible.

To aid you in knowing when the five-minute time limit is up, after four minutes, I will put up my index finger like this, indicating that you have one minute left. You should find a comfortable place to wrap up your comment, and at the end of five minutes, I

will put up my closed fist -- hopefully not hit the microphone -- like this, indicating it's time to finish your comments. We greatly appreciate your cooperation and understanding in observing the five-minute time limit.

Also keep in mind that oral comments are only one way to share your thoughts and concerns on the EIS. You can also hand in written comments tonight or mail them in by March 28th, as I mentioned. Written comments are given the same consideration as oral comments offered here tonight. We'd also like to remind you that if you haven't seen a copy of the draft EIS, it's available at the local libraries here in your community, and a list of those library repositories are available at the registration table.

Okay. I'm going to start calling the first few names. DeWayne Holmduhl, Joe Sesto. Okay. Vic Bouquet.

TL-0001 MR. HOLMDUHL: Thank you. My name is DeWayne Holmduhl. I represent the Improve North County Committee, or the other name is INC. I was here last year when you were here, and many of the concerns that was brought up by the community, I have been able to glean out of the report that you have here now and the concern on the environmental concerns offshore and what

TL-0001

was going to happen, I think some of your comments are here.

We represent an organization that covers the Santa Ynez Valley, Lompoc, Santa Maria Valleys, and it's a business community of elected officials and others. And what we feel that this program will do is aid in utilizing the facilities that are already at Vandenberg Air Force Base now and just enhance that. And it's a testing program. And, of course, men in the business community would be a valuable asset. I know that some of the individuals who had land around there, around the base and agricultural communities have concerns in some areas, and I think that can be handled if they'd just read the document. Thank you. 1

MAJOR McWHORTER: Thank you.

TL-0002 MR. SESTO: I am Joe Sesto. I'm Military Affairs Chairman emeritus from the Chamber of Commerce of Santa Maria. I've been involved with the base since 1958 and when their actual activities took place in 1960. So nobody's BS was before Sesto. I just want you to know that.

You know, I've got the report that you had, and most of the findings on Vandenberg are concluded to be not significant. No mitigation measures are proposed, or usage would be similar to

TL-0002

current uses. That was very important, as you did in your primary EIS. The statements in the plan are found to be similar to San Nicolas Island. And surrounding communities near Vandenberg Air Force have indicated their total support for locating the Theater Missile Test Range Extended Area in their -- in this area here. So we fully support you. And we have both the Economic Development Association, which I am also director emeritus, and we are all supporting you. So you have our great support in this total valley. Thank you. 1

MAJOR McWHORTER: Thank you.

TL-0003 MR. BOUQUET: Good evening. This is a good turnout tonight, especially considering our competition is Nancy and Tonya over in Norway.

I'm Vic Bouquet, Astrotech Space Operations at Vandenberg. And I'm the general manager of the Astrotech Payload Processing Facility and Commercial Operation that's currently under construction at the base. Astrotech operates and maintains commercial payload processing facilities for use by military, civil, and commercial customers, both in Florida and this summer in Vandenberg.

Ten months ago, we found ourselves facing many of the same uncertainties that you're now facing with respect to locating a Theater Missile Defense test

TL-0003

site. The only exception was that we knew we had to build the payload processing facility at Vandenberg. The question was could we do it in a timely fashion to meet the needs of our customer.

The customer, you'll recognize, was the Ballistic Missile Defense Organization, who had approached us in April of '93 to see if we could have a facility ready in little over a year to meet the MSX payload processing departments out at Vandenberg. We accepted that challenge and in May of that year initiated the activity that will lead to a facility being ready in June of this year.

How we got from there to here in a little over a year should be of interest to you, because it involves many of the concerns you will have. First of all, I can say unequivocally that the support of the local Air Force 30th Space Wing at Vandenberg was essential. From the commander on down, we had the total support of the commanders and their staff. The staff elements that were most helpful were the 30 Space Wing XPR, which you found to be working with you as the Vandenberg's front door. Environmental office, 30 Space Wing ET. We thought that the environmental assessment would be a loophole, especially in Santa Barbara County. It turned out that was not the case.

TL-0003

Especially in the situation you're in, there's a couple of pieces of advice, perhaps, I can offer. If at all possible, where facilities are involved, choose previously-disturbed areas or facilities to avoid lengthy environmental assessments or impact requirements.

Also, do your homework. We have reports that they have had a draft environmental assessment available to us that we were able to pull off the shelf and turn into a final assessment very quickly. And I must emphasize that this was done without shortcuts or undue getting around any environmental rules or regulations. It was all done, and in a very timely fashion, we had a finding of no significant impact signed by the Air Force on the 30th of July when we started in May.

30 Space Wing Safety, 30 Space Wing Security, 30 Space Wing Civil Engineering Office all provided great support for us. Also I think we should mention that the -- and you picked up some of it already this evening -- the contribution of our local area political leaders and community organizations to create a favorable environment for the successful production of new programs at Vandenberg should be recognized. You will find a receptive local area

TL-0003

environment to do your -- to do your work at Vandenberg.

In summary, I think it's fair to say that there's three elements here at Vandenberg that offer you your -- their support, at least three. I am not a part of 30 Space Wing, but in view of the experiences we have personally had with the 30 Space Wing, I can assure you they are receptive to new programs at Vandenberg, from General Lord on down. The local community that you've already heard from and will hear more from this evening, again, I do not represent them, but as a single voice in that community, we want you here. And finally, on behalf of Astrotech Space Operations, we'd love to have you here because you'd probably mean some business for us. Thank you.

MAJOR McWHORTER: Thank you for coming.

MS. ESTES: Sylvia Signorelli, William Schuyler, Ed Benhart.

Okay. Go ahead. You're next. Those are the next three.

TL-0004 MS. SIGNORELLI: I've got a question on this whole -- I've got a question on this whole thing about the evacuation. In the Lompoc Record, it said you was going to do Jalama also, Jalama Beach. Is that right?

MR. GALLIEN: Yes, ma'am.

TL-0004

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MS. SIGNORELLI: Okay. Does that include the evacuation of Miguelito Canyon? Do you want a copy of the paper?

MR. GALLIEN: We would be glad to have a copy of the paper, please.

What I would like to do is give me a chance to read this. If you would like to make comments, and then maybe we can talk after the meeting.

MS. SIGNORELLI: Why don't you do that.

MS. ESTES: Mr. Schuyler?

TL-0005 MR. SCHUYLER: My name is William Schuyler. I'm here representing the Lompoc Valley Business Association. The Army was here a number of years ago, and the group would like to welcome you again to Vandenberg. It was Sam Cook at that time. And we're fairly comfortable with your project.

And one concern that we have is that you talk about private land and non-essential personnel. We feel that some of our members are ranchers and farmers of the valley, and as this demonstrated, they're getting a little sensitive about being told they can't go home tonight. So we would like to -- maybe that issue could be re-looked at. You said that they might drop the northern launch site there because of the problem with the private land. Let's look at

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TL-0005

all these locations, and if there is private land problems, try to work those out.

But the LVBA believes that this is a defense project. It is not an offense missile. And the defense of our country is very dear to us. I have a very good friend who served in the Special Forces of England and came to this country and did the same. And his favorite saying is that "You have never lived until you have almost died, for life has a special flavor the protected will never know." Thank you.

MAJOR McWHORTER: Thank you.

MS. ESTES: Mr. Benhart?

TL-0006 MR. BENHART: My name is Ed Benhart. I'm here representing myself as a Miguelito property owner. I have a couple of brief questions. And the first one was what Sylvia said. The Lompoc Record last Friday said that you wanted to evacuate all public beaches from Point Sal to Jalama as well as the hazard areas. I have a question about the hazard areas. Would that include Miguelito Canyon? You said north Vandenberg this evening. The paper said -- it said the entire coastline from Point Sal to Jalama Beach. 1

MR. GALLIEN: What we have is for the majority of the launches that we're talking about --

AUDIENCE MEMBER: We can't hear you.

TL-0006

MR. GALLIEN: I'm sorry. For the majority of the launches that are proposed, it would not -- Jalama Beach would not be affected. There is a small number of launches with certain proposed trajectories that would result in a short-time closure of the beach. In the neighborhood of an hour is normally what -- what the closure would result to.

MR. BENHART: So they would be affected, then. Not every launch, but on occasion?

MR. GALLIEN: If that alternative was selected for that particular mission, yes.

MR. BENHART: Would that include Miguelito Canyon?

MR. GALLIEN: Well, I'm having to go back and research that as we speak here, and I've got my people looking into it.

MR. BENHART: If I'm not mistaken, the closure in Miguelito Canyon is not only -- it's the county road as well as the property.

MR. GALLIEN: What I think I'd prefer to do, sir, if it's acceptable, is either after the meeting we could talk some more, or for these questions, submit them as comments, and then in the Final EIS, we can do them justice, then. Me sitting here, you know, I may miss something. I would really prefer to get your

TL-0006

comments that way to address them more thoroughly.

MR. BENHART: Most of my other questions were already answered. I do have one statement, though. 2 Were you aware of the fact that the closure created for the least tern nesting period starts on April 15th and it runs for about six months? So it's April 15, and it stops like in September or October. Six months. Thank you.

MS. ESTES: Okay. The next three will be Benjamin Hawkins, Timothy Staffel, and Donald Smith.

Mr. Hawkins?

TL-0007 MR. HAWKINS: Thank you, Ms. Estes. Mr. Gallien, I'm here representing the Retired Officer's Association of Santa Maria and Lompoc Chapter. We have about 310 members, most of whom are Air Force retirees. We have some Marines, Navy, and Army.

We support the draft EIS. And I would like to say that the conclusions, seemingly to me, at least, point to the absolute superiority of Vandenberg as the site of the extended test range. We've got the launch facilities. We've got the folks, who have, I think you mentioned earlier, are on their 1,700th launch. We've got the quad range downstream. We have the experience. It's preaching to the choir when I say 1

TL-0007

that the local community will welcome the Ballistic Missile Organization to Vandenberg. And I think that's about all I can say. Thank you.

MR. GALLIEN: Thank you, sir.

MS. ESTES: Mr. Staffel?

TL-0008 MR. STAFFEL: Thank you. I'm Timothy Staffel. I'm the County Supervisor for the Fourth District, and that includes the Lompoc Valley approaching the Santa Maria Valley and Vandenberg Air Force Base. And I'm here tonight, as I was during the scoping hearing, to make some comments and to welcome you and thank you for having this input.

I have a letter that I'd like to submit 1 tonight that deals with some of the issues in the Draft EIS. And I conclude in conclusion that in the Draft EIS there was minimal environmental impact for this project, and I feel that the EIS directly states that -- the Draft EIS directly states that statistic facilities which are at Vandenberg Air Force Base would make this a very good project for this area and one with minimal environmental impact. And I quote specifically from the EIS where it states that, and I agree with those comments. 2

And we have protection here with respect to air quality issues, and I just wanted to point out

TL-0008

that the Division of Environmental Control has been in contact with Vandenberg Air Force Base and Santa Barbara County Air Polution Control District, and that agreement, as well as other issues with respect to the item now being analyzed for the division pursuant to the district's development of a banking rule, which is required by federal and state law.

And in connection with those banking rules, there will be provisions to be included to satisfy those requirements. We're currently working with Vandenberg Air Force Base on that, and Vandenberg Air Force Base and the environmental unit concurs with the approach that has been suggested. And they've been highly supportive of that.

I believe the end result would be a situation where activities at Vandenberg Air Force Base can be given greater flexibility in designing comprehensive integration methods in effecting state requirements and allow them flexibility in developing expanding projects on the base.

And you should seek, I know you have today sought comments from the Vandenberg Air Force Base's Environmental Management Unit. We've been working with the County of Santa Barbara, and we have an excellent working relationship with them, and I think we've

TL-0008

developed that over the past year and a half.

I particularly appreciate the Army's willingness to develop its test schedule, launch schedule around significant events in the Santa Maria and Lompoc Valleys, the Flower Festival and other things of that sort. 3

I think we have quality facilities available in these communities to provide for housing facilities for the staff, the launch staff that will come into this area, which we would welcome. 4

And I just have to comment that I -- that we contrast favorably with Eglin Air Force Base, where there is kind of a temporary housing problem, as I see it, in the Draft EIS.

I have letters tonight from myself, and I also have a letter from County Supervisor Mike Stoker, and it's it, basically, that I just want to just briefly read from that, one of the comments from that. He says, "As you know, Vandenberg Air Force Base has been the site of numerous missile tests and has the capability to support such ventures. The local community is supportive of these activities, and we welcome you." 5

I also have with me tonight, and I'll submit for the record, a letter from County Supervisor

TL-0008

Chamberlain, who represents the Santa Ynez Valley and the Golita area. And Supervisor Chamberlain says, "The selection of Vandenberg Air Force Base as a site for this program would greatly benefit the local economy, and I am certain that you will find cooperation with development, and county departments will be willing to work with you. Your proposal to schedule launches so as not to conflict with popular annual events is much appreciated by the County of Santa Barbara." 6

Some of the issues that have been addressed tonight, I believe there is a way to establish or put into current evacuation agreements some terms that will meet the concerns of some of the residents tonight. The chart that you showed here tonight and in the Draft Environmental Impact Statement, I believe, does not show much of an impact on the areas that have been discussed, with the exception of the Point Sal area. I believe there are some siting details that can go on in minimizing that impact. 7

I do not believe -- currently there is some impact on Titan launches for Jalama Beach. And the base is working with -- Vandenberg Air Force Base is working with the county on those issues. And I believe that the county closure requiring minimum 8

TL-0008

launches, that impact can be minimized, and in fact, I think we could probably have some siting issues where they could be completely eliminated. So I want to thank you, and I'll submit these letters. Thank you.

MS. ESTES: Thank you. Mr. Smith?

TL-0009 MR. SMITH: Thank you, Mr. Gallien. I'm Donald Smith. As the Director of the California Spaceport Authority, I endorse the Draft Environmental Impact Statement position that the Western Range at Vandenberg Air Force, California, will have the least negative impact of all the facilities evaluated for the Theater Missile Defense Extended Test Range program. 1

Over the past 30 years, the Western Range has continuously evolved to enhance the missions of launch support and safety while reducing the overall negative impact on the California Central Coast. The Army will find that in addition to excellent support capability on the base, the surrounding community will be eager to assist in any negative-impact-mitigation effort.

In addition to promoting the development of commercial space business, another mission of the California Spaceport Authority is to assist in the streamlining of all regulatory processes that affect the cost and schedule of conducting launches at 2

TL-0009

Vandenberg Air Force Base.

Working in conjunction with the Air Force, our state authority will be available to assist you if the Air Force deems it advisable. It is my opinion that both the Army and the California Central Coast will benefit by conducting the TMD test program at Vandenberg Air Force Base. Thank you. 3

MAJOR McWHORTER: Thank you, sir.

MS. ESTES: The next three speakers will be LeRoy Scolari, Claire Zimmer, and Arleen Pelster.

TL-0010 MR. SCOLARI: LeRoy Scolari. I am an immediate neighbor of the South Vandenberg facility, both to the south and east.

I believe from your presentation here tonight that what you have seen from the comments of the Miguelito area there is confusion as to what you mean. From your overhead presentation, you designated the hazard areas that were involved in this project, and I believe that is probably correct.

You may not be aware that the Miguelito Canyon area is in South Vandenberg, and some other areas further south is under negotiation for a specific evacuation area for specific purposes. And I believe it would be well if you would look at those specific areas that you referred to as impact areas that suffer

TL-0010

potential closure. When you -- and also to address when you speak of the potential closure of Jalama Beach, that would not necessarily involve this new evacuation area in Miguelito Canyon. However, you should be specific as to whether that does or not. 1

I would strongly suggest that you, as soon as possible, send a copy of the Draft EIS to each of the property owners involved in the Miguelito area. It's totally impractical to expect them all to get to the library to see the copy that's on hand there. I think that with the proximity and the heavy involvement of these property owners, you should send each of them a draft EIS so they can be assured specifically what your intentions are.

But I personally think that it's a worthy project. And from what you've presented and what it will mean, you can see that you have community support. I think that if you make those intentions clear as to how they affect the private properties, it would be a good PR move. 2

As I say, from your overhead, you only showed an area of private property off of North Vandenberg, Point Sal Beach and so forth. So if you would specifically address the Miguelito Canyon evacuation area, I think that would be wise. Thank

TL-0010

you.

MAJOR McWHORTER: Thank you for your comments.

MR. SCOLARI: Would it be possible to get a copy of that draft to the property owners?

MR. GALLIEN: Yes, sir, if -- it would be a great deal of help if someone could identify them.

MR. SCOLARI: I'd be glad to that.

MS. ESTES: If you could provide a list.

MAJOR McWHORTER: Thank you.

MS. ESTES: Ms. Zimmer?

TL-0011 MS. ZIMMER: My name is Claire Zimmer. I'm not for or against this. I just have a problem. I'm concerned about the honesty and the accuracy of the information. The credibility for the military at this point is questionable, since it's become evident you're using Desert Storm as an example. And it's really probably a poor example for you to use, since the armor-piercing missiles have spewed radiation over our own military personnel during Desert Storm, and the military has not accepted responsibility for this, nor did they inform some of the top people. Even Schwarzkoph, I understand, didn't understand that those missiles were going to have that effect on the personnel. So no safety issues were taken. 1

My concern is the military will do what it

TL-0011

wants to do without concern for its citizens, without concern for the environment. It will use one example I heard you save two birds out of a flock of birds and consider that you saved the flock. I think that credibility is a problem with this program.

MAJOR McWHORTER: Thank you.

MS. ESTES: Ms. Pelster?

TL-0012 MS. PELSTER: Good evening. My name is Arleen Pelster, and I'm an administrative assistant for the City of Lompoc. I'd like to read to you the body of a letter that was sent earlier this month to state legislators who represent this region.

The letter reads: "I am writing to express the City of Lompoc's support for location of the proposed United States Army Theater Missile Defense Test Program at Vandenberg Air Force Base. The draft Environmental Impact Statement reports that the project includes approximately 100 flight tests, which could occur during the period 1994 to 2000. 1

"As you are aware, Vandenberg Air Force Base has provided an excellent testing facility and has the necessary resources for the nation's missile systems. Increased activity at Vandenberg has the additional benefit of contributing to the local economy. Your continued support of programs which will

TL-0012

promote an economic benefit for Vandenberg Air Force Base and California is sincerely appreciated."

My purpose in reading you this letter tonight is to convey support by the City of Lompoc and please contact us if we can be of assistance at the local level. Thank you.

MAJOR McWHORTER: Thank you.

MS. ESTES: The next speakers will be Tom Urbanske, Robert Hatch, and Orlando Severo.

TL-0013

MR. URBANSKE: I'm Tom Urbanske. I'm the Mayor Pro Tem of the City of Santa Maria, and I was here about a year ago, actually, in April last year, and talked about the symbiotic relationship that we have developed with the base, people of Santa Maria and the base complex.

I believe that relationship is even stronger today. We've been working together on commercial space, and it is very important to the people of Santa Maria that the base remain a viable economic engine for us. And I seem to be always running for office about every two years, and I can tell you that we have a lot of people in Santa Maria very much interested in retaining jobs that they've lost in aerospace. Some of them are almost to the end of their string, as you will.

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TL-0013

Also, following my comments about this symbiotic relationship, the Mayor also issued a letter, which was forwarded to you, and talked about the housing available in the City of Santa Maria and in the annexation areas, and these annexations have moved forward, and we have an exceptional number of good housing opportunities for people.

2

And actually, I would have to say that Santa Maria is the greatest place in the world to live. And the other thing I would like to point out, too, that Santa Maria, Santa Barbara County have really a tremendous reputation for being environmentally sensitive. And that might be a problem, but I think that, as I mentioned last time when I was here with the scoping -- for the scoping meeting, that we have, I think, gotten over the "Chicken Little" approach where the sky is falling. And I think that you will find that the people of Santa Barbara County are very able to see environmental impacts and to know what the environmental impacts are. And I think that your report was very extensive and well-done, and I think you'll find that as more people testify, that you've done a good job.

3

I'd like to say, just from the standpoint of one thing that I wanted to compliment you on, and

TL-0013

that is that when I was here a year before in April of last year, we had someone who talked about the whales, and I'm glad to see that you have a very extensive -- that you took a very extensive look at the whales. And so I think you are to be complimented.

4

And I think that you'll find that this community is very concerned about the environment, but I think you'll find it very fair. And I think with your report, you'll see how it fits into what we're used to doing here, and I think you'll make a fine -- if you decide to do the right thing and move here with your program, I think you'll make a fine decision. Thank you very much.

MS. ESTES: Mr. Hatch?

TL-0014

MR. HATCH: Good evening. It's my pleasure -- I'm Robert Hatch -- to speak to you tonight on behalf of the Lompoc Valley Chamber of Commerce. I'm the executive vice president of that organization. And in deference and in full respect for my colleague and friend from Santa Maria, we argue the point about the best place to live in the world. We consider it to be Lompoc.

I have a couple of points which I have communicated in writing to you in a letter over my signature of this date, which will be followed by a

TL-0014

letter, again, over my signature supporting this document.

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However, in the Draft EIS, there are two points which to me were somewhat confusing. They're under the Socioeconomics section, both on page 3-202, which alludes to the housing availability of rooms in this area, in Lompoc particularly, 683 rooms, which, again, is under section 3.3.2.10 on 3-202. Further, on page 4-207, it alludes to the socioeconomics under Housing. Again, it now states it's 836 rooms.

I would like to say that 836 rooms is probably closer to being accurate. Also on the former page, 3-202, it says that -- I quote -- "Lompoc has seven motels and 683 rooms and overflow capacity via motels in Los Angeles."

In deference to my colleaques and friends in Santa Maria, they have a number of fine hotels and motels there, and possibly they could -- you could save yourself a little bit longer drive by staying not only in Santa Maria, but the Santa Ynez Valley has nice accommodations as well. Not quite as nice as ours, but they'll do.

I would like to read a letter that my board of directors has asked me to transmit to you. It begins, "The Lompoc Valley Chamber of Commerce supports

TL-0014

the selection of Vandenberg Air Force Base as the site for the U.S. Army Theater Missile Defense Flight Test program. 2

"The chamber and the City of Lompoc have enjoyed a long and mutually beneficial relationship with Vandenberg Air Force Base and routinely joined forces on business and community activities. We point with pride to the partnership which has endured over many decades.

"In addition to the existing infrastructure and test range management capabilities at Vandenberg, the base is well-known for its safe and environmentally acceptable operations. In fact, this base has operated a missile test facility for many years without significant negative environmental impacts. 3

"It is the Chamber's opinion that the addition of this U.S. Army program will be widely-accepted by our members. The jobs that the project would create will provide a needed boost to the local economy. 4

"On April 21st, 1993, the Chamber transmitted a letter to you indicating our support for this program. We also provided testimony at the first scoping hearing urging you to favorably consider 5

TL-0014

Vandenberg Air Force Base for the site of these tests. We appear here tonight to reaffirm our support." Thank you.

MR. GALLIEN: Thank you.

TL-0015 MR. SEVERO: Good evening. I am Orlando Severo. I'm the President of the California Commercial Spaceport, Incorporated. And we had mailed to you a formal letter, and I have a copy of that with me this evening, which I have left with Ms. Estes. What I'd like to do is paraphrase that and give our total support to the TMD program at Vandenberg. 1

I concur with the Draft Environmental Impact Statement in conclusion that the use of Western Range at Vandenberg is a key component of testing and operations of the Theater Missile Defense Extended Test Range program. It will have less than a significant impact on the area's environment.

California Commercial Spaceport, Incorporated, is currently developing the California Commercial Spaceport at Vandenberg. CCSI, our company, is absolutely convinced that the excess capacity exists at Vandenberg to accommodate both the Commercial Spaceport and the TMD program.

CCSI has been working with the 30th Space Wing for this past year on the Commercial Spaceport

TL-0015

Project. Our corporation is impressed with the user-friendly attitude of the 30th Space Wing. The people of the 30th Space Wing are dedicated to a customer-oriented way of doing business and committed to streamline processes to ensure all operations are handled in an efficient and effective manner. I am convinced that your program will find the same user-friendly atmosphere.

In addition to the user-friendly approach, Vandenberg has a strong infrastructure modernization program in place, which can only strengthen its support to its military, commercial, and civil users. 2

CCSI is experiencing, believe it or not, at the grass roots, a more business-friendly atmosphere. Through Santa Barbara County and the State of California, our public/private partnerships with the United States Air Force, the county, and the state are essential to our success. I am pleased to report that these partnerships are working to create jobs and to aid in the state's economic recovery. We totally support TMD at Vandenberg Air Force Base. Thank you very much. 3

MAJOR McWHORTER: Thank you.

MS. ESTES: Okay. At this time, Ms. Signorelli, if you would like to come back, we would like to --

TL-0015

would you like to do your comments?

MS. SIGNORELLI: No. I've got my answer right here.

MS. ESTES: Okay. The next three speakers will be Sally Keane, Herb Gerfen, and George Rauh.

Ms. Keane?

TL-0016 MS. KEANE: My name is Sally Keane, and I'm here representing the wildlife. Phrases such as "high degree of certainty, possible, do not expect, rather remote, almost none, may, potential, could be, not significantly impacted," et cetera, these are peppered throughout the EIS draft, like the fragments from an EOD test on San Clemente Island in June of '93. These explosive fragments ignited fires which destroyed two-thirds of the existing habitat of loggerhead shrikes and endangered species. That's from section 333, page 3-214.

This document is not specific enough, especially with regard to marine mammals. It is as though the Defense Department is anticipating negative impact based on some type of statistical speculation. Who will be monitoring the waters offshore to determine whether or not a pod of whales is going to go by at launch time? Oh, I hate public speaking. 1

Section 33.53, page 3-231 states,

TL-0016

"Approximately 75 percent of seals and sea lions that inhabit Southern California spend some portion of time in the northern Channel Islands." Vandenberg has a resident sea otter population frequently sighted along the coast. Gray whales travel within a few kilometers of shore during migration from Bering Sea to Baja.

Section 4313 page 172, 4-172 and 4-173 regarding San Nicolas Island. Quote, "For the purpose of biological impact analysis, a maximum of four launches per month has been assumed." My interpretation is, "Let's do four launches a month and see what damage is done." Of course, then the damage is done. 2

Quote, "The two areas that may be affected most by potentially elevated sound levels associated with the proposed project are the launch area and the debris impact areas."

California sea lions have a strong fear of humans, with good cause, and will stampede into the water when disturbed. Continuous disturbance will cause abandonment of the rookery. Northern elephant seals show an unusual indifference to humans, but persistent human disturbance will cause them to abandon the beaches.

Launching from eight or seven launch 3

TL-0016

complex could significantly impact species such as the federally threatened sea otters and protected northern elephant seal and California sea lion. Harbor seals -- Quote. End quote. "Harbor seals on South Vandenberg temporarily abandoned pups as they fled into the water during a Titan IV launch, trampling and difficulty in relocating pups and mothers and so on." So this is tremendously upsetting.

Section 4323 page 4-195. This section lists mammals and bird species that could potentially significantly be impacted. Sea lions, harbor seals, sea otters, snowy plovers, least terns, sea birds, brown pelicans, peragrin falcons and candidate bird species. Quote. These indirect effects could be defined as a take by the Endangered Species Act.

For those of you who need to be enlightened what a "take" is, through section 10 of the Endangered Species Act, a taking permit can be obtained if the destruction is anticipated to be unavoidable.

The February 18th Lompoc Record article 4 reads: "The Army report contends that there is almost no chance that 1,100 pound boosters or fragments of interceptive rockets would land on people or populated areas or threaten wildlife or valuable archeological sites." Almost no chance. Would it also be considered

TL-0016

a take if people were inadvertently destroyed?

And the Department of the Army, on their own behalf, compiled this Environmental Impact Statement. The Army will determine whether or not this document is sufficient. This is akin to asking a fox if his raids on the chicken coop will have a negative impact on the hen.

TL-0017 MR. GERFEN: Good evening. My name is Herb Gerfen. I'm a member of the board of the Economic Development Association of Santa Maria Valley. The Economic Development Association represents some 300 member companies with over 12,000 jobs in the area.

I'm here tonight at the request of our president, who is wearing another hat, Dotty Renfrow, who is about this tall. I guess I should say a bonnet, maybe. I have a couple of letters to read from her. One dated on February 21st of 1994.

In effect, it says, "On April 21st, 1993, I directed a letter to you on behalf of our board of directors supporting the selection of Vandenberg Air Force Base for the U.S. Army missile flight test program. My letter to you attached contains the 1 following points. One, that Vandenberg has the full capability to handle the program without negative environmental impacts. And two, the addition of the

TL-0017

program would be readily accepted by local communities, since Vandenberg is considered to be a long-term partner of our community."

I want to read the other letter, because I think it has more information in it. This was dated April 21st of '93. "Dear Mr. Hassley, the Santa Maria Valley Economic Development Association Board of 2 Directors supports selection of Vandenberg Air Force Base as a site for the Army Missile Flight Test program.

"Our association, representing over 12,000 employees, maintains a strong interaction with personnel and the operations at Vandenberg. Santa Maria Valley has a history of outstanding relations with the base regarding business and community activities. Our full support to develop the Theater Missile Defense System at Vandenberg is based on the 3 following: A, Vandenberg has the infrastructure and the test range management capability for the U.S. Army program. Additions or changes to existing facilities would most likely be less than required at other locations.

"B, Vandenberg has operated as a missile test facility for many years with no negative 4 environmental impacts. The addition of this program

TL-0017

would be routinely accepted by the local communities. C, Vandenberg's location reflects its history of safe and environmentally acceptable operations. There are no land manses to contend with. 5

"D, Vandenberg is considered to be a long-term partner of our community. This partnership represents an important commitment for a strong economic cross section of activities to stimulate jobs locally. We appreciate this opportunity to provide input to the Environmental Impact Statement process." 6

That's from Dotty Renfrow. I'd just like to -- I have three other letters that I'll leave with you from members, and I'd just like to make a statement on behalf of myself.

I'm president of Skyway Engineering in Santa Maria. I'd like to put it very simply. The Central Coast is the right area for your program. Vandenberg is the right facility to operate your program. The majority of the people here want you to bring this project here. And we have the skills you need. We want the jobs. Let's get going. Thank you. 7

MAJOR McWHORTER: Thank you.

MS. ESTES: Mr. Rauh?

MR. RAUH: "Call me Ishmael." I wonder if anybody remembers these words. The beginning of the

TL-0018

TL-0018

greatest American novel ever written, Moby Dick. My name is George Rauh, and I'm representing myself. I want to talk about this novel just for a minute, because the novel is about men that are so proud and so ignorant that they can take their technology, take it out, and try to conquer the greatest animal on the earth. It was a symbolic novel. Moby Dick was not a real -- a real whale.

I just can't understand what we're trying to do here. It's like little kids playing little games with their missiles and sort of things. It's just a kind of a real nonsense to think that we can threaten the whales, threaten the seals, threaten the least terns, threaten all these birds. I mean, you're going to have to find exactly that one minute when it's not a nesting ground that's involved, when a whale is not going by, and there's no way to know. 1

Someone else just mentioned that you're basing all this on the same sort of technology that we saw in the Gulf War, and we just heard lie out of lie out of the government on that one. The missiles weren't hitting. Even if you managed to get the missiles to hit in this kind of technology, what is this going to have to do with a wartime situation? 2

If you read Clausewitz or anyone else on

TL-0018

war, we know that when you're at war, it has nothing to do with these kind of planned kind of demonstrations that are worked out so easily. So what are we doing it for? For nothing, really.

There's an old phrase from Pogo the comic strip. "We have met the enemy, and he is us."

And it reminds me about these radiation victims that we now have in this country. We have all this radiation testing on our own people to see what we would do in case they were involved in radiation that they were exposed to from an enemy. What's the point? We never had radiation from an enemy. So we have all of our own people that were exposed to radiation and all kinds of suffering.

The same sort of thing here. We're going to do these tests. We're going to be impacting nature, possibly be hurting some of the citizens in this valley, if these things don't go as planned, and they never go as planned. 3

One thing that's mentioned -- that was mentioned on one of the charts was the last possible what was called a "reasonable alternative," which was no action at all. That's the only one to take. Do your computer modeling. Play with your personal computers and put your missiles going back and forth. 4

TL-0018

We'll get the same -- just as good a result, and nobody gets hurt.

But this idea of sending out bombs and missiles into nature is just a real mistake. My theory about the whales and the mammals going back into the water millions of years ago is they had a real intuition about a two-legged preacher that was going to come along and was going to do a lot of damage on earth, so they went back into the sea to see if they couldn't get away from it. Let's leave them alone out there.

We all know that Santa Barbara County is for sale. We've seen that here today. "Come and shoot your missiles. Come and do this. Come and do that, if you can give us a few extra dollars and a few extra nights in a motel." You know, it's really a lot more important to save our environment than to just trash it for a few extra dollars here and there. In the long run, we'll have nothing. Thank you.

MS. ESTES: Okay. The next three speakers will be Joseph Sesto.

AUDIENCE MEMBER: We've already been there.

MS. ESTES: Did he sign up twice? Okay. Then how about Joe Signorelli? Have you spoken?

MR. SIGNORELLI: Yes.

MS. ESTES: Okay. Let's make sure we've got everybody. Okay. Chester Phillipson, Jonna Petterson. Chester Phillipson will be first.

TL-0019

MR. PHILLIPSON: Good evening. My comment is mostly a question. I wonder if we could have a little explanation of how the EIS was done and how it -- what measures were taken to make it objective. I don't -- came a little late. Maybe that was covered, but if we could have a little elaboration of that, it would be enlightening. Thank you. 1

MR. GALLIEN: The EIS was prepared using an interdisciplinary team of contract and government scientists. The -- it was field research -- not field research, but field reconnaissance visits were conducted. Literature searches were conducted, as well as interface with local, state, and federal experts in each of the areas of interest.

From that, the activities proposed were then compared with the environment as defined, and this interdisciplinary team, in conjunction with the experts, state, local, and federal, were able to draw the conclusions that you see in the EIS. Outside of that, I guess I'm -- you know, I may not be understanding exactly what your question is.

MR. PHILLIPSON: Well, that's quite a good

TL-0019

answer. Is there any ongoing supervision of any possible damage from when the actual firing starts? Is there going to be some close supervision in that respect? 2

MR. GALLIEN: The range safety offices of the particular range which has the lead on emission will be intimately involved in any activity, applying the same safety constraints as they do to normal missions.

MR. PHILLIPSON: I was thinking more of these animals and some of the natural resources. Will there be any way to evaluate what is occurring as far as the whales and the sea lions and some of the other birds and animals that inhabit our coast and the fish? 3

MR. GALLIEN: There are ongoing and continuing monitoring programs for these resources, for these species, which are consulted, you know, on a routine basis. The Vandenberg Environmental Office is in close coordination with the Fish and Wildlife Service, the state Fish and Game service. They're aware of any changes in the population density of these species and would then take a look at the potential cause.

There are no continuous monitoring activities identified in the EIS as being necessary, based on the conclusions reached, though, in addition to that.

TL-0019

MR. PHILLIPSON: Well, I think that that last provision would be a very comforting one. And in addition, I might -- I would like to suggest that the Army make an attempt to make these people as objective as possible so there's no chance -- there's no accusation that it's not objective.

I have also one more question I'd like to ask. And what is the -- what's the round numbers in the funding of this operation for the next six years? Is there any data on that? 4

MR. GALLIEN: Major McWhorter?

MAJOR McWHORTER: Nothing I have available right now. As you are well aware, we're budgeted annually by Congress, and that is on a downward slide. That's about the best answer I can give you right now.

MR. PHILLIPSON: What is -- what is next year's, then? Have you got a year? Have you got any budget at all?

MAJOR McWHORTER: The budgets for next year are being developed. In 1994 DOD Authorization Act allocated 2 point -- I think it was 2.8 billion to Ballistic Missile Defense Organization for execution of all of its programs. And that's congressional record. That's public record.

MR. PHILLIPSON: Thank you.

MAJOR McWHORTER: Sure.

MS. ESTES: Ms. Petterson?

TL-0020

MS. PETTERSON: Hi. I'm Jonna Petterson. I'm speaking for the California Abalone Association and the California Urchin Diver's Association. I was wondering if you were aware that the -- apparently you were asked if you had spoken to the California Fish and Game Commission about this, that the San Nicolas Island is a marine sanctuary and surroundings waters. So I'm wondering how you can get in there to bomb and send missiles over but we can't dive and try to make a living. I'm really concerned about that.

And I'd also like to know if any of you have been out to the island and seen the islands. Because I've been --

MR. GALLIEN: We've had reconnaissance teams --

MS. PETTERSON: Have you been there?

MR. GALLIEN: I have not been there, and we have had reconnaissance teams at all of the locations, all of the alternative locations.

MS. PETTERSON: So you've seen that -- the amount of pinnipeds, sea lions, and seals, et cetera, that do live on the island? This is one of the largest breeding rookeries off the California coast. And apparently, this hasn't been addressed. But it's a 1

TL-0020

concern and factor, I think, in my opinion.

Let's see. I'd like to also say that not the total valley is for this project. There are -- there are some of us who aren't. And I heard someone say something about do -- you know, have you done your homework. Apparently, you know, people haven't done their homework.

And I'd like to know, also, you know, we're out there diving and trying to improve the environment after we take abalone and sea urchins out of there, and we have to put something back into the environment and make it the way that it was before.

You haven't seen the island. It looks like the moon. I've been out there and I've seen the island. We own a boat, a dive boat, and that is our business. You know, all of these islands are being closed for -- to us as divers and all the surrounding areas. You know, I don't see how it can be closed to divers and opened to missile launching, et cetera. You know, this doesn't make a lot of sense.

You're not thinking about the impact that 2 it's going to have on our livelihood, that we're not going to have a livelihood if all of the islands are closed, and a lot of the areas are closed now as marine sanctuaries. You do need to get a map from the

TL-0020

California Fish and Game Commission and find out which areas are closed, because this is going to definitely be a concerning factor for you, because there's going to be a lot of uproar if you're allowed to bomb those islands and we're not going to be allowed to dive those islands. So that's all I have to say. Thank you.

MAJOR McWHORTER: Thank you.

MS. ESTES: The next speaker or next two speakers is Joyce Phillyson --

MS. PHILLYSON: I'm not speaking.

MS. ESTES: You don't want to speak? Okay. And Don Lahr, Jr.

TL-0021 MR. LAHR: Good evening. My name is Don Lahr, Jr., and I'm the current president of the Santa Maria Valley Contractor's Association. As such, I represent thousands of construction families, men and women and their children, that depend upon projects at Vandenberg Air Force Base that have been ongoing throughout the years.

We have generations of skilled craftsmen, fathers and sons, that have worked out there supporting the missile programs. Currently with a lot of the setbacks and cutbacks, we've experienced a lot of unemployment. A lot of our skilled and technically competent people are out of work and are looking for a

TL-0021

program to help support. We welcome you. We look 1 forward to having you here, and we are here to support your program. Thank you.

MAJOR McWHORTER: Thank you.

MS. ESTES: Okay. Ms. Keane, Sally Keane, has asked to speak one more time.

TL-0022 MS. KEANE: I'm curious about something. Everybody is sort of ranting here about economic growth and so on. I must have missed some little secret that many of the previous speakers are privy to. It says here in the paper dated -- again, the article dated February 18th, "Flight preparation and testing will require up to 140 additional temporary military and contractor personnel per launch. They could work at the site for up to two whole weeks." 1

MR. GALLIEN: That's correct.

MS. KEANE: What is the economic growth here for the valley? Thanks.

MAJOR McWHORTER: Thank you.

MS. ESTES: We've got one more speaker, Laurie Tamura.

TL-0023 MS. TAMURA: Good evening. My name is Laurie Tamura. I'm a board member of the Santa Maria Valley Chamber of Commerce and also the liaison for the Government Affairs Committee for the chamber. We'd

TL-0023

1 like to go on record as supporting the diversification of programs at the base, including the Army and the Air Force and even the commercial space programs.

We've been an active participant over the last year with the Round Table 95 program that Supervisor Stoker and Andrea Seastrand have been pushing through, and we want to continue having those kind of programs out at the base. We are impressed 2 with the thorough review of the Draft Environmental Impact Study, and particularly on your analysis of the socioeconomic impacts of this program. Issues regarding the environment and the biological impacts were of interest, and you have addressed a substantial number of mitigation measures that I think will address some of the concerns that were raised here today.

The Government Affairs Committee of the Chamber of Santa Maria will be presenting a written statement, and hopefully we will have that in time for your deadline. Now we'd like to thank you very much for this opportunity of coming to Santa Maria -- I'm sorry -- to Lompoc Valley, and we welcome you back again and wish you success on this project. Thank you.

MAJOR McWHORTER: Thank you.

MS. ESTES: We're going to take a five-minute break, and if anyone would like to speak further, they

would need to sign up at the registration table.

(Recess.)

MS. ESTES: We have a couple more speakers that have asked to speak, if we could go ahead and get started and let them address the audience. Brian Gore, and the next speaker will be Kenneth Wolf.

TL-0024

MR. GORE: Hi. I'm Brian Gore, and I guess I'm kind of in a unique position here. I listened to what was going on tonight. I -- unfortunately, I missed the Army's presentation at the beginning, and maybe I'd feel a little bit more at ease if I had heard that.

I think I have a different perspective on this than any other speaker. It seems like everybody's missing the point here. I hear the business community get up and talk about jobs. I hear the people who could be called environmentalists talk about marine mammals. Well, you know, I'm very sensitive to the job situation, and I care a lot about marine mammals, and I'd like to see them protected. But it seems to me we're talking about a couple of different things here tonight, and because they haven't been addressed, it concerns me.

I don't see this as an economic issue at all. I see it as a defense issue. I see it as something that should be done because it's necessary,

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TL-0024

because, in my view, of the complete failure the Patriot Missile system up to this point. And that causes me a lot of concern. I think we need missile systems like this. I'd like to see Vandenberg test them. I think we have good facilities. I have a lot of confidence in the people out there. But I don't see it as an economic issue. And I don't see it as an environment issue, because, quite frankly, I think the protection of our country and of the people that live in this area is a lot more important than marine mammals, and I consider myself an environmentalist.

2

What bothers me, though, is the basic concept that's being talked about by the Army here. The Army is talking about launching missiles at a populated area and trying to shoot them down. I know they're not going to land here, if everything goes according to plan. But lots of things don't go according to plan.

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I'd like to see that the test conducted, if they can be conducted here, without missiles being targeted at the coastline at Santa Maria, at Lompoc, at Los Angeles. And if that is going to happen, I'd like to -- I'm a little bit concerned about another part of this process, and that's where the hearings have been held. I'm -- there's probably some sort of requirement

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TL-0024

as to the number of hearings you have to hold here. But I'm a little bit concerned why they weren't held in Santa Barbara, why they weren't held in Los Angeles and some other cities that might be affected. That kind of bothers me. Maybe I don't understand the process well enough. But it causes me some concern.

And then I do have some concern -- I have a lot of faith and trust in the Air Force, and I've worked with a bunch of the people that are involved and spoke tonight, and I have absolute confidence and trust. I am concerned, however, that some of the activities that have gone on out in the Channel Islands have been conducted well.

I was personally involved in a bad situation a lot of years ago, and it personally moved me. I was working for a law firm in Santa Barbara. There were a couple of fishermen that were killed out at Pyramid Cove in a safe zone. And the government has disclaimed all responsibility from it. And it bothers me that, you know -- you know, I'm sitting here thinking about that -- the girl that wanted to go out and dive for abalone out there. I mean, I don't understand why you would want to go out and do that. The government is trying to protect people.

I am very concerned that these activities

TL-0024

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are being conducted safely. I'm very concerned that -- that proper steps be taken to make sure that this is done safely. And if it can be avoided aiming missiles at the city or in the vicinity of the city, I'd like the -- I'd like that to be done.

But, you know, at some point, you have to make decisions about what's more important. And I think that the danger of the threat to our country and our servicemen in the future, maybe that's something that -- a decision that has to be made, that we have to do it this way. That's -- that's fine. But to not even talk about things like that and to see it not covered very well in the Environmental Impact Statement concerns me deeply.

You know, I know a safety analysis is done on each of these flights and how you're going to

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conduct the facilities, but how those were conducted was not -- and the assumptions that were made wasn't really clear, especially in the Vandenberg section. There were some mis-references to paragraphs where I went to look and I couldn't find the information. It bothers me. It bothers me that we don't know about the safety assumptions that are being made.

I'd like to know, like, for instance, how far out the intercepts are going to be made and what

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TL-0024

are the chances. I know in a safety analysis, you guys make an assessment as to what the chances are of something going wrong. If the chances are very small, I'd like to know about it. I think everybody -- maybe we're owed that. I'm concerned. I'm concerned about the people that live here for their jobs, but -- and I have a lot of confidence in the program, and I'd like to see it here, but I do have those concerns, and I am kind of amazed to see a political environment that the environmental community not talking about what's really at issue here, and that's that some people might get hurt.

MS. ESTES: Mr. Wolf?

MAJOR McWHORTER: Thank you for your comments.

TL-0025

MR. WOLF: My name is Kenneth L. Wolf. I'm a resident of Santa Maria, and I also work there. One of the suggestions I would like to make is for those that are going to be involved in this project who work for the local organizations, such as at Audobon Society, Nature Conservancy, Sierra Club, Native Plant Society, and the Santa Maria Earth Day Coalition, members of these organizations are helping this area year round with a lot of projects, environmental projects, and a lot of studies, educations, school trips, hikes and things like that, and have a very keen understanding of

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the entire environmental and ecosystems in these areas.

And a lot of the agencies that were involved in this study seem to be at the state and federal level, but there's a lot of expertise from our members in the local area, and this is something we would like to see as far as minimizing the impact of these tests would have on the local environment, and I hope that those involved will take the time to contact these organizations both in the Lompoc and the Santa Maria Valley.

You know, these people are not in it for any monetary gain. They're in it for the environment. They're not -- they don't derive income from this. They're there for the environment, and I think this is a -- would be a very valuable avenue for you to pursue. I think everyone would benefit from that. Thank you.

MAJOR McWHORTER: Thank you.

MS. ESTES: Is there anyone else who would like to make a comment?

Major McWhorter?

MAJOR McWHORTER: Just for the record, I'd like to add that our concerns are as real as the speaker who just spoke two ago. Every mitigating avenue of flight safety, we are just as concerned about and will try to implement. We have a lot of expertise with Vandenberg

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MERIT REPORTING

Air Force Base, as well as with our own organizations.

Inland targeting is -- first of all, the targets will not fly all the way to land. The impact would occur over the ocean areas. Total range for the complete extended range is to be about 750 kilometers, the impact being well away from the inland areas.

Each missile is flown within a designated flight corridor, and each is equipped with a flight-termination system. If a miss does occur, range safety has two independent radars monitoring each target. So that's four radars for a redundant system.

In the event of a miss, that flight-termination system would be initiated, and the debris would fall within that flight corridor. So I hope that answers part of your concern, there.

As far as the Patriot success during Desert Storm, it was not a total failure. In fact, it was quite successful, in view of what Patriot was designed for. It was designed as a surface-to-aircraft antiaircraft-type missile. And based on some ingenuity, American ingenuity and progressiveness, with some software changes, it was able to do the job that it did and protect lives during that conflict.

And based on that threat that has since proliferated with very increased capabilities, based on

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MERIT REPORTING

the Missile Defense Act of '91 that Congress has enacted and followed through on with '93. We are following this course of action.

On that note, we'd like to thank you very much for coming tonight. We appreciate the time and effort that you have put into reviewing and commenting on the draft EIS, as well as the other concerns and suggestions that you have shared with us tonight.

I assure you that your comments will be considered carefully in preparing the Final Environmental Impact Statement and that your concerns and suggestions will be communicated to the decision makers for their use in making a decision. I'd like to thank you very much for coming. And thank you to Ms. Estes for your monitoring.

MS. ESTES: We now close the meeting at 9:40 p.m. Thank you.

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STATE OF CALIFORNIA)
) ss.
COUNTY OF SAN LUIS OBISPO)

I, LORA L. SHOFFSTALL, CSR #9271, RPR, State of California, do hereby certify:

That the foregoing transcript of proceedings was taken down by me by stenotype at the time and place therein stated and thereafter transcribed under my direction into computerized transcription.

In compliance with section 8016 of the Business and Professions Code, I certify under penalty of perjury that I am a certified shorthand reporter with license number 9271 in full force and effect.

Witness my hand this 4th day of March, 1994.



LORA L. SHOFFSTALL, CSR

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9.2
Exhibits

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EO-0001

ASTROTECH

Astrotech Space Operations, L.P.
Astrotech Vandenberg Facility
P.O. Box 5097
Vandenberg AFB, CA 93437-5097
Telephone 805-734-1102
Facsimile 805-734-2551

February 22, 1994

Mr. David Halsey
U. S. Army Space and Strategic Defense Command
Attn: CSSD-EN-V
P. O. Box 1500
Huntsville, AL 35807-3801

Dear Mr. Halsey,

We understand that the U.S. Army Space and Strategic Defense Command is considering Vandenberg AFB as a site to support the Theater Missile Defense (TMD) Test Program. This correspondence presents our recent experiences in establishing our new commercial payload processing facility (PPF) at Vandenberg, and thereby provide you with some insight into the level of local support and cooperation you can expect should you select Vandenberg as your test site. 1

We have found the 30 Space Wing, from the Commander on down, to be strongly committed to attracting new programs to VAFB. This has been most evident by the "can do" attitude that is enabling us to design, construct and begin operation of our PPF in approximately one year from concept to completion. This ambitious schedule was made possible in large part because of the establishment by the Wing Commander of a Working Group comprised of representatives from his staff elements. This group was directed to expedite the review and approval process associated with our project and to either quickly resolve or bring to the Commander's attention any issues or impediments that could impact our very tight schedule.

In addition, we have found the state and local community to be very supportive and anxious to facilitate new activities at VAFB. The attachment summarizes our experiences. We hope you will find this information helpful and would be pleased to further share our experiences with you at your convenience.

Sincerely,

Vic Bouquet
General Manager
Astrotech Vandenberg Facility

EO-0001

SUMMARY

ASTROTECH SPACE OPERATIONS VANDENBERG FACILITY

Astrotech Space Operations (ASO) currently operates commercial payload processing facilities (PPF) in support of military, civil and commercial launch operations from Cape Canaveral and Kennedy Space Center in Florida. ASO will operate a similar facility on Vandenberg AFB in June 1994.

BMDO contacted ASO in April 1993 to explore the feasibility of ASO constructing a new PPF at Vandenberg that could support processing of BMDO's MSX spacecraft.

Construction was started in late October 1993, within two weeks of receiving Air Staff approval of a 20 year lease for 60 acres of land on north Vandenberg AFB.

The new PPF will be operational by the end of June 1994, well in advance of the scheduled MSX spacecraft arrival on Vandenberg on September 15.

This ambitious construction project would not have been possible without the initial enthusiastic support of 30 Space Wing Commander General Seb Coglitore and subsequently the support of his successor, General Lance Lord as well as the cooperation of their Wing Staff. Recognition of specific staff elements includes the following:

- 30 SW/XPR. XPR is the 30 SW's "Front Door" for all new programs coming to Vandenberg. XPR fulfilled this function in the truest sense of the word. They chaired weekly Working Group meetings to expedite the ASO PPF project while working to resolve potential problems before they could impact our tight schedule.

EO-0001

- 30 SW/ET. The Vandenberg Environmental Office expedited the processing of our Final Environmental Assessment (EA) based on a draft EA previously prepared by ASO. ET also assisted in coordination with the Santa Barbara Air Pollution Control District. A Finding of No Significant Impact (FONSI) was issued by the Air Force on July 30, 1993.

- 30 SW/CE. The Base Civil Engineer (BCE) participated in the design process and reviewed 65%, 95% and !00% design drawings. The BCE also assisted in developing the commercial lease for the site on which the PPF would be constructed.

- 30 SW/SE. The Wing Safety Office assisted us throughout the design process. The Safety Office was especially helpful in working with ASO to identify Value Engineering approaches that resulted in significant cost savings while satisfying all safety requirements.

- 30 SW/SP. The Wing Industrial Security Manager worked closely with us to insure the security devices and alarms incorporated into our PPF will satisfy all Industrial Security Manual requirements for a DOD cleared facility.

- In summary, the Astrotech PPF at Vandenberg represents a successful example of 30 SW support for a fast track project involving many of the potential problems that could face the TMD test program.

In addition to Air Force support, the contributions of local area political leaders and community organizations to create a favorable environment for the successful introduction of new programs to Vandenberg should be recognized:

- U. S. Congressman Michael Huffington's Commercial Spaceport Forum in July 1993.

- State Senator Gary Hart, Assemblyman Jack O'Connell and Assemblywoman Andrea Seastrand for their support of state tax relief legislation for commercial space operations at Vandenberg.

- North Santa Barbara County Supervisor Mike Stoker's Roundtable 95 to promote commercial space.

- Supervisors Stoker and Tim Staffel for their formative support in drafting the initial tax relief legislation.

EO-0001

- The enthusiastic promotion of commercial space opportunities by the Lompoc Valley Chamber of Commerce and the Santa Maria Valley Economic Development Association.

The availability of the Astrotech Commercial Payload Processing Facility in June 1994 represents a valuable resource to support military, civil and commercial launch operations on Vandenberg. The ASO PPF will be available on a commercial basis to provide additional processing space, if required, for TMD test resources as well as other potential civil and commercial customers. Astrotech Space Operations offers our unqualified support to the introduction of the TMD Test Program to Vandenberg.

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EO-0002

WESTERN COMMERCIAL SPACE CENTER

THE CALIFORNIA SPACEPORT AUTHORITY

23 February 1994

Mr. Dennis R. Gallien, Environmental Engineer
US Army Space and Strategic Defense Command
Attn: CCSD-EN-V
PO Box 1500
Huntsville, AL 35807-3801

Dear Mr. Gallien:

1

As the Director of California's Spaceport Authority, I endorse the Draft Environmental Impact Statement (DEIS) position that the Western Range at Vandenberg AFB, California, will have the least negative impact of all the facilities evaluated for the Theater Missile Defense Extended Test Range Program. Over the past 30 years, the Western Range has continuously evolved to enhance the missions of launch support and safety while reducing the overall negative impact on the California Central Coast. The Army will find that in addition to excellent support capability on base, the surrounding community will be eager to assist in any negative impact mitigation effort.

In addition to promoting the development of commercial space business, another mission of the California Spaceport Authority is to assist in the streamlining of all regulatory processes that affect the cost and schedule of conducting launches at Vandenberg AFB. Working in conjunction with the Air Force, our State Authority will be available to assist you when the Air Force deems it advisable.

It is my opinion that both the Army and the California Central Coast will benefit by conducting the TMD test program at Vandenberg AFB.

Sincerely,

Donald D. Smith
Executive Director

245-A Burton Mesa Blvd. • Lompoc, CA 93436 • (805) 733-7370 • Facsimile (805) 733-7372

LAHR ELECT MOTORS 805 925 2864 P.01

EO-0003

LAHR ELECTRIC MOTORS, INC.
SALES AND SERVICE
MOTORS · GENERATORS · POWER TOOLS
119 W. MILL
SANTA MARIA, CALIF. 93454

February 22, 1994

Mr. David Hasely
U.S. Army Space and Strategic
Defense Command
CSSD-EN-V, P.O. Box 1500
Huntsville, Alabama 35807-3801

Dear Sir,

1

This letter is to encourage you to find a minimal environmental effect from the proposed project at Vandenberg Air Force Base, California.

This location has been used for military purposes for over fifty years and for missile firing for most of that time. Therefore any environmental effects have occurred well into the past.

The mitigating circumstances are many and include among others:

2

1. A beneficial effect on local economy which has been seriously impacted by defense cutbacks.
2. Aid in maintaining a base for future missile defense systems if needed in a time of national emergency. 3
3. Provide jobs to missile trained civilians, a highly skilled but narrow market occupation. 4
4. Provide a safety factor by using an existing, well understood missile range. 5

Although I am unable to attend your hearing in Lompoc on February 23rd I hope that you will include this letter as testimony.

Sincerely,

LAHR ELECTRIC MOTORS, INC.

Donald E. Lahr
CEO

DEL/dl

EO-0004

A.J. DIANI CONSTRUCTION CO., INC.
CONTRACTORS • ENGINEERS

February 18, 1994

Mr. David Hasley
U. S. Army Space and Strategic Defense Command
CSSD-EN-V
P.O. Box 1500
Huntsville, AL 35807-3801

RE: U.S. Army Missile Light Test Program
Vandenberg Air Force Base, CA

Dear Mr. Hasley, 1

I will be unable to attend the public hearing on February 23, 1994 in Lompoc, California regarding the utilization of Vandenberg Air Force Base for the subject test program. However, I feel it necessary to express my full support of this effort and encourage you to choose Vandenberg. As you well know Vandenberg has a long history of supporting similar launch programs and is especially adept to meet the needs and requirements of this program.

In addition, the civilian communities have long supported Vandenberg's launch mission and we look forward to the opportunity to enhance the economic stability of our communities while supporting effective and responsible military defense missions. 2

Thank you for this opportunity to express my support for this program at Vandenberg Air Force Base.

Respectfully,

A. J. DIANI CONSTRUCTION CO., INC.

James A. Diani
President

JAD:clt

EO-0005

ARBOR MEDICAL GROUP

February 10, 1994

Mr. David Hasley
US Army Space & Strategic Defense Command
CSSD-EN-V, P.O. Box 1500
Huntsville, AL 35807-3801

Dear Mr. Hasley: 1

I, and many of my colleagues, fully support the use of Vandenberg Air Force Base for use by the U.S. Army as their Theater Missile Defense Extended Test Range. Vandenberg is located in a relatively isolated area along the central California coastline. The missiles would be fired to the west over an ocean range which can be kept clear of traffic during testing periods. Normally, scattered debris would not pose a problem and vital information could be retrieved without danger or inconvenience to others. 2

During this period of military closures and personnel cutbacks, this operation would generate additional revenue to the Central Coast. We, the residents of the Central Coast, have had an excellent relationship with both the U.S. Army and the U.S. Air Force since the early 1940's and we would expect this relationship to continue. Thank you for your consideration of this request, and I trust that you will give strong consideration to establishing your operations at Vandenberg Air Force Base. 3

Very truly yours,

Roger G. Bunch
Chief Operations Officer

1414 EAST MAIN STREET, SUITE 103 • SANTA MARIA, CALIFORNIA 93454 • 805/922/5027 • FAX 805/928/2067

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EO-0006

SANTA MARIA VALLEY
ECONOMIC
DEVELOPMENT
ASSOCIATION

110 S. PINE ST., NO. 225
SANTA MARIA
CALIFORNIA 93454
805/922-7737
FAX 805/349-9875

COMMUNITY SPONSORED
NON-PROFIT CORPORATION

February 21, 1994

U.S. Army Space and Strategic Defense Command
ATTN: CSSD-EN-V (Mr. David Hasley)
Post Office Box 1500
Huntsville, Alabama 35807-3801

Dear Mr. Hasley:

On April 21, 1993 I directed a letter to you on behalf of our Board of Directors supporting selection of Vandenberg Air Force Base for the U.S. Army Missile Flight Test Program.

My letter to you, attached, contains the following points: 1

1. Vandenberg has the full capability to handle the program without negative environmental impacts.

2. The addition of the program would be readily accepted by local communities since Vandenberg is considered to be a long term partner of our communities. 2

We understand that the recent findings of the environmental impact statement found no significant impacts to such items as air quality, biological or cultural resources, hazardous waste, land use, noise or water resources.

We appreciate this additional opportunity to participate in the public hearing process.

Sincerely,

Dottie Renfrow
President

DR:ew

PRESIDENT
DOTTIE RENFROW
RENFROW AUTO CENTER
VICE PRESIDENT
RICHARD A. HULME
SMA PUBLIC AIRPORT, DIRECTOR
SECRETARY
JAMES A. DIANI
A.J. DIANI CONST. CO., INC.
TREASURER
CARL ENGEL, JR.
ENGEL & GRAY
BOARD OF DIRECTORS
HENRI ARDANTZ
BETTERAVIA FARMS
RICHARD J. BOYLE
UNION OIL CO.
BILL BYRD
ATLAS PERFORMANCE IND.
VICKI CERF
CERF & ASSOCIATES
TONY COSSA
POLLARD & COSSA INS.
BOB ENGEL
ENGEL & GRAY
HERB GERFEN
SKYWAY ENGINEERING
JAMES M. HAGERMAN
RETIRED
MIKE KEE
FIRST VALLEY BANK
DONALD E. LAHR
LAHR ELECTRIC MOTORS
BUD NEIGHBORS
TOYOTA OF SANTA MARIA
JOE SESTO
SESTO ENTERPRISES
ALEX SIMAS
KIRK, SIMAS & NORMANLY
MIKE WELCH
WELCH SURVEYS
EXECUTIVE DIRECTOR
ROBERT L. ROYSTER
EXECUTIVE SECRETARY
ETTA WATERFIELD
SECRETARY
DOROTHY MELTON

FORMERLY: SANTA MARIA
VALLEY DEVELOPERS

EO-0007

April 21, 1993

SANTA MARIA VALLEY
ECONOMIC
DEVELOPMENT
ASSOCIATION

438-E SOUTH BROADWAY
SANTA MARIA
CALIFORNIA 93454
805/922-7737
FAX 805/349-9875

COMMUNITY SPONSORED
NON-PROFIT CORPORATION

U.S. Army Space and Strategic Defense Command
ATTN: CSSD-EN-V (Mr. David Hasley)
Post Office Box 1500
Huntsville, Alabama 35807-3801

Dear Mr. Hasley: 1

The Santa Maria Valley Economic Development Association Board of Directors supports selection of Vandenberg Air Force Base as the site for the U.S. Army Missile Flight Test Program.

Our Association, representing over 12,000 employees, maintains a strong interaction with personnel and the operations at Vandenberg. The Santa Maria Valley has a history of outstanding relations with the base regarding business and community activities.

Our full support to develop the Theater Missile Defense System at Vandenberg is based on the following: 2

A. Vandenberg has the infrastructure and the test range management capability for the U.S. Army program. Additions or changes to existing facilities would most likely be less than required at other locations.

B. Vandenberg has operated as a missile test facility for many years with no negative environmental impacts. The addition of this program would be routinely accepted by local communities. 3

C. Vandenberg's location reflects its history of safe and environmentally acceptable operations. There are no land masses to contend with. 4

D. Vandenberg is considered to be a long term partner of our community. This partnership represents an important commitment for a strong economic cross section of activities to stimulate jobs locally. 5

We appreciate this opportunity to provide input to the environmental impact statement process.

Sincerely,

Dottie Renfrow
President

PRESIDENT
DOTTIE RENFROW
RENFROW AUTO CENTER
VICE PRESIDENT
RICHARD A. HULME
SMA PUBLIC AIRPORT, DIRECTOR
SECRETARY
JAMES A. DIANI
A.J. DIANI CONST. CO., INC.
TREASURER
CARL ENGEL, JR.
ENGEL & GRAY
PAST PRESIDENT
ROGER BUSCH
AMBROSIA CLONAL GROUP
BOARD OF DIRECTORS
HENRI ARDANTZ
BETTERAVIA FARMS
RICHARD J. BOYLE
UNION OIL CO.
BILL BYRD
ATLAS PERFORMANCE IND.
VICKI CERF
CERF & ASSOCIATES
TONY COSSA
POLLARD & COSSA INS.
BOB ENGEL
ENGEL & GRAY
HERB GERFEN
SKYWAY ENGINEERING
GORDON GILL
GORDON GILL & ASSOC.
JAMES M. HAGERMAN
RETIRED
DONALD E. LAHR
LAHR ELECTRIC MOTORS
JOE SESTO
SESTO ENTERPRISES
JIM WESTON
SANTA BARBARA RESEARCH CENTER
EXECUTIVE DIRECTOR
ROBERT L. ROYSTER
EXECUTIVE SECRETARY
ETTA WATERFIELD
SECRETARY
DOROTHY MELTON

FORMERLY: SANTA MARIA
VALLEY DEVELOPERS

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EL-0001

TIMOTHY J. STAFFEL
Supervisor Fourth District



Reply to:
- 401 E. Cypress Ave.
  Lompoc, CA 93436
  (805) 737-7700
- 511 E. Lakeside Pkwy.
  Suite 126
  Santa Maria, CA 93455
  (805) 346-8407

COUNTY OF SANTA BARBARA

February 23, 1994

Dennis R. Gallien
Environmental Engineer
US Army Space and Strategic Defense Command
ATTN: CCSD-EN-V
PO Box 1500
Huntsville, AL 35807-3801

RE: Theater Missile Defense Extended Test Range DEIS Comments
February 23, 1994 Public Hearing; Lompoc, CA

Dear Mr. Gallien:

Thank you for providing the residents of Santa Barbara County this opportunity to provide substantive comments and input with respect to the proposed Theater Missile Defense Extended Test Range Program. I appreciate the fact that the Draft Environmental Impact Statement (DEIS) which is the subject of comment at this hearing has incorporated the testimony received during the scoping hearing process held in April and May, 1993.

1

I concur with the DEIS conclusion that the selection of the Western Range utilizing Vandenberg Air Force Base as a key component of test launch operations of the Theater Missile Defense Extended Test Range program would have a less than significant impact on this area's environment and, in fact, would take advantage of infrastructure facilities already in place.

2

Specifically, I concur with Section 4.3.2.11 of the DEIS at pages 4-208 to 4-209 which states:

> "Since existing facilities at Vandenberg AFB would be utilized for the TMD Extended Test Range program, the presence of 140 transient program personnel during the 2-week period straddling each test flight at VAFB, would not adversely impact the infrastructure components at VAFB....The 140 transient personnel associated with each test flight would represent 1.6 percent of the personnel typically working at VAFB. This is well within the normal fluctuation in personnel present at the base as other programs come and go and activity builds up and winds down. Moreover, no new infrastructure facilities will be built for the program; the program would utilize facilities and take advantage of infrastructure already in place. As a result, no impacts to the provision of fire, health, and police services, nor impacts to the power, recreation, solid waste, wastewater, or water components of infrastructure are expected."

3

With respect to air quality issues as set forth in Section 4.3.2.1 at pages 4-187 to 4-193, please be advised that the Memorandum of Agreement entered into between the VAFB and the Santa Barbara County Air Pollution Control District is being analyzed for revision pursuant to the District's development of a banking rule as required by federal and state law. In connection with the development of this banking rule the District will be examining its original baseline calculations which determine the net emission increase factor associated with industrial projects. The APCD is currently working with VAFB and others with existing permitted industrial activities to develop incentives which will allow expansion of current activities through a combination of flexible mitigation measures which would include emission offsets for capital investment in equipment meeting Best Available Current Technology (BACT) standards. VAFB has been highly supportive of the APCD in taking this approach and it is anticipated that the end result of the banking rule development process will be a modification of the current Memorandum of Agreement which will allow VAFB greater flexibility in designing comprehensive mitigation measures to meet existing federal and state requirements.

Comment should be sought from VAFB's Environmental Management Unit with respect to the excellent working relationship which has developed between Santa Barbara County and VAFB over these and other defense industry related issues during the past two years.

4

I appreciate the U.S. Army's willingness to develop a test launch schedule around regularly scheduled events of regional tourism significance such as the Lompoc Valley Flower Festival, the Santa Maria Elks' Rodeo & Parade and other events in order to minimize any potential impact on the tourism industry. The DEIS correctly identifies the current availability of quality lodging accommodations in the Lompoc and Santa Maria Valleys which could provide housing for test launch staff. The DEIS contrasts this favorable condition at the Western Range site with that at Florida's Elgin Air Force Base where test activity conducted during the Spring and Summer months could conflict with that region's

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EL-0001

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tourism trade and result in a shortage of temporary housing facilities for launch staff.

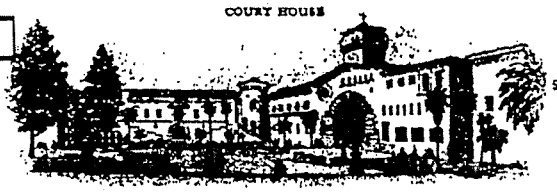
In summary, I am in agreement with the DEIS conclusion that the placement of the U.S. Army's Theater Missile Defense Extended Test Range program at the Western Range site can be accommodated without significant impact on the environment and that the DEIS, in my opinion, clearly establishes that the utilization of the existing facilities at Vandenberg Air Force Base is the environmentally preferred alternative of the four remaining sites under consideration.

Very truly yours,

TIMOTHY J. STAFFEL

EL-0002

MIKE STOKER
Supervisor Fifth District



511 East Lakeside Parkway, Suite 1
Santa Maria, California 93455-134
(805) 346-8400

COUNTY OF SANTA BARBARA

February 22, 1994

Dennis R. Gallien
Environmental Engineer
U.S. Army Space and Strategic Defense Command
ATTN: CSSD-EN-V
P.O. Box 1500
Huntsville, Ala. 35807-3801

Re: Hearing on Theater Missile Defense Extended Test Range Draft Environmental Impact Statement

Dear Mr. Gallien:

1

I hope you will give favorable consideration to Vandenberg Air Force Base as a site to conduct 100 missile flight tests as part of the Theater Missile Defense Extended Test Range program.

As you know, Vandenberg has been the site of numerous missile tests and has the capability to support such ventures. The local community is also supportive of these activities and would welcome you with open arms.

As Fifth District Supervisor in the County of Santa Barbara, I would do everything possible to support you in this effort. Please let me know if I can be of assistance.

Sincerely,

Mike Stoker
Fifth District Supervisor

Return to Contents

EL-0003

WILLY CHAMBERLIN
County Supervisor
Third District

JIM YOUNGSON
Executive Staff Assistant

TOM WIDROE
Executive Staff Assistant



1745 Mission Drive
Suite D
Solvang, CA 93463
Telephone (805) 686-5005
Santa Barbara Office
(805) 568-2192

SANTA BARBARA COUNTY

February 23, 1994

Dennis R. Gallien
Environmental Engineer
U.S. Army Space and Strategic Defense Command
ATTN: CCSD-EN-V
P.O. Box 1500
Huntsville, AL 35807-3801

RE: Hearing on Theater Missile Defense Extended Test Range
Draft Environmental Impact Statement

Dear Mr. Gallien:

1

I am writing in support of the selection of Vandenberg Air Force Base as a site for the proposed Theater Missile Defense Extended Test Range Program. I would like to commend you for inviting the residents of Santa Barbara County to provide comments and ask questions about the proposed program. I have received only positive public response, which I understand was also evidenced during the scoping hearings.

2

The selection of Vandenberg as a site for this program would greatly benefit the local economy, and I am certain that you would find cooperation from the relevant county departments. Your proposal to schedule launches so as not to conflict with popular annual events will be particularly appreciated by local businesses.

I concur with the DEIS findings that the selection of the Western Range site would not involve significant impact on the environment, and would take advantage of the infrastructure facilities already in place. Vandenberg clearly has the proven capacity to conduct the proposed launches, and is the most environmentally sound choice of the proposed sites.

3

I appreciate the opportunity to endorse Vandenberg as the site for the Theater Missile Defense Extended Test Range Program. If I can be of any assistance, please do not hesitate to contact me.

Sincerely,

Willy Chamberlin

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02-23-1994 16:42

FROM

EL-0004

California Commercial Spaceport, Inc.
3865 Constellation Road, Suite A
Vandenberg Village, California 93436
(805) 733-7370 / Facsimile (805) 733-7372

February 23, 1994

Dennis R. Gallien
Environmental Engineer
US Army Space and Strategic Defense Command
Attn: CCSD-EN-V
PO Box 1500
Hunstville, AL 35807-3801

Dear Mr. Gallien:

1

I concur with the Draft Environmental Impact Statement (DEIS) conclusion that use of the Western Range, at Vandenberg AFB, as a key component of testing and operations of the Theater Missile Defense (TMD) Extended Test Range program would have a less than significant impact on this area's environment.

The California Commercial Spaceport, Inc. (CCSI) is currently on contract to the Western Commercial Space Center, Inc. to develop, manage, and operate the California Commercial Spaceport at Vandenberg AFB. CCSI is absolutely convinced that excess capacity exists at Vandenberg to accommodate both the commercial spaceport and the TMD program.

CCSI has been working with the 30th Space Wing for this past year on the commercial spaceport project. Our corporation is impressed with the user friendly attitude of the 30th Space Wing. The people of the 30th Space Wing are dedicated to a customer-oriented way of doing business and committed to streamline processes to ensure all operations are handled in an efficient and effective manner. I am convinced that your program will find this same user-friendly atmosphere.

2

In addition to the user friendly approach, Vandenberg has a strong infrastructure modernization program in place which can only strengthen its support to military, civil and commercial users.

Return to Contents

EL-0004

CCSI is experiencing a more business-friendly atmosphere throughout the Santa Barbara County and the State of California. The public/private partnerships that CCSI have established with the United States Air Force, the County of Santa Barbara, and the State of California are essential to our success. I am pleased to report that these partnerships are working to create jobs and to aid in the State's economic recovery.

CCSI totally supports the TMD program at Vandenberg AFB.

Sincerely,

Orlando C. Severo, Jr.
President/CEO

Return to Contents

9.3
Written Comments

Return to Contents

MC-0001

DM002

1

Hello Mr Hasley,

I just received the DEIS on Theater Missile Defense Extended Test Range and from what I have read so far, very well prepared. One suggestion, could you please send a copy of Vol I+II to the

Santa Maria Public Library
Public Document Room 2nd Floor
420 South Broadway
Santa Maria CA 93454

Thank you very much.

Sincerely

Kenneth L. Wolf
Po Box 5673
Santa Maria Ca 93456
1805 922 4935 PM

MC-0002

DM007 2/8/94

To whomit may Concern:

1

Perhaps it's the graphics in this notice, however, it surely leaves a lot of questions to be answered.

* designates my home location.
(for ~ 10 miles)

Paul Bailey
1045 Foxenwood Dr
Santa Maria Ca
93455

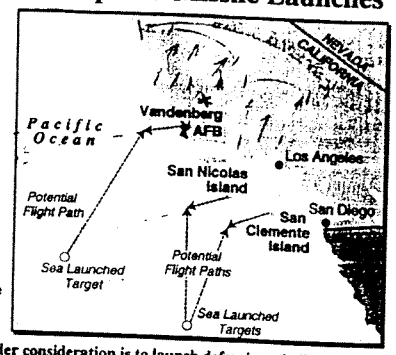
(805) 937-5113

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MC-0002

Invitation to Comment on Proposed Missile Launches

The U.S. Army Space and Strategic Defense Command will hold hearings to solicit comments from the public on the Draft Environmental Impact Statement (DEIS) for the proposed Theater Missile Defense Extended Test Range. The DEIS analyzes the potential environmental consequences of conducting missile program demonstration and operational test flights and target intercepts along proposed off-range missile flight path extensions at four alternative test range areas located within and outside the U.S. These tests would allow ground-based missiles and sensors being developed by the Department of Defense to be evaluated for their ability to detect and destroy hostile theater missiles. One of the alternatives under consideration is to launch defensive missiles from Vandenberg Air Force Base (AFB), San Nicolas Island, and San Clemente Island for flights and intercepts of sea-launched targets over the Pacific Ocean, as shown on the map. Also proposed are missile launches from Vandenberg AFB which would impact on San Clemente Island. Public hearings to receive comments on the DEIS are scheduled to be held in this region at the following locations and times:



Location	Date	Time	Meeting Facility
Oxnard, California	February 22	7:00 p.m.	Fianicial Plaza Hilton 600 Esplanade Drive
Lompoc, California	February 23	7:00 p.m.	Porto Finale Inn 940 East Ocean Ave.

Individuals wanting to comment orally may sign up at the hearing. Written comments may be brought to the hearing or sent to Mr. David Hasley, U.S. Army Space and Strategic Defense Command, CSSD-EN-V, P.O. Box 1500, Huntsville, AL 35807-3801, by March 28, 1994. To record requests for further information, call toll free 1-800-603-3030. Written and oral comments will be given the same consideration in preparing the Final EIS. 2/8/94

David M. Hasley
10475 Rosewood Dr. Santa Maria CA

MC-0003

DM008

2-8-94

SIR -

1

I ENCOURAGE YOU TO STOP DESTROYING OUR FISH HABITATS ON THE COAST OF CALIFORNIA. THE IMPACT ON OUR TRADITIONAL FISHING AREAS IS NOT NECESSARY. THE LOSS IS MORE THAN WE DIVER-FISHERMAN CAN BEAR, OUR LIVING DEPENDS ON YOUR DECISION.

THANK YOU

MIKE SOLAEGUI
PO BOX 580
CROSS BEACH CA
90638

Return to Contents

DM010

MC-0004

ARBOR MEDICAL GROUP

February 10, 1994

Mr. David Hasley
US Army Space & Strategic Defense Command
CSSD-EN-V, P.O. Box 1500
Huntsville, AL 35807-3801

Dear Mr. Hasley:

I, and many of my colleagues, fully support the use of Vandenberg Air Force Base for use by the U.S. Army as their Theater Missile Defense Extended Test Range. Vandenberg is located in a relatively isolated area along the central California coastline. The missiles would be fired to the west over an ocean range which can be kept clear of traffic during testing periods. Normally, scattered debris would not pose a problem and vital information could be retrieved without danger or inconvenience to others. 1 2

During this period of military closures and personnel cutbacks, this operation would generate additional revenue to the Central Coast. We, the residents of the Central Coast, have had an excellent relationship with both the U.S. Army and the U.S. Air Force since the early 1940's and we would expect this relationship to continue. Thank you for your consideration of this request, and I trust that you will give strong consideration to establishing your operations at Vandenberg Air Force Base. 3

Very truly yours,

Roger G. Bunch
Chief Operations Officer

1414 EAST MAIN STREET, SUITE 103 • SANTA MARIA, CALIFORNIA 93454 • 805/922/5027 • FAX 805/928/2067

DM 377

MC-0005

VICTOR J. MAGISTRALE
207 OAKLAWN AVENUE
SOUTH PASADENA, CALIFORNIA 91030 U.S.A.
(818) 799-2287

7 April 1994

Mr. David Hasley
P.O Box 1500
Huntsville, Al 35807-3801

Re: Comments On Proposed Missile Launches.

Dear Mr Hasley

Are you kidding? 1

There are 14 million or more people from Vandenberg A.F.B To San Diego.

All Southern California needs is To have a few of your missles go off Target. Pick an area where there is no urban development

Sincerely yours

Victor J Magistrale, Ph D.

Return to Contents

MC-0006

Dm033

A.J. DIANI CONSTRUCTION CO., INC.
CONTRACTORS · ENGINEERS

February 18, 1994

Mr. David Hasley
U. S. Army Space and Strategic Defense Command
CSSD-EN-V
P.O. Box 1500
Huntsville, AL 35807-3801

RE: U.S. Army Missile Light Test Program
Vandenberg Air Force Base, CA

Dear Mr. Hasley,

I will be unable to attend the public hearing on February 23, 1994 in Lompoc, California regarding the utilization of Vandenberg Air Force Base for the subject test program. However, I feel it necessary to express my full support of this effort and encourage you to choose Vandenberg. As you well know Vandenberg has a long history of supporting similar launch programs and is especially adept to meet the needs and requirements of this program. 1

In addition, the civilian communities have long supported Vandenberg's launch mission and we look forward to the opportunity to enhance the economic stability of our communities while supporting effective and responsible military defense missions. 2

Thank you for this opportunity to express my support for this program at Vandenberg Air Force Base.

Respectfully,

A. J. DIANI CONSTRUCTION CO., INC.

James A. Diani
President

JAD:clt

295 NORTH BLOSSER · P.O. BOX 636 · SANTA MARIA, CALIFORNIA 93454 · (805) 925-9533 · FAX (805) 922-9983

MC-0007

Dm034

Mr. David Hasley
US Army Space and Strategic Defense Command
CSSD-EN-V, PO Box 1500
Huntsville, AL. 35807-3801

21 February 1994

RE: Input for Environmental Impact Statement, US Missile Light Test Program considering Vandenberg AFB, Ca.

Dear Mr. Hasley:

I am writing in support of Vandenberg AFB as the site for the US Army Missile Test Program. 1

Vandenberg AFB provides excellent technical assistance, perfect geography and more than adequate infrastructure to bring your program off to a timely start and sustain your effort for the duration of the test program. 2

California as been hit very hard economically, and part of our plight is a result of military scale down. This has produced as excellent pool of talent for local hiring as well as offering technical support capability from other California corporations. 3

The moderate climate of this semi-arid region offers excellent working conditions with very little down time due to inclement weather. Between Lompoc, Santa Maria and other adjacent communities there is a large inventory of housing existing in a "buyer's market" vacuum. 4

Thousands of acres of vineyards, strawberrys, and many other row crops has provided a rural setting with excellent urban shopping and entertainment activity. California's Central Coast has long had the reputation of providing a setting which is pleasant for family activity and commercially dyanamic.

I trust that when all of the assets and liabilities are assessed, your evaluation team will come to the conclusion that Vandenberg AFB offers all of the major requirements for your program .

Kindest regards,

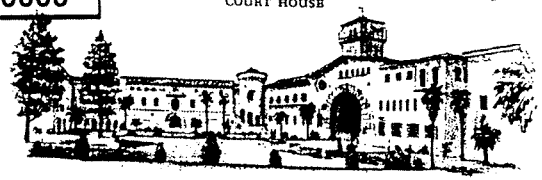
William C. Byrd
1013 E. Boone Street
Santa Maria, Ca. 93454
(805)928-8689

Return to Contents

MC-0008

DM037

MIKE STOKER
Supervisor Fifth District



511 East Lakeside Parkway, Suite 1-
Santa Maria, California 93455-134
(805) 346-8400

COUNTY OF SANTA BARBARA

February 22, 1994

Dennis R. Gallien
Environmental Engineer
U.S. Army Space and Strategic Defense Command
ATTN: CSSD-EN-V
P.O. Box 1500
Huntsville, Ala. 35807-3801

Re: Hearing on Theater Missile Defense Extended Test Range Draft Environmental Impact Statement

Dear Mr. Gallien:

1

I hope you will give favorable consideration to Vandenberg Air Force Base as a site to conduct 100 missile flight tests as part of the Theater Missile Defense Extended Test Range program.

2

As you know, Vandenberg has been the site of numerous missile tests and has the capability to support such ventures. The local community is also supportive of these activities and would welcome you with open arms.

As Fifth District Supervisor in the County of Santa Barbara, I would do everything possible to support you in this effort. Please let me know if I can be of assistance.

Sincerely,

Mike Stoker

Mike Stoker
Fifth District Supervisor

MC-0009

DM040

Feb 24, 1994

Dear David Hasley,

With Earth Quakes in Calif, has there 1
been any research of Safety done if one hits Vandenberg AFB? Lompoc Calif is mostly Welfare who have husbands in the FCI Prison, few houses, low wages, people Cannot afford the rent without Aid from Welfare. Any Base Causes the prices to shoot up, Creates homeless then. Vandenberg Causes Lompoc alot of hardship Since there alot of fixed incomes, all very low. Retired people Cannot work. There is only two roads with bridges in and out of these towns and base So people fear there no Escape route they are trapped along this Coast area. No way to get any help in or out. Florida needs jobs to be able to build after their hurricane, Utah and New Mexico have cheap rent prices. Much Safer and better to handle any 2
new growth. Lompoc Schools are already over Crowded, 70% welfare. Need housing with low rent bad. Vandenberg has not been very good at building their own housing and Schools for their workers. Rely to much on towns near by.

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MC-0009

People resent this very much, its already over Crowded. Theres question of health, polution, Water Shortage, Can't handle growth with no water to add new houses to Lompoc Valley. Very high taxes, Utilities, Rent, Food. Your adding a big burden on the tax payers. We feel Earth Quakes and after Shocks daily as it is, question missles will Cause a big Quake. We need our farm land bad, pure Air, Water, quite town life style, Elderly mostly or Small Children live in Lompoc. There has to be Safer States then CA. Less populated by both people and Animals, Wild life. What about the Islands? Desert areas? Weather is foggy, Windy, Seldom very nice here. We have fires, no water, Base had a huge fire and Killed people in the 70's. We need rain most the time for Safety of fires. Please do not bring Anything to Vandenberg Air Force Base till a Safety research is done on Earth Quakes, Fires, Water Shortage, housing on base for all, Schools are not over Crowded, new ones added. Medical help is Short on Staff too. FCI Prison has escapes, deaths, it

MC-0009

needs better Security, less deaths, Escapes, More Security added. Lompoc has alot of problems for a Small town. We have gangs, Drugs, Los Angeles drug dealers use Lompoc as a drop off Same as gangs moved here. Crime is up alot now. Lompoc has kept jobs out and all growth, wants to be for retired, Elderly, Small town, Vandenberg has not built up near its base at all. toward Santa Maria the village, Casmallia, Orcutt area. I believe this is because of no water, high taxes and prices, people don't want the growth at all. The prison being Such a problem to the Community. Housing Shortages, no Schools. I feel Utah, New Mexico, Florida are alot better prepared to handle growth. Less gangs, Drugs, Riots, Crime as a whole to deal with. No Earth Quakes, daily after Shocks. Less fires, bad weather. Im need of jobs more. Lower taxes and prices. State Laws on wild life, taxes, rules, building Codes are not as Strict as Calif. Less population in their States. not a tourist or movie Star area Like Solvang, San Ynez.

Return to Contents

MC-0009

4

Santa Barbara, Pismo beach are for movie Stars, tourist, Resort areas. Heavy populated year round. freeways 7
Roads are full of traffic problems.
Farm land provides needed fruits, 8
Vegetables, must be protected too.
Beaches are needed. Please do not
Choose Calif. etc like choosing a
resort area, tourist towns., Hawaii.
What about Alaska? Oregon? State of
Washington? Northern Calif is alot
less populated area. Nevada Desert?
Texas has alot of open areas too. 9
Create jobs where prices are cheap.
Young need jobs, States need you.
Calif does not need jobs in Lompoc
area, movie Stars come for peace
and quite, ranches, Farm land.
no traffic, all retired, Elderly.
We do not want to be Los Angeles,
or Houston Tx. or Miami Fl.
Vandenberg has not built housing
on base to handle the people
already here. Stores on base or
within 5 miles of the base. Let
them do this first. build more
roads to handle traffic 1st. more
water is needed 1st. Please look into
all this very Carefully.

DM044

MC-0010

LAHR ELECTRIC MOTORS, INC.
SALES AND SERVICE
MOTORS · GENERATORS · POWER TOOLS
119 W. MILL
SANTA MARIA, CALIF. 93454

February 22, 1994

Mr. DAvid Hasely
U.S. Army Space and Strategic
Defense Command
CSSD-EN-V, P.O. Box 1500
Huntsville, Alabama 35807-3801

Dear Sir,

This letter is to encourage you to find a minimal environmental effect from the proposed project at Vandenberg Air Force Base, California. 1

This location has been used for military purposes for over fifty years and for missile firing for most of that time. Therefore any environmental effects have occurred well into the past.

The mitigating circumstances are many and include among others:

1. A beneficial effect on local economy which has been seriously impacted by defense cutbacks. 2
2. Aid in maintaining a base for future missile defense systems if needed in a time of national emergency. 3
3. Provide jobs to missile trained civilians, a highly skilled but narrow market occupation. 4
4. Provide a safety factor by using an existing, well understood missile range. 5

Although I am unable to attend your hearing in Lompoc on February 23rd I hope that you will include this letter as testimony.

Sincerely,

LAHR ELECTRIC MOTORS, INC.

Don Lahr

Donald E. Lahr
CEO

DEL/dl

Return to Contents

MC-0011

Dm046

California Commercial Spaceport, Inc.
3865 Constellation Road, Suite A
Vandenberg Village, California 93436
(805) 733-7370 / Facsimile (805) 733-7372

February 23, 1994

Dennis R. Gallien
Environmental Engineer
US Army Space and Strategic Defense Command
Attn: CCSD-EN-V
PO Box 1500
Hunstville, AL 35807-3801

Dear Mr. Gallien:

I concur with the Draft Environmental Impact Statement (DEIS) conclusion that use of the Western Range, at Vandenberg AFB, as a key component of testing and operations of the Theater Missile Defense (TMD) Extended Test Range program would have a less than significant impact on this area's environment. 1

The California Commercial Spaceport, Inc. (CCSI) is currently on contract to the Western Commercial Space Center, Inc. to develop, manage, and operate the California Commercial Spaceport at Vandenberg AFB. CCSI is absolutely convinced that excess capacity exists at Vandenberg to accommodate both the commercial spaceport and the TMD program.

CCSI has been working with the 30th Space Wing for this past year on the commercial spaceport project. Our corporation is impressed with the user friendly attitude of the 30th Space Wing. The people of the 30th Space Wing are dedicated to a customer-oriented way of doing business and committed to streamline processes to ensure all operations are handled in an efficient and effective manner. I am convinced that your program will find this same user-friendly atmosphere.

In addition to the user friendly approach, Vandenberg has a strong infrastructure modernization program in place which can only strengthen its support to military, civil and commercial users. 2

MC-0011

CCSI is experiencing a more business-friendly atmosphere throughout the Santa Barbara County and the State of California. The public/private partnerships that CCSI have established with the United States Air Force, the County of Santa Barbara, and the State of California are essential to our success. I am pleased to report that these partnerships are working to create jobs and to aid in the State's economic recovery.

CCSI totally supports the TMD program at Vandenberg AFB.

Sincerely,

Orlando C. Severo, Jr.
President/CEO

Return to Contents

DM047

MC-0012

CHARLES E. SCHERMERHORN
821 Calvert Avenue, Lompoc, CA 93436

February 24, 1994

Mr. David Hasley
U.S. Army S&SD Command
ATTN: CCSD-EN-V
P.O. Box 1500
Huntsville, AL 35807-3801

Dear Mr. Hasley:

As I told Major Thomas McWhorter at last night's public hearing in Lompoc, the majority of speakers from the audience made up the "choir," and that he should not regard the small number of speakers from the "congregation" as an index of local concern about the proposed TMD project here. 1

Most of the people I know quite frankly have little confidence in anything the military says about its projects, or the government either, for that matter, when it comes to issues about the environment or public safety in a project like this one. 2

The government and the military have abysmal records of truthfulness about the safety, precision, oversight, and effectiveness of their technical projects since as far back as the Manhattan Project. 3

Secrecy, exaggeration, deceit and hyperbole have been the rule in the scores of nuclear contamination and fallout cases, first denied, now acknowledged, from Jackass Flats, mysterious mass sheep-flock deaths in Idaho, the Marshall Islands H-bomb explosion, the Hanford, Washington processing site, to the Vietnam agent orange victims, the secret nuclear tests on civilians and VA hospital patients, the Challenger launch, the exaggerated Patriot missile intercepts in Kuwait, the Reagan/Teller SDI project (of which the TMD is seen as a by-product,) to cite only a few.

That factor aside, I doubt that more than a handful of the dozen or so speakers supporting TMD last night had looked at the EIS. Politicians, chambers of commerce, ex-space, defense, and veterans types, trade and business groups, fully aware of the deep-pockets potential of anything that smacks of military spending, almost stumbled over each other to assure your staff of "the community's whole-hearted support" of the project. One or two addressed "the vital maintenance of the nation's defense" which TMD will allegedly enhance. I also doubt that more than one or two really understood either the scientific, engineering or tactical/strategic ramifications of either the hardware or the system design, in what situations it would be used, or how. 4

Their blandishments not withstanding, most were mainly anxious to enhance the local economy, or appear to favor something that might, during this time of fiscal constraint. Precisely the same phenomenon occurred a couple of years ago when a similar group appeared to propose moving the EMO unit to Vandenberg from near San Bernardino, providing almost precisely the same kinds of explanations and promises. 5

From the descriptions given last night, these are very short-range instruments - less than 100 mile range. The prospects of a battle or defense situation, short of the Kuwait format which had a defined battle-line and a known missile type, (which are rare strategic situations in this day and age,) the military applicability, usefulness and timely readiness of such a system presents itself as highly questionable.

MC-0012

To announce that "we, on the Central Coast" (the area from Paso Robles to Ventura) welcome and appreciate the military presence is to leave the statement incomplete. Its full context should read, "We, on the Central Coast welcome and appreciate the military presence for the civilian jobs they provide, the houses, cars, and services they buy, the shops they patronize, the taxes they pay, the students from whom our local schools gain extra benefit, for the excellent roads it helps maintain, and for the annual entertainment of an air-show or two."

I can assure you that no one who lives on the west end of Lompoc will praise the Base on those days when out of town tankers, bombers and fighters are on their approaches for touchdown practice on the Vandenberg airstrip for days at a time. Nor will the citizens of Casmalia and the rest of us, whose easy access to beautiful Point Sal beach is restricted, requiring a thirty-mile detour and decent to the beach via a hazardous cliff route.

Not many of us will appreciate the promises of technical operational excellence when, during the past three years, we have seen at least several missile aborts, two of which contaminated or set fire to significant land areas on or near the base, and watched a recent Titan IV blow up barely a minute after launch in a spectacular multi-billion catastrophe because the prime contractor used second hand solid-fuel boosters, or realize the level of administrative oversight which permitted the much-touted space telescope to be launched with useless mirrors. 6

Forgetting the U.S. Army tank corps which tore up tens of thousands of acres of European farm land while conducting maneuvers over thirty years, there is no such thing as a military project which is environmentally benign.

The California Central Coast is the location of a multiplicity of defined, environmentally sensitive animal, vegetable, mineral and archaeological components. The people here have learned, from the incidents in the northwest timber industry as well as from the oil-spill disaster both here and in Alaska, to be vigilant in protecting those components from military, industrial or residential usage or development.

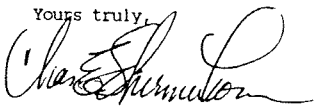
Unfortunately, there is a large and powerful lobby, made up of agri-business, construction trades, real estate, ex-military interests and conservative politicians, (locally represented by the Coalition of Labor, Agriculture and Business, COLAB,) which seeks to out maneuver those environmentalists who would preserve, protect and stand watch over what remains of this fragile environment. 7

That being the case, those, on whose behalf I write here, have no confidence in the EIS for the TMD as developed, but fully expect the "choir" and COLAB to continue beating a path to the door of the military for any shred of economic contribution it might promise to provide to the community.

In short, "old soldier" speakers aside, it was greed for the political and economic benefits, not understanding, appreciation or approval for the systems which drew the favorable comments for TMD last night.

I will urge the elimination of the Western Range sites in the project.

Yours truly,



cc: Sens. Feinstein & Boxer, Rep. Huffington, Mayor Howerton, Supv. Staffel, Councilman Urbanski, Gov. Pete Wilson, Pres. Clinton, Lompoc C of C.

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DM052

MC-0013

Naval Air Warfare Center,
Weapons Division
P.O. Box 42154
Point Mugu, CA 93044

Feb. 24, 1994

Mr. David Hasley
U.S. Army Space & Strategic
Defense Command
ATTN: CSSD-EN-V
P.O. Box 1500
Huntsville, AL 35807-3801

Gentlemen:

I just read in the Los Angeles Times about an Army plan to test tactical missiles at NAWCWPNS Point Mugu, California. I am a Civil Service employee working at NAWCWPNS Point Mugu and I would like to take this opportunity to make a public comment of my own about the planned testing. I am making these comments, not just as an employee of NAWCWPNS, but as a resident and voter residing in Ventura County near the base.

Not only am I an employee of NAWCWPNS Point Mugu, but I am in the very department which conducts most of the testing; the Range Operations Dept. I am a GS-12 Electronics Engineer with 25 years of Federal service, including nearly 10 years at Point Mugu. I am therefore in a good position to give an opinion on the subject of our capabilities and concerns. 1

To our 'brothers and sisters' in the Army, I say this: COME ON OUT HERE! You cannot find a better or more capabable base anywhere in the Western U.S. to test your missiles. Testing missiles has been our livelihood here since the base was first established in the late 1940's. There are NO missiles made which we cannot test on our Range, in conjunction with the nearby Vandenberg Air Force Base. We can handle ANY tactical missile you can put on a launcher and Vandenberg, our neighbor, can handle any strategic missile. 2

We have more radar coverage, tracking and search types, than anyone on the West Coast. We also have more communications and telemetry capability than anyone outside of NASA. We can track missiles accurately on our 36,000 square miles of Sea Test Range or all the way to Kwajelon Atoll, utilizing our facilities and those at Vandenberg. We can also collect any type of data and as much as you need, in virtually any format, during each missile flight. Our only limitations are those imposed by the current budget crunch. Personnel-wise and facility-wise, we have few limitations. We also have, within our Range Operations Department, the best 'CAN DO' attitude you have ever seen, along with some very skilled and capable Test and Operations Conductors. 3

I cannot speak for the environmentalists, except as a citizen and a voter in this area. I do know enough about missiles to understand that the air pollution they produce, during launch, is virtually nill when compared to what we get on the freeways around Los Angeles (50 miles from here).

MC-0013

We have launched HUNDREDS of missiles in the past, from our mainland launchers and those on San Nicholas Island, without disturbing the birds, sea lions, dolphins, whales or nearby human residents. I see no reason why your missiles should cause any greater disturbance than any of the others we have launched in the past. 4

In closing, I will say again what I said at the beginning; COME ON OUT HERE. Bring some funds with you, because we are a little short right now.

Thank you for this opportunity to enter my comments into the record, during this public comments collection period. These comments are my own personal comments and are not officially approved by the base.

Very respectfully,

John R. Jay

JOHN R. JAY

(805) 989-4897 (WORK)
(805) 985-0273 (HOME)

Return to Contents

MC-0014

DM088

Written Comment Sheet

Theater Missile Defense Extended Test Range
Environmental Impact Statement
Public Hearing

Thank you for attending this Public Hearing. Please use this sheet to give us your written comments on the development of the Theater Missile Defense Extended Test Range Draft Environmental Impact Statement.

1 The statement was made that launches from V.A.F.B. would not be made during the nesting period of the Least Tern & the closure period on V.A.F.B. for Least Tern nesting starts April 15 & ends for 6 months. Were you aware of this?

2 Conflicting statements were made as to if the mitigation Properties (Hazard Zone ?) would be affected. One person said yes at times and another said absolutely not. Please clarify this.

Your Name Marian Benhart

Address 1328 West Roquat Lompoc Ca. 93436
Street City / State / Zip Code

Please hand this form in or mail to:
David Hasley
U.S. Army Space and Strategic Defense Command
ATTN: CSSD-EN-V
P.O. Box 1500
Huntsville, AL 35807-3801
Comments must be received by March 28, 1994

MC-0015

DM056

Written Comment Sheet

Theater Missile Defense Extended Test Range
Environmental Impact Statement
Public Hearing

Thank you for attending this Public Hearing. Please use this sheet to give us your written comments on the development of the Theater Missile Defense Extended Test Range Draft Environmental Impact Statement.

My main concerns about the T.M.D. project are.

1 I don't like the idea of missiles coming in close to where I myself and family live. What happens if an incoming missile gets through ??

2 You want to evacuate all the public beaches from Point Sal to Jalama and sea and air hazard zones. We don't want any more control of Lompoc by Vandenberg Air Force Base. I am a fourth generation to live in Lompoc and like most V.A.F.B. move in and take over & proposing we to many hazards.

Your Name Ed Benhart

Address 1328 West Roquat Lompoc Ca. 93436
Street City / State / Zip Code

Please hand this form in or mail to:
David Hasley
U.S. Army Space and Strategic Defense Command
ATTN: CSSD-EN-V
P.O. Box 1500
Huntsville, AL 35807-3801
Comments must be received by March 28, 1994

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MC-0016

March 1, 1994

U.S. Army Space And Strategic Defense
Attn: CSSD-EN-V
P.O. Box 1500
Huntsville, AL, 35807-3801

Mr. David Hasley:

1

Recent defense budget cuts have caused reduced testing at a cost of jobs at Point Mugu. The Patriot missile testing program proposed by the Army would bring in millions of dollars and would save and create jobs in Ventura County.

2

As far as testing at another range, no other range has the instrumentation facilities to match this one.

Missiles have been tested on this range since 1946 and the area has remained "one of the most pristine habitats in the world" to quote Mr. Allen Godley of The Earth Island Institute.

Concerned Employees Of NAWC, Pt. Mugu:

Gary I. Reid

Jeff Stratas

John L. Hanger

DM062

MC-0017

CITY OF LOMPOC
VALLEY OF FLOWERS

February 28, 1994

Mr. David Hasley
U.S. Army Space and Strategic
Defense Command
Attn: CSSD-EN-V
P. O. Box 1500
Huntsville, AL 35807-3801

Dear Mr. Hasley:

Enclosed, for your information, is letter read at the February 23, 1994 Public Hearing for the Theater Missile Defense (TMD) Extended Test Range Draft Environmental Impact Statement (EIS).

Sincerely,

Arleen Pelster
Administrative Assistant

CITY HALL, 100 CIVIC CENTER PLAZA, P.O. BOX 8001, LOMPOC, CA 93438-8001
(805) 736-1261; FAX: (805) 736-5347

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MC-0017

CITY OF LOMPOC

VALLEY OF FLOWERS

MAYOR
Joyce Howerton

CITY COUNCILMEMBERS
Mary Leach, William Mullins,
Michael Siminski, George Stillman

CITY ADMINISTRATOR
Frank L. Priore

February 15, 1994

The Honorable Barbara Boxer
112 Hart Senate Office Bldg.
Washington, D.C. 20510

Dear Ms. Boxer:

Re: Theater Missile Defense Extended Test Range Proposal

1

I am writing to express the City of Lompoc's support for location of the proposed U.S. Army's Theater Missile Defense Extended Test Range at the Vandenberg Air Force Base Western Range. The Draft Environmental Impact Statement reports the project includes approximately 100 flight tests which could occur during the period 1994 to 2000.

As you are aware, Vandenberg Air Force Base has provided an excellent testing facility and has the necessary resources for the nation's missile systems. Increased activity at Vandenberg has the additional benefit of contributing to the local economy.

2

Your continued support of programs which will promote an economic benefit for Vandenberg Air Force Base and California is sincerely appreciated.

Sincerely,

F.L. Priore

Frank L. Priore
City Administrator

c: Lompoc City Council
Senator Feinstein and Congressman Huffington

CITY HALL, 100 CIVIC CENTER PLAZA, P.O. BOX 8001, LOMPOC, CA 93438-8001
(805) 736-1261; FAX: (805) 736-5347

MC-0018

DM067

the CHAMBER
LOMPOC VALLEY CHAMBER OF COMMERCE

March 1, 1994

Mr. David Hasley
U.S. Army Space Command and
Strategic Defense Command
CSSD-EN-V
Post Office Box 1500
Huntsville, AL 35807-3801

Dear Mr. Hasley,

1

The Lompoc Valley Chamber of Commerce supports the selection of Vandenberg Air Force Base as the site for the U.S. Army Theater Missile Defense flight test program.

The Chamber and the City of Lompoc have enjoyed a long and mutually beneficial relationship with Vandenberg and routinely join forces on business and community activities. We point with pride to the partnership which has endured over many decades.

2

In addition to the existing infastructure and test range management capabilities at Vandenberg, the base is well known for its safe and environmentally acceptable operations. In fact, this base has operated a missile test facility for many years without significant negative environmental impacts.

It is the Chamber's opinion that the addition of this U.S. Army program would be widely accepted by our members. The jobs the project would create will provide a needed boost to the local economy.

3

On 21 April 1993 the Chamber transmitted a letter to you indicating our support for this program. We also provided testimony at the first scoping hearing urging you to favorably consider Vandenberg for the site of this test program. On 23 February 1994 the Chamber demonstrated its continuing support by providing testimony at another scoping hearing.

Sincerely,

Robert P. Hatch
Executive Vice President

RPH/cmt

w/s/hasley.ltr

P.O. Box 626 • Lompoc, CA 93438-0626 • 805/736-4567 • FAX 805/737-0453 • Valley of the Flowers

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MC-0019

Dm074

1142 Norwood Court
Ventura, CA 93004

March 5, 1994

David Halsey
PO Box 1500
Huntsville, AL 35807

Dear Mr. Halsey:

I am writing this letter to you to implore you to stop the testing that is planned by both the U.S. Navy and the U.S. Army in and near Ventura County California. 1

The Navy will be testing near San Nicolas Island off the coast of Ventura County by detonating 10,000 pounds of explosives for some sort of test and our concern should be for the marine life in our oceans and for the migrating of the gray whales.

The Army plans to launch Patriot and other defense missiles off the coast of Ventura County.

I feel we as humans have devastated our Planet to the point where every thought should be directed toward healing and not more exploding. I beg you to help us heal our beloved Mother Earth and put a stop to this planned testing.

Sincerely yours,

Barbara J. Wilson

Barbara J. Wilson

(805) 659-4994

MC-0020

Dm119

Dear Officer Halsey-

I am NOT in favor of using the Channel Isands as a weapon testing area. The proximity to population centers as well as natural habitats makes this test site UNREASONABLE. 1

Perhaps it is time to refrain from further harm to this planet- especially when destruction is the only outcome of your actions.

Judee Hauer
1735 Monita Dr
Ventura, CA 93001

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MC-0021

DM129

Santa Maria Valley
Chamber of Commerce

614 S. Broadway
Santa Maria, CA 93454
805/925-2403

March 3, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
ATTN: CSSD-EN-V
P.O. Box 1500
Huntsville, Alabama 35807-3801

Dear Mr. Hasley:

We would like to thank you for the series of hearings in our region regarding the Theater Missile Defense Extended Test Range Draft Environmental Impact Statement. We feel the hearings allowed our communities to provide considerable input during the review process. 1

Our Chamber endorses the proposal to conduct the missile test flights from Vandenberg Air Force Base. We have long supported the diversification of the uses at Vandenberg through launches such as this and commercial space industry. Such activity will certainly have spin-off economic benefits for the Santa Maria Valley and neighboring communities. 2

We commend your comprehensive review of the social, economic and environmental issues surrounding this project. Feel free to contact me if we can provide further testimony or information on the suitability of the California Central Coast for the launch tests.

Sincerely,

Mike Warren

Mike Warren
President

MC-0022

DM 343

CITY OF LOMPOC
VALLEY OF FLOWERS

MAYOR
Joyce Howerton

CITY COUNCILMEMBERS
Mary Leach, William Mullins,
Michael Siminski, George Stillman

CITY ADMINISTRATOR
Frank L. Priore

April 21, 1994

Mr. David Hasley
U.S. Army Space and Strategic
Defense Command
Attn: CSSD-EN-V
P. O. Box 1500
Huntsville, AL 35807-3801

Dear Mr. Hasley:

We would like to express our support for selection of Vandenberg Air Force Base (VAFB) as the site for the U.S. Army Theater Missile Defense (TMD) flight test program. 1

We feel VAFB is the best site for this program based on the following existing conditions. The City of Lompoc has a history of excellent relations with VAFB regarding business and community activities. VAFB has existing infrastructure and test range management capability to support the U.S. Army program. This base has operated as a missile test facility for many years without negative environmental impacts. The addition of this program to VAFB activities would be routinely accepted by the community. VAFB also has a history of safe and environmentally acceptable operations. 2 3 4 5

The City considers VAFB to be a long term partner of our community. The addition of this U.S. Army program to VAFB may benefit our community by stimulating jobs locally. 6

Please support selection of Vandenberg Air Force Base as the site for this program.

Sincerely,

Joyce Howerton, Mayor

Mary Leach, Councilmember

William Mullins, Councilmember

Mike Siminski, Councilmember

George Stillman, Councilmember

CITY HALL, 100 CIVIC CENTER PLAZA, P.O. BOX 8001, LOMPOC, CA 93438-8001
(805) 736-1261; FAX: (805) 736-5347

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DM145 — 3-6-94

MC-0023

DAVID HALSEY-

Re PROPOSED MISSILE TESTING OFF THE VENTURA Co, CA, COAST.

I'VE READ THAT THE AREA WILL BE CHECKED FIRST TO MAKE CERTAIN THERE ARE NO WHALES, ETC IN THE VICINITY. GOOD START, BUT I SUGGEST DOING SOMETHING TO SCARE THEM & OTHER ANIMALS PRIOR TO GOING DAY'S TESTING. PERHAPS USE HYDROPHONES TO BROADCAST LOCAL MAMMALS' ALARM/WARNING SIGNALS. I ALSO WOULD YOU TO SEARCH OUT THE AREAS LEAST POPULATED BY BOTTOM-LIFE, AS WELL. 1

AND PUBLICIZE YOUR EFFORTS. 2

I DO SUPPORT TESTING; WE NEED TO BE PREPARED TO DEFEND OUR COUNTRY.

Kathy Silver

KATHY SILVER

333 CAMINO CT.
CHANNEL ISLANDS
BEACH CA 93035-4428





DAVID HALSEY
U.S. ARMY SPACE & STRATEGIC DEFENSE
ATTN: CSSD-EN-V
PO BOX 1500
HUNTSVILLE AL 35807-3801

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DM147

MC-0024

March 4, 1994

Mr. David Hasley
U.S. Army, Space and Strategic Defense Command
ATTN: CSSD-EN-V
P.O. Box 1500
Huntsville, Ala. 35807-3801

Dear Mr. Hasley: 1

As a concerned citizen, I want it to be known that I disapprove of the Army's proposal to use the waters off of Ventura County to conduct test launchings of Patriot and other defensive missiles.

I am concerned about the condition our environment is left in after these kinds of tests take place. I am also very concerned about the effect these tests will have on the marine life that live in our waters, and the effect on migrating habits of whales. 2

As a citizen of the area the Army hopes to test in, I hope my opinion will be considered. My hope is that the testing does not take place in any manner that involves using the environment as the testing ground. If it is determined that the tests cannot effectively take place in a controlled laboratory environment then PLEASE, do not do the testing any where near any of the Islands.

In an age when more people are finally becoming concerned about what we have done to our planet, please do not make the mistake of allowing further damage to be done.

Thank you for your time, and **PLEASE SHOW YOUR SUPPORT**.

Very Sincerely,

Koleen Sargent-Murray
SIGNATURE

Koleen Sargent-Murray
PRINT NAME

1337 Poli St.
PRINT STREET ADDRESS

Ventura, CA 93001
PRINT CITY, STATE, ZIP CODE

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MC-0025

Dm 148

March 4, 1994

Mr. David Hasley
U.S. Army, Space and Strategic Defense Command
ATTN: CSSD-EN-V
P.O. Box 1500
Huntsville, Ala. 35807-3801

Dear Mr. Hasley:

1

As a concerned citizen, I want it to be known that I disapprove of the Army's proposal to use the waters off of Ventura County to conduct test launchings of Patriot and other defensive missiles.

2

I am concerned about the condition our environment is left in after these kinds of tests take place. I am also very concerned about the effect these tests will have on the marine life that live in our waters, and the effect on migrating habits of whales.

As a citizen of the area the Army hopes to test in, I hope my opinion will be considered. My hope is that the testing does not take place in any manner that involves using the environment as the testing ground. If it is determined that the tests cannot effectively take place in a controlled laboratory environment then PLEASE, do not do the testing any where near any of the Islands.

In an age when more people are finally becoming concerned about what we have done to our planet, please do not make the mistake of allowing further damage to be done.

Thank you for your time, and **PLEASE SHOW YOUR SUPPORT**.

Very Sincerely,

James Cano
SIGNATURE

James Cano
PRINT NAME

2444 Alvarado st Ap # A7
PRINT STREET ADDRESS

Oxnard CA 93030
PRINT CITY, STATE, ZIP CODE

Dm 149

MC-0026

March 4, 1994

Mr. David Hasley
U.S. Army, Space and Strategic Defense Command
ATTN: CSSD-EN-V
P.O. Box 1500
Huntsville, Ala. 35807-3801

Dear Mr. Hasley:

1

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2

I am concerned about the condition our environment is left in after these kinds of tests take place. I am also very concerned about the effect these tests will have on the marine life that live in our waters, and the effect on migrating habits of whales.

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In an age when more people are finally becoming concerned about what we have done to our planet, please do not make the mistake of allowing further damage to be done.

Thank you for your time, and **PLEASE SHOW YOUR SUPPORT**.

Very Sincerely,

Thomas D Murray
SIGNATURE

THOMAS D. MURRAY
PRINT NAME

1337 Poli St.
PRINT STREET ADDRESS

Ventura, CA 93001
PRINT CITY, STATE, ZIP CODE

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DM150

MC-0027

March 4, 1994

Mr. David Hasley
U.S. Army, Space and Strategic Defense Command
ATTN: CSSD-EN-V
P.O. Box 1500
Huntsville, Ala. 35807-3801

Dear Mr. Hasley:

As a concerned citizen, I want it to be known that I disapprove of the Army's proposal to use the waters off of Ventura County to conduct test launchings of Patriot and other defensive missiles. 1

I am concerned about the condition our environment is left in after these kinds of tests take place. I am also very concerned about the effect these tests will have on the marine life that live in our waters, and the effect on migrating habits of whales. 2

As a citizen of the area the Army hopes to test in, I hope my opinion will be considered. My hope is that the testing does not take place in any manner that involves using the environment as the testing ground. If it is determined that the tests cannot effectively take place in a controlled laboratory environment then PLEASE, do not do the testing any where near any of the Islands.

In an age when more people are finally becoming concerned about what we have done to our planet, please do not make the mistake of allowing further damage to be done.

Thank you for your time, and **PLEASE SHOW YOUR SUPPORT**.

Very Sincerely,

Mary K. Sargent
SIGNATURE

Mary K. Sargent
PRINT NAME

211 Louisiana Pl.
PRINT STREET ADDRESS

Oxnard Ca. 93030-1210
PRINT CITY, STATE, ZIP CODE

DM157

MC-0028

March 4, 1994

Mr. David Hasley
U.S. Army, Space and Strategic Defense Command
ATTN: CSSD-EN-V
P.O. Box 1500
Huntsville, Ala. 35807-3801

Dear Mr. Hasley:

As a concerned citizen, I want it to be known that I disapprove of the Army's proposal to use the waters off of Ventura County to conduct test launchings of Patriot and other defensive missiles. 1

I am concerned about the condition our environment is left in after these kinds of tests take place. I am also very concerned about the effect these tests will have on the marine life that live in our waters, and the effect on migrating habits of whales. 2

As a citizen of the area the Army hopes to test in, I hope my opinion will be considered. My hope is that the testing does not take place in any manner that involves using the environment as the testing ground. If it is determined that the tests cannot effectively take place in a controlled laboratory environment then PLEASE, do not do the testing any where near any of the Islands.

In an age when more people are finally becoming concerned about what we have done to our planet, please do not make the mistake of allowing further damage to be done.

Thank you for your time, and **PLEASE SHOW YOUR SUPPORT**.

Very Sincerely,

Brian Sargent
SIGNATURE

BRIAN SARGENT
PRINT NAME

211 LOUISIANA PL.
PRINT STREET ADDRESS

OXNARD, CA 93030
PRINT CITY, STATE, ZIP CODE

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DM152

MC-0029

March 4, 1994

Mr. David Hasley
U.S. Army, Space and Strategic Defense Command
ATTN: CSSD-EN-V
P.O. Box 1500
Huntsville, Ala. 35807-3801

Dear Mr. Hasley:

1

As a concerned citizen, I want it to be known that I disapprove of the Army's proposal to use the waters off of Ventura County to conduct test launchings of Patriot and other defensive missiles.

2

I am concerned about the condition our environment is left in after these kinds of tests take place. I am also very concerned about the effect these tests will have on the marine life that live in our waters, and the effect on migrating habits of whales.

As a citizen of the area the Army hopes to test in, I hope my opinion will be considered. My hope is that the testing does not take place in any manner that involves using the environment as the testing ground. If it is determined that the tests cannot effectively take place in a controlled laboratory environment then PLEASE, do not do the testing any where near any of the Islands.

In an age when more people are finally becoming concerned about what we have done to our planet, please do not make the mistake of allowing further damage to be done.

Thank you for your time, and **PLEASE SHOW YOUR SUPPORT**.

Very Sincerely,

Karen M Sargent
SIGNATURE

Karen M. Sargent
PRINT NAME

51 Geneive St.
PRINT STREET ADDRESS

Camarillo CA 93010
PRINT CITY, STATE, ZIP CODE

DM161

MC-0030

3/6

Editor. Star-Free Press

In response to Kolleen Sargent-Murray's letter regarding "Damage at Sea".

My husband and I spend alot of our spare time at Mugu Rock enjoying the ocean, but mostly enjoying the Sea life there. We agree that it would be a terrible injustice to the marine life for anyone including the Army and Navy to do any kind of testing anywhere in the ocean, and we DO NOT APPROVE.

1

How often do you get to see Sea Otters playing in the surf? Or Dolphins slowly cruising by? Not to mention the graceful Grey Whales as they head South, we see them all and love every minute of it. We would also like our Grandson and future grandchildren to be able to fall in love with our Marine life as we know. But it doesn't look to promising.

Haven't we done enough damage to the Earth?

Mr. & Mrs. Matlock Marcus & Family
Camarillo

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MC-0030

Damage at sea

Editor, Star-Free Press:

All my life I have been a resident of Ventura. From my home I can see the beautiful view of the Ventura Pier and Anacapa Island. I cannot imagine how different my life would be if I did not have the beauty of the ocean to nurture me with. I also cannot imagine any person or any organization doing anything to damage the ocean.

My reason for writing is not simply [illegible] how much I appreciate the [illegible] my home, but to ask you and your readers for your help. I ask all of you to reflect on your individual feelings about the ocean, most importantly, your feelings about the condition of the ocean. What would you be willing to do if you heard that the ocean was being brutally damaged? Would you be willing to do as little as write a letter?

My present concern is the testing that the Navy will be doing in the waters near San Nicolas Island, and the testing that the Army is considering doing. The Navy is going to detonate 10,000 pounds of explosives to test the hulls and electronic systems of ships. The Army wants to test launch Patriot and other defensive missiles off the coast of Ventura County. I am very concerned about the effect these tests will have on the marine life in our waters, and the effect on the migrating gray whales.

I encourage you to provide your readers with more information about these tests. I have been talking to a lot of people about this issue, and have found that most of them were not aware that the testing was going to happen. I think this fact is very sad. We, as citizens, need to be more aware of our surroundings, and we need to react when we see an injustice being done. I feel this testing is an injustice!

In an age when more people are finally becoming concerned about what we have done to our planet, let's take it upon ourselves to make changes happen. Write to our representatives and tell them that you do not approve of this kind of testing. Even if you do approve of the testing, do you approve of it taking place near one of the islands? There isn't much time left to stop the Navy's testing. There is hope though. environmental groups are hard at work trying to stop the testing. Responses from private citizens would also be very helpful. If we flood Washington, D.C. and our senators' offices with letters of disapproval, this matter can only be harder to ignore.

Regarding the Army's proposed missile launchings, comments are being accepted from the public through March 28. Written comments and questions may be forwarded to David Hasley, of the U.S. Army Space and Strategic Defense Command, ATTN: CSSD-EN-V, P.O. Box 1500, Huntsville, Ala., 35807-3801.

KOLEEN SARGENT-MURRAY.
Ventura

MC-0031

Stewards of Sustainable Urban Forests for Santa Barbara County

Santa Barbara County ReLEAF

P.O. Box 301
Lompoc, CA 93438
(805) 736-TREE

March 10, 1994

David Hasley
U.S. Army Space & Strategic Defense Command
ATTN: CSSD-EN-V
P.O. Box 1500
Huntsville, AL 35807-3801

CERTIFIED-RETURN RECEIPT REQUESTED

Dear Mr. Hasley,

Thank you for allowing me to comment on the Theater Missile Defense Extended Test Range Environmental Impact Statement. These are my comments:

1 * Please provide **evidence** of studies done on the effects to migrating mammals.

2 * Please provide **evidence** of studies for fire safety.

3 * Please provide **evidence** of mitigation implementation in the event of a "take".

4 * Please provide **evidence** of mitigation monitoring for endangered species.

5 * Please correct Table G-13-VII,-E **Endangered Species** status.

I'll await your response and thank you for validating my concerns.

Sincerely,

Cindy McCall

Cindy McCall
Founder
Santa Barbara County Releaf

Return to Contents

DM169

MC-0032

UNITED DIVERS OF SAN PEDRO

Mr. David Hasley
U.S. Army Space and Strategic Defense Command

March 11, 1994

Dear Mr. Hasley,

The proposed missle launches and sensor testing over the offshore islands of San Nicholas and San Clemente would close our traditional dive areas. As commercial divers harvesting Sea Urchins, this would render us without a place to dive. 1

We could venture to other ports, but the Sea Urchin Industry at other Channel Islands is under a tremendous pressure from the commercial divers already resident at these Northern Ports.

Diving at the Northern Ports would put an economic pressure upon the Sea urchin Industry which is already having a resource dispute over division of the state into Northern and Southern parts.

Thank you for your consideration,

Linda Gray

Linda Gray
CUPA Representative
Port of San Pedro

11841 WEMBLEY RD. LOS ALAMITOS, CALIF. 90720
310 596-9717 310 424-1360

DM171

MC-0033

Written Comment Sheet

Theater Missile Defense Extended Test Range Environmental Impact Statement Public Hearing

Thank you for attending this Public Hearing. Please use this sheet to give us your written comments on the development of the Theater Missile Defense Extended Test Range Draft Environmental Impact Statement.

1. REPORTS AND FINDINGS THEREIN CLEARLY SHOW THAT THERE IS LITTLE OR NO SIGNIFICANT IMPACT TO THE VAFB AREA. 1

2. TMD ACTIVITY ENHANCES SOCIO-ECONOMIC CONDITIONS. A BIG WELCOMED PLUS. 2

3. TMD ACTIVITY DOES NOT CHANGE EXISTING LAND/SEA USE ON THE WEST COAST. 3

4. I DO NOT KNOW WHY MESCALITO CANYON EVACUATION IS AN ISSUE AT ALL. SUGGEST THAT THE RESIDENTS OF THE CANYON BE VISITED BY AF PERSONNEL. 4

5. I FULLY SUPPORT TMD TESTING AT VAFB.

Your Name ANDREW SALAZAR

Address 825 CLEMENS WAY LOMPOC CA 93436
Street City / State / Zip Code

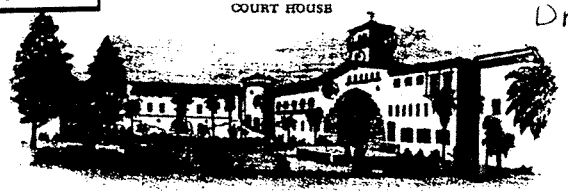
Please hand this form in or mail to:
David Hasley
U.S. Army Space and Strategic Defense Command
ATTN: CSSD-EN-V
P.O. Box 1500
Huntsville, AL 35807-3801
Comments must be received by March 28, 1994

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MC-0034

NAOMI SCHWARTZ
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WILLY CHAMBERLIN
Vice-Chair
Third District
TOM ROGERS
Second District
TIMOTHY J. STAFFEL
Fourth District
MIKE STOKER
Fifth District



Dm189

BOARD OF SUPERVISORS
105 East Anapamu Street
Santa Barbara, California 93101
Telephone (805) 568-2190

COUNTY OF SANTA BARBARA

March 15, 1994

Commander, U.S. army space and Strategic Defense Command
Attention: CCSD-EN-V
Post Office Box 1500
Huntsville, AL 35807-3801

Re: Theater Missile Defense Extended Test Range

Dear Mr. Hasley:

Thank you for providing the residents of Santa Barbara County this opportunity to provide substantive comments and input with respect to the proposed Theater Missile Defense Extended Test Range Program.

The Santa Barbara County Board of Supervisors supports a variety of programs at Vandenberg AFB, and believes that the Army's proposal can be a productive component of the base's operations and a sound addition to the economy of Santa Barbara County. 1

We base our support on the analysis in the DEIS which shows that the technical and personnel requirements of the program can be accommodated by existing infrastructure. No new public services will be required, and we believe the potential for adverse effects on the safety of our constituents can be mitigated through design modifications and conditions. 2

We also believe the Army will be able to comply with Clean Air Act requirements through the Memorandum of Agreement entered into between the VAFB and the County's Air Pollution Control District. This agreement will allow for expansion of existing activities at the base through a combination of flexible mitigation measures, including emission offsets for capital investment in emissions controls not otherwise required by regulation. 3

The Board appreciates the Army's willingness to develop a test launch schedule around regularly scheduled events of regional tourism significance such as the Lompoc Valley Flower Festival, the Santa Maria Elks' Rodeo & Parade and other events in order to minimize any potential impact on the tourism industry. The DEIS correctly identifies the current availability of quality lodging accommodations in the Lompoc and Santa Maria Valleys which could provide housing for test launch staff. The DEIS contrasts this favorable condition at the Western Range site with that at Florida's Elgin Air Force Base where test activity conducted during the Spring and Summer months could conflict with that region's tourism trade and result in a shortage of temporary housing facilities for launch staff. While this Board is not in a position fully to evaluate the alternative sites, it appears that VAFB offers the 4 5

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MC-0034

environmentally preferred alternative of the four remaining sites under consideration.

You will also receive from our staff technical comments on a limited set of issues discussed in the DEIS which are intended to assist the Army in preparing a complete and accurate environmental document. Some of the issues have been dealt with in documents associated with other VAFB programs, which the DEIS could reference. Our staff is available to assist you in this effort. The Board will appreciate the Army's efforts to provide additional information on these points, and to consider the prospect for additional design modification and mitigation which will control public risk, environmental impacts, and maintain public access to the beaches around Vandenberg.

We hope the Army's program will become part of Vandenberg's operation, and part of Santa Barbara County's economy.

Very truly yours,

Naomi Schwartz

NAOMI SCHWARTZ, Chairman

admin\wp\director\hasley.jp

Return to Contents

MC-0035

DM 190

3-11-94

Dear Mr. Halsey,

Regarding the Army's proposed Patriot and other missiles test launching off the coast of Ventura County, California: We are very concerned about the effect these tests will have on the marine life in our waters and on the effect on the migrating grey whales.

Karen + Harty Kinrose

1

DM 198

MC-0036

Chevron

March 17, 1994

Chevron U.S.A. Production Company
Land Department
Ventura Profit Center
646 County Square Drive
Ventura, California
P.O. Box 6917
Ventura, CA 93006

CSSD-EN-V (David C. Hasley)
U.S. Army Space and Strategic Defense Command
P. O. Box 1500
Huntsville, AL 35807-3801

Attention:

Draft Environmental Impact Statement
Theater Missile Defense (TMD) Extended Test Range
Offshore California

Gentlemen:

Chevron U.S.A. Production Company operates two (2) platforms, located offshore California, that might be affected by the referenced missile test program. Platform Hermosa is located approximately 9 miles west of Point Conception and Platform Hidalgo is located approximately 15 miles west northwest of Point Conception. In addition, there are two additional platforms in the area that may be affected. These platforms are operated by Texaco Exploration and Production Inc. (Platform Harvest) and Union Oil Company of California (Platform Irene).

During certain launches at Vandenberg Air Force Base, the platforms must be partially evacuated for the safety of personnel on the platforms. During the launch, almost all personnel on the platforms must be either flown by helicopter or transported by marine vessel to either another platform or onshore. The Draft Environmental Impact Statement does not mention any of the platforms and whether they might have to be partially evacuated as a result of the missile testing. If the platforms are affected, the statement should address the impacts.

1

Should you have any further questions, please call me at (805) 658-4537.

Yours very truly,

Keith D. Howell

Keith D. Howell
Project Land Representative

KDH/MISLEIR.LTR

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MC-0037

Dm232

21 March 1994

Mr. David Hasley:

There have been several letters and articles recently bemoaning the proposed testing of the Patriot missiles at Pt. Mugu and its supposed impact upon the marine environment. Writers have mentioned "pristine habitat" and the abundance of wildlife which would be destroyed. What these people don't seem to realize is that testing has been going on in these waters for nearly 50 years. Not only has the natural environment not been harmed (otherwise that pristine ocean and abundant wildlife would no longer be here for the writers--among others--to enjoy) but, since Pt. Mugu is itself a wildlife reserve, the Navy has actually done a great deal to preserve what they are accused of destroying--in fact, if it weren't for the Navy, Mugu Lagoon would be a pleasure boat harbor and there would be condos stretching from Mugu Rock to Port Hueneme. 1 2

I have worked on the base for the last 15 years, and in that time, on my many walks, I have seen sea lions, herons, pelicans, owls, hawks, and many species of ducks, to say nothing of the usual collection of rabbits, squirrels, 'possums, raccoons, snakes, lizards and bats. None of these animals seem to be the affected by the testing which has gone on for dozens of their generations. 3

If testing was going to damage the environment, it would have done so long before now, especially in the heyday of testing--which came to an end about 5 years ago with the lessening of the Soviet threat. The oil rigs and commercial shipping are--and always have been--greater threats to the environment than Navy testing ever could be. Ventura County needs the the hundreds of jobs continued testing will preserve, and no other facility in the country can provide the quality of service we can--the world is not yet a safe place, and our government still needs the best defense its military can develop. We can provide that, and we can do it without hurting the environment. 4 5 6 7

Jeanette Barcroft
1351 Mobil Ave.
Camarillo, CA 93010
484-1765

MC-0038

Dm233

M & M Property Management
3976 Woodlake Manor • Moorpark, CA 93021 • (805) 523-2340

March 12, 1994

Mr David Hasley, Commander
US Army Space and Strategic Defense Command
P.O. BOX 1500
Huntsvill, Alabama 35807-3801

Re: SLC-6 & SLC-7

Dear Commander:

I would like to voice my opposition to the SLC-7 site. One would think that after what happened with the Space Shuttle site the idea of that as a launch site would be put aside. I am a member of the Surfrider Foundation. I use that area on a regular bases. I do not want to see any more restrictions on Jalama Beach. 1 2

Thank You

Michael Pedicini

cc Elton Gallegly

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MC-0039

Dm234

Mr. David Hasley,
U.S. Army Space and Strategic Defense Command

I am a concerned citizen that the missle's being tested near my home in Ventura, CA or anywhere for that matter could be harmful. I realize that there may be no humans around the area where you wish to test, but there are many lifeforms that we have to consider the safety of. There are hundreds upon thousands of lifeforms in the Pacific Ocean and how can you be sure that they will not be harmed in any way. Therefore, I am asking you and the U.S. Army Space and Strategic Defense Command not to test the missles.

It has been stated that there will be 100 flights of missles from 1994 to the year 2000. Even if one animal was harmed per missle, that would be an astonishing 100 animals hurt in only 6 years just because of testing. We are testing these missles so that if we need them to defend our country then we can use them. So I'll leave you with this concerning thought, are we not hurting our country by harming the inhabitants within just for testing missles?

1
2
3
4
5

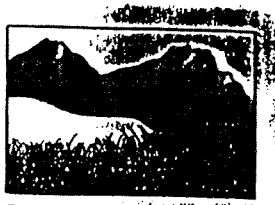
Sincerely,
Stacy Morris

Stacy Morris

Stacy Morris
1066 Poli St.
Ventura, Ca. 93001

MC-0040

Dm238



SAVE OUR COAST

March 23, 1994

David Hasley, USASSDC
ATTN: CSSD-EN-V
P.O. Box 1500
Huntsville, AL 35807-3801

I am writing about the concerns both the Santa Barbara Chapter of Surfrider Foundation and Save Our Coast have about the United States Army proposal of The Missile Defense Extended Test Range at Vandenberg Air Force Base, San Nicolas and San Clemente Islands. 1

The main concerns of Surfrider and SOC are the impacts to the environment and the potential for coastal access closures. 2

The concept of turning some of the most beautiful and pristine coast left relatively untouched into a missile test range, is not a very proper way to preserve the remaining natural resources of California. 3
The proposed Patriot Missile Test Range is much to disruptive and dangerous to humans and the environment. 4
The program is a large scale Skeet Shoot that could result in property damage or the loss of life. 5
The explosions would result in the disruption to the many forms of wild life along the coast and also in the test range itself. 6
The Marine Mammal Act describes harassment as any disruption in an animals normal behavior. 7
The loud and abrupt noise from such a projectile would startle and shock seals and mammals along the coast and frighten the wildlife which abounds on the base. 8
The expected explosion provided everything goes as scheduled would result in the possibility a whale or other marine mammal or species could be harmed. 9
The very real probability that the projectile does not hit the target an oil well could be hit, or a surface detonation would disrupt normal behavior patterns and possibly harm sea life also.

The potential of more closures at Point Sal, Surf Beach and Jalama Beach is very disheartening to a bulging population. 10
Access to the coast is very limited and can cause major inconvenience if restricted even temporarily. 11
The number of people who will be restricted from Jalama Beach in the EIS on a closure in June is 81, but in contacting the Santa Barbara County Park at Jalama Beach the figure seems to be 900 plus. The same misrepresented figures are probably used for the Pt. Sal and Surf Beach parks. 12
Beach users are not going to drive 20 to 50 miles to spend one hour at the beach. The suggested closure of 60 minutes results in a three to four hour evacuation procedure the County has to go thru. The military launches have resulted in many closures in the past and with the potential of a commercial launch pad at Cypress Ridge near Point Arguello the amount of restrictions will dramatically increase. The increase in closures

18131/2 Chapala Street, Santa Barbara, CA 93101

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MC-0040

does concern any one who uses this coast for recreational or commercial reasons.

The concept of turning the outer waters off Vandenberg, San Clemente and San Nicolas Islands into war zones is incomprehensible. Californias outer waters are of great importance to its many marine resources to create a missile testing range in these highly pristine locations could be a very unwise decision. 13 14

Thank you for your consideration and please contact me if any other notifications or publications will be distributed.

Sincerely,

Keith Zandona
Surfrider
Save Our Coast
Box #283
Solvang, Calif.
93464

Surfrider Foundation is an international organization dedicated to the preservation of the worlds coastal access and resources.

Save Our Coast is a local organization with a petition drive of 17,000 signatures, of people concerned with preserving the coastal environment and public access to Santa Barbaras very restrictive coastline.

Dm 240

MC-0041

La Purisima Audubon Society

Lompoc, California

(805) 733-2499 • P.O. Box 2045 93438

22 March 1994

Commander, U.S. Army Space and Strategic
Defense Command
Attention: CSSD-EN-V [David C. Hasley]
P.O. Box 1500
Huntsville, Alabama 35807-3801

RE: Theater Missile Defense Extended Test Range DEIS

We are concerned about the potential negative impact upon marine mammals should the Western Range be used to test theater missile defenses. Marine Mammals and their habitats are federally protected by the Marine Mammal Protection Act of 1972. Approximately 75% of the seals and sea lions that inhabit southern California waters spend some of their time on and around the northern Channel Islands. 1

Significant populations of California Sea Lions, Northern Elephant Seals and Harbor Seals haulout, breed, and pup on San Nicholas and San Clemente Islands. Harbor Seals breed in September and pup between April and May. Elephant seal populations peak three times, in January when they breed, again in April and May, then again in November. Populations of sea lions peak during the summer months when they breed. With the assumed four launches per month, the abandonment of rookeries could be an intolerable consequence. Lumping the three species together, it would be difficult to launch on a regular basis without significantly disturbing the breeding and pupping cycles of these pinnipeds. 2 3 4

There is yet another mammal to consider. Between December and April, 20,000 Gray Whales migrate through the proposed test area. 5

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MC-0041

We hope that one of the other three proposed test sites will have less significant impacts upon the area's biological resources which we feel should be one of the prime considerations. Such impacts far outweigh the temporary restrictions placed upon recreation which the DEIS notes would cause a significant impact should the White Sands site be used.

6

Sincerely

John Ayres
President

MC-0042

We, the undersigned, are strongly opposed to the test-launching of Patriot and other missles off the Ventura Coast by the U.S. Army's Space and Strategic Defense Command scheduled from 1994 through the year 2000. These tests will have a detrimental impact on our fishing industry, tourism and our fragile ecosystem.

1

Print Name	Address,City&Zip	day phone & nite phone
Gregory Dobbins	3058 Sunset Ln Oxnard 93035	984-1928
MIRIAM R. BECKER	1987 CAMPBELL AVE. T.O. 91360	805-497-4638
ROBERT H STAPLETON	352 N VICTORIA AVE VTA 93003	805 642 8520
Christine R Dowell	771 Seneca Ln. D-48 Ventura 93001	643-4528
JANE B. KELLY	261 No. CATALINA ST. VTA 93001	652-136

Written comments will be accepted **until March 28, 1994** addressed to:
Mr. David Hasley
U.S. Army Space and Strategic Defense Command
Attn: CSSD-EN-V
P.O. Box 1500
Huntsville, AL 35807-3801

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MC-0042 *Stop the Missiles!*

We, the undersigned, are strongly opposed to the test-launching of Patriot and other missiles off the Ventura Coast by the U.S. Army's Space and Strategic Defense Command scheduled from 1994 through the year 2000. These tests will have a detrimental impact on our fishing industry, tourism and our fragile ecosystem.

Print Name	Address,City&Zip	day phone & nite phone
Betsy D Clapp	503 N. Brown, OSAL 93023	646-1175

Written comments will be accepted until March 28, 1994 addressed to:
Mr. David Hasley
U.S. Army Space and Strategic Defense Command
Attn: CSSD-EN-V
P.O. Box 1500
Huntsville, AL 35807-3801

MC-0043 SAN DIEGO URCHIN PRODUCER ASSOCIATION

DFM 322

PRESIDENT
BOB SHEA

VICE PRESIDENT
MATT PRESSLEY

SECRETARY
MITCH HORBRON

TREASURER
ED KANIG

C.U.P.A.
REPRESENTATIVE

Mr. David Hasley
U.S. Army Space and Strategic Defence Command
Attn: CSSD-EN-V
P.O. Box 1500
Huntsville, AL 35807-3801

March 26, 1994

SUBJECT: San Clemente Island (California) proposed extended range missile and sensor tests, public comment period ending March 28, 1994.

Mr. Hasley:

1 The San Diego Urchin Producer Association supports the defence of our country, but we question the destruction of marine habitat and 2 the prohibited use of our traditional fishing/diving areas and safe anchorages.

3 The current restrictions of the use of our traditional fishing/diving waters and safe anchorages at San Clemente Island via our military are already at a critical status. We are experiencing increased accumulation of lost fishing/diving days per year due to more and more military operations at this important island.

4 We are moved randomly at all hours by the military without prior notice. We are awakened from our sleep in the safe anchorages during non-daylight hours and ordered to move our boats, even during questionable safe weather conditions.

5 We telephone the military prior to leaving the mainland in order to work around their planned operations. Many of our fishing vessels take six to nine hours of travel time from San Diego to San Clemente Island. It has become increasingly common to arrive at the island and discover that the military has created a surprise operation or the current operation has been prolonged. We are then told to immediately leave the island or that we can not enter our planned safe anchorage. This places our boat and crew in jeopardy.

6 As a matter of record, it is common knowledge that destruction of ancient human habitat, marine habitat, sea bird nesting and resting sites, and pinniped habitats via military bombardment is occurring. Many missiles, bombs, and other ordinance miss the island targets and strike the water, killing marine life and destroying reefs. Recorded history proves that this island was inhabited by people for over 9,000 years. It is historically certain that many of these people lived in the caves at the current designated bombardment area of Pyramid and China Cove. These Caves are being destroyed including adjacent burial grounds.

5849 BEAUMONT AVENUE • LA JOLLA • CALIFORNIA 92037 • (619) 459-6389

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MC-0043

We do not need any more increased military operations at San Clemente Island. What is needed now is to rectify our current serious problems with the existing military operations so that we can harmoniously coexist. How do you suggest we reach this accord? 7

Sincerely,

Bob Shea

Bob Shea, President

cc: Congresswoman Lynn Schenk
Congressman Randy Cunningham
Congressman Duncan Hunter
Senator Lucy Killea
Assemblywoman Deirdre Alpert
Boyd Gibbons, Director, CAL F&G
Gary Davis, Channel Island National Park Service
Captain W.H. Boland, USCG-L.B.
Commander Charles Wright, USCG-S.D.
CUPA Presidents
Charles Igawa, Executive Dir. SUPAC
Bob Fletcher, President SAC
John Colgate, President CAA
John Guth, President CA Lobster & Trap Assoc.
Lee Olsen, President San Diego Council of Dive Clubs

DM342

MC-0044

SUDDEN AND HOLLISTER RANCH
1211 Pellham Drive
Lompoc, California 93436

24 March 1994

Mr. David Hasley
U. S. Army Space and Strategic Defense Command
Attention: CSSD-EN-V
Post Office Box 1500
Huntsville, Alabama 35807-3801

Re: Theater Missile Defense Extended Length Test Range Program for the Department of Army at Vandenberg Air Force Base

Dear Mr. Hasley,

Our ranch is located in Miguelito Canyon adjacent to Vandenberg Air Force Base in California. 1

Since the Air Force considers us to be in a "Safety Zone" we are extremely concerned about the impact your program will create regarding personnel living or working on our property. 2

Specifically, does or would an evacuation process exist? If so, please outline your position relative to:

1. Notification, frequency and duration of evacuation 3
2. Off site accommodations and reimbursement 4
3. Compensation policy 5
4. Any additional inconveniences 6

Your clarification and prompt response will be appreciated.

Very truly yours,

William R. Sudden
Owner

Stanley O. Hollister
Stanley O. Hollister
Owner

cc: Kenneth C. Bornholdt, Attorney

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Dm343

MC-0045

Written Comment Sheet

Theater Missile Defense Extended Test Range Environmental Impact Statement Public Hearing

Thank you for attending this Public Hearing. Please use this sheet to give us your written comments on the development of the Theater Missile Defense Extended Test Range Draft Environmental Impact Statement.

~~The Theater Missile Defense Extended Test Range EIS~~ describes numerous negative impacts to the Vandenberg AFB area and the Channel Islands to the south. Among the most serious of those ~~is the potential impacts to the population of the City of Lompoc~~ and the surrounding communities of Vandenberg Village. It is possible that a missle could be knocked off course . What will happen ~~to all the residents in the path of such a misguided missle?~~ The defense department has a history of jeopardizing the civilian population of our county vunerable to defense accidents during tests. Cite here, Utah, Nevada nucular tests, etc,.etc.. 1

our Channel Islands are home to many rare and declining populations of marine mammals and sea birds. 75% of all seals visit or bred ~~on the channel Islands at some time during the year.~~ 2000 Grey Whales and numbers of other whales migrate through the Islands and off the coast of Vandenberg AFB each year. The missle testing ~~program is an unacceptable risk to the viability of these animals~~ in their places of breeding and migration. 2

The US Navy is also proposing an underwater missile testing program for the Channel Island Area. ~~HOW MANY HOSTILE ACTIVITIES CAN THIS VITAL BIOLOGICALLY SENSITIVE AREA WITHSTAND!~~ Please test your missles out over the open sea, away from human and declining animal populations. 3

Your Name Linda Sehgal Linda Sehgal

Address 4412 Titan Ave., LOmpOc . CA. 93436

Street *City / State / Zip Code*

Please hand this form in or mail to:
David Hasley
U.S. Army Space and Strategic Defense Command
ATTN: CSSD-EN-V
P.O. Box 1500
Huntsville, AL 35807-3801
Comments must be received by March 28, 1994

Dm347

MC-0046

BIXBY RANCH COMPANY
A California Limited Partnership

Fred H. Bixby, Founder • 1875-1952

March 28, 1994

U.S. Army Space and Strategic Defense Command
ATTN: CSSD-EN-V
P.O. Box 1500
Huntsville, AL 35807-3801

Attention: Mr. David Hasley

RE: U.S. Army Proposed Theater Missile Defense Extended Test Range Draft Environmental Impact Statement (DEIS)

The Bixby Ranch Company (Bixby), the owners and operators of the 24,300 acre Cojo - Jalama Ranch located on the California coast South and East of, and adjacent to, Vandenburg Air Force Base (VAFB), is one of the neighboring property owners potentially most affected by the proposed Theater Missile Defense Extended Test Range Project.

In May of 1993, at the NEPA scoping stage for the Theater Missile Defense (TMD) Extended Test Range Program, Bixby Ranch Company provided comments on the environmental issues that should be addressed in the TMD Draft Environmental Impact Statement (DEIS). Bixby's central concern was then, and remains today, that the Army consider fully and carefully the health and safety risks of the 5 year operational life of the proposed program to present and future occupants and users (including agricultural and wildlife populations) of the neighboring properties of VAFB, in particular Jalama County Beach Park and Bixby Ranch, that immediately adjoins South VAFB, downwind and downrange of southerly Defensive Missile Launches In Bixby's scoping letter dated May 21, 1993, we made numerous comments and raised a number of important questions that must be addressed in the EIS. Unfortunately, most of these comments where not covered in the DEIS, and those which were discussed have only been responded to in a cursory nature. 1 2 3

Accordingly, we offer the following comments on the DEIS:

The following topic areas have not been adequately addressed or addressed at all in the Draft EIS on the Western Test Range Alternative - VAFB component. The EIS must address these topics in detail for the EIS to adequately disclose the impacts from the proposed project.

125 East Victoria Street, Suite L • Santa Barbara, California 93101 • 805 966-2278 • FAX 805 966-3372

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A. Project Description

The project description must:

1. Include any emergency response plans, fire protection plan, or disaster preparedness programs as part of the operational aspects of the project. In addition, prior notification plans and coordination plans with appropriate parties and officials must be described in detail. These plans form an important part of assessing potential environmental effects. They must be specific to the proposed project. 4

2. Contain detailed information on the construction and operation of the proposed project, including, but not limited to, detailed information on: a) any design features or measures intended to avoid, reduce, or otherwise mitigate project impacts; and b) the engineering basis and design of the project facilities and the effects of project operations. 5

3. Describe in written and graphic form the projected missile tracks and margin of error in track alignment, and the margins of error considering weather condition knowledge for both the theater (target) missile and the intercept (defensive) missile. The Flight Termination Debris Containment Corridor for White Sands Missile Range is described in Figure 4.1-5 & 4.1-6, however no such depiction exists for the Western Test Range Alternative, why? The Flight Debris Containment Corridor for each of the target missile sea launch and land-based defensive missile flights must be depicted as has been done for the White Sands Missile Range alternative. 6 7

4. Detail what support facilities will be required (ie. operation support buildings, access roads, parking, fuel storage, security systems, fire protection). 8

5. Detail the associated offsite facilities required to support the project, (ie. water storage, sewage treatment, electrical substations, communication towers, communication and utility corridors). 9

B. Existing Conditions / Environmental Settings

The EIS must contain a specific section which describes in detail the existing setting in which the proposed project will occur. Among many other items this description must include the following:

1. A description of existing facilities and the baseline of the operations at VAFB. The EIS must contain a full discussion and analysis of all launch activities from VAFB through the year 2000, in addition to, the Theater Missile Defense Extended Test Range Program. This analysis must include all the present missile launch activities, number, type, size and weight, date/time/duration, trajectory, operational launch weather and wind condition. This 10

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has not been disclosed.

2. A description of the existing physical environment on the base and surrounding area; The DEIS refers the general description of the existing environment of VAFB to that contained in Section 3.1.1.1 - et seq., which is for San Nicholas Island thereby inadequately describing the conditions of VAFB. They are not the same (ie. biologically, historically, etc,). 11

3. A description of the existing surrounding land uses including information on resident population levels and user figures for Jalama Beach Park; User levels for Jalama Park have been adequately described but the resident population (present and future) of the base and surrounding properties have not been depicted. 12 13

4. A description of the health and safety risks presented by each of the existing facilities and operations at VAFB on the population of the surrounding area; This has not been disclosed. 14

5. A discussion of any disaster preparedness programs, fire protection plans, emergency response plans, notification plans, and coordination plans currently in place. This has not been described. 15

C. Environmental Impacts

For each environmental impact issue area, the EIS should discuss the impacts of each of the four sites under consideration this has been done, however the level of discloser and analysis has not been equally disclosed. It is clear that for some reason, a higher level of detail has been provided for the White Sands Test Range alternative. 16

1. Hazards (Health & Safety)

Of all the environmental impact areas that the EIS must cover, the highest level of attention and work must focus on the topic of health & safety. 17

Bixby believes that the DEIS has not adequately responded to the following:

1. Contain a full discussion and analysis of all of the launches from VAFB through the year 2000, in addition to the Theater Missile Defense Extended Test Range Program. The EIS should describe these launches by schedules, noting the number, type, size and weight, projected date/time/duration and trajectory, operational launch weather and wind conditions. All of the launches should be considered. There must be an analysis not only of the additive risk generated by the Theater Missile Defense Extended Test Range Program, but also the annualized risk caused by the ongoing and future launch situations at VAFB during the operational life of the proposed Theater Missile Defense Extended Test Range Program. 18

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2. Specify in detail the type of incidents or accidents associated with the project which could cause injury, detriment, nuisance, or annoyance to any number of persons, animals, or wildlife, or which endangers the comfort, repose, health and safety of any person or the public, or which cause or have a natural tendency to cause, injury or damage to business or property. This discussion must describe the physical effects on humans, animals and wildlife which might be affected by noise, toxic fumes, debris impact etc; 19

3. Outline the range of potential outcomes from all the incidents or accidents associated with the project; 20

4. Analyze the impact of potential incidents on surrounding land uses currently existing and land uses possible during the operational lifetime of the Theater Missile Defense Extended Test Range Program; 21

5. Include a transportation analysis which studies and outlines the transportation routes available for evacuation of both on-site personnel and residents in surrounding areas; 22

6. Include a discussion of all mitigation measures which will limit the adverse impacts of the project on the health, safety and welfare of the human, animal and wildlife populations on the base and surrounding area; 23

7. Specifically analyze what danger or hazard the project poses to historic structures or properties located on adjacent and surrounding properties (eg. Pt. Conception Lighthouse); This needs to be done for surrounding properties not just the property within VAFB. 24

8. Include an analysis which discuses the controllability factors, standards and acceptable methods, locations, and processes to ensure "safe" destruction in the event of erratic flight. This discussion must describe what constitutes the word "safe" to the U.S. Army during such an event, and how populations and property in the surrounding area will be protected by these operational regulations; The DEIS adequately describes the launch hazard areas by depicting the "Nominal Launch Hazard Area" (12,000' radius). The standard of what is considered "safe" for WSMR is specifically stated on page 3-35 as: "An additional risk of death or injury no greater than 1,000,000". No such discloser for VAFB has been made in the DEIS. The DEIS only describes in general the range safety program at VAFB, providing no quantifiable basis as to what is "safe". That is "safe" at VAFB? What launches provide additional risk to surrounding properties? At at what launch rates? and what specific launch azmiths. 25 26 27

9. Include provisions for acceptable accident potential zones and areas; depictions, sizes, and acceptable land-use for such areas; The DEIS does not disclose this. 28

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10. Include the size, shapes, and locations of probable hazard footprint areas, based upon all possible launch factors, which will encompass all possible hazards associated with blast, sonic boom, noise toxic fumes, debris impact and other hazardous situations. Representative Impact Locations (Figure 2.2-13), and Representative Target Missile Trajectory (Figure 2.2-9&10) are described for WSMR but no such information is disclosed for the Western Range. 29

11. Include a full discussion of the alternative actions that the Army is able to take in order to reduce the isopleth risk levels associated with each physical hazards on the surrounding population and properties offshore oil platforms, Jalama Beach Park, Bixby Ranch, Point Sal, etc. The DEIS specifically includes the offshore oil platforms in the "Flight Corridor" (Region of Influence pg. 3-198) but completely fails to address their "Health and Safety" in Section 3.3.5.5. The DEIS is highly inadequate for not addressing this significant safety concern. That if debris from this program strikes the oil platform? death or injuries to oil platform personnel? Potential oil spill? 30 31

The EIS must address in more detail these hazards for the Western Range, specifically for VAFB, which are:

A. Noise and sonic booms - from the theater and intercept missile launches and detonation of the target and intentional destruction of either missile. The potential adverse impacts of intense sonic booms on property, humans and animals must be addressed. Information and supporting research documents must verify the estimated frequency, rise time, and pressure level of the sonic booms from the proposed Theater Missile Defense Extended Test Range Project. 32

B. Toxic fumes and hazardous materials released during transportation to the Base, from storage areas on the Base, at the launch sites, or at some destruct points along the trajectory of the intercept missile as it progresses from launch to theater missile intercept. 33

C. Debris generated by intentional or unintentional detonation of: 34

(1) intercept missile detonation at points ranging from launch area to target intercept; and
(2) theater missiles which are not intercepted, only partially intercepted, or intercepted. This includes any booster rocket stages from either the theater or intercept missile.

D. Blast and shock wave amplitudes caused by intentional or unintentional detonation of the target missile or theater missile from launch to target intercept or from fuel storage areas or transport routes. 35

2. Biological Impacts

The EIS should address the impacts on the habitat of Federal listed endangered species (California Least Tern, the Unarmored Three-Spined Stickleback, the Peregrine Falcon, the Western Snowy Plover). The EIS must address the effect of the project on the populations of Harbor Seal, California Sea Lions, occasional Elephant and Northern Fur Seals which habitat several haul-out areas on South VAFB and Pt. Conception. 36

3. Noise Impacts

The EIS should address the noise impact on the area surrounding the Base. The Community Noise Equivalent Levels (CNEL) resulting from the project must be depicted. 37

The EIS should express in graphic and written detail what levels of noise in DBA will occur from the missile launches as well as target detonation. What will be the duration of the noise impact? Will this level of noise have a significant effect of the human and animal population in the surrounding area? 38

4. Air Quality Impacts

The EIS should address the air quality impacts resulting from construction and operation. What will be the impact of the project on the air quality of the surrounding area on the following levels of: 39

Carbon monoxide (CO)
Sulfur dioxide (SO2)
Nitrogen oxides (NOX)
Hydrocarbons (HC)
Hydrogen Chloride (HCL)
Aluminum Oxide (AL2O3)

5. Visual Impacts

What will be the visual impacts of the project on the surrounding area? Will the projects facilities and launches be visible from the surrounding private property? This has not been disclosed. 40

Summary

Bixby is concerned that this project could impact the health and safety of present and future residents in the surrounding area and impact our existing agricultural operation and extensive wildlife population. We hope the Final EIS will adequately describe the proposed project, the existing conditions and the environmental impacts which would result from the proposed project. 41 42

Thank you for this opportunity to comment on the EIS for the proposed Theater Missile Defense Extended Test Range Project.
Sincerely,

MC-0046

BIXBY RANCH COMPANY

John M. Baucke, AICP
Special Projects Manager

JB:mh

cc: Jeannette Christensen, Esq.

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Dm 350

CITY OF LOMPOC

VALLEY OF FLOWERS

March 24, 1994

Mr. David Hasley
U.S. Army Space and Strategic
Defense Command
Attn: CSSD-EN-V
P. O. Box 1500
Huntsville, AL 35807-3801

Dear Mr. Hasley:

As members of the City of Lompoc Overall Economic Development Plan (OEDP) Committee, we would like to express our support for selection of Vandenberg Air Force Base (VAFB) as the site for the U.S. Army Theater Missile Defense (TMD) flight test program. 1

We feel VAFB is the best site for this program based on the following existing conditions. The City of Lompoc has a history of excellent relations with VAFB regarding business and community activities. VAFB has existing infrastructure and test range management capability to support the U.S. Army program. This base has operated as a missile test facility for many years without negative environmental impacts. The addition of this program to VAFB activities would be routinely accepted by the community. VAFB also has a history of safe and environmentally acceptable operations. 2 3 4 5

The City considers VAFB to be a long term partner of our community. The addition of this U.S. Army program to VAFB may benefit our community by stimulating jobs locally. 6

Please support selection of Vandenberg Air Force Base as the site for this program. If the Overall Economic Development Plan Committee can be of assistance in this matter, please contact the City of Lompoc.

Sincerely,

W. S. Mullins

William Mullins, Chairperson
Overall Economic Development Plan Committee

CITY HALL, 100 CIVIC CENTER PLAZA, P.O. BOX 8001, LOMPOC, CA 93438-8001
(805) 736-1261; FAX: (805) 736-5347

MC-0048

Dm 351

HR

HOLLISTER RANCH OWNERS ASSOCIATION Box 1000 – Bulito Canyon Gaviota California 93117 805-567-5020

March 28, 1994

Commander, U.S. Army Space and Strategic Defense Command
Attention: CSSD-EN-V (David C. Hasley)
P.O. Box 1500
Huntsville, Alabama 35807-3801

RE: COMMENTS ON DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE THEATER MISSILE DEFENSE EXTENDED TEST RANGE PROPOSAL

Gentlemen:

This letter is submitted on behalf of the Hollister Ranch Owners Association to provide comments on the Draft Environmental Impact Statement (EIS) for the Theater Missile Defense (TMD) Extended Test Range Proposal. Hollister Ranch is a 14,000 acre subdivision of 100 acre ranches located approximately eight miles to the east and south of Vandenberg Air Force Base, one of the proposed test sites. Some of the activities described in the Environmental Impact Statement (EIS) are of potential concern to us and require additional consideration. Consequently, the following issues should be addressed in the final version of the environmental document:

1. Information provided in the Environmental Impact Statement was insufficient to evaluate possible risks associated with test accidents. Debris containment areas should have been identified for Vandenberg Air Force Base and surrounding areas as they were for the Fort Wingate and White Sands test areas. 1

2. Consideration of potential deviations in the flight paths of both the target vehicles and intercept vehicles, what are the potential missile tracks for both? 2

3. What are the destruct systems aboard the target missiles which will be used in the event of guidance failure in order to prevent an errant vehicle from reaching the mainland? 3

4. The EIS should consider the cumulative impacts of the two other proposed missile projects for Vandenberg Air Force Base - the Lockeed Launch Vehicle project at Space Launch Complex - 6, and the Western Commercial Space Center proposal for Space Launch Complex - 7 - in assessing the effects upon air quality and 4

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biology in the area of northern coastal Santa Barbara County.

5. Specific attention should be given to the risks of a major offshore oil spill in the event that a missile, or significant debris, strikes one of the offshore oil platforms in the area. What are the measures proposed to contain debris that falls into the ocean which may result in pollution? Will the activities result in any change in oil tanker shipping activities in the Santa Barbara Channel, specifically the routes designated for the tanker ships? 5 6

Thank you for the opportunity to comment on the Draft Environmental Impact Statement for the Theater Missile Defense Extended Test Range Proposal.

Sincerely,
Hollister Ranch Owners Association

by: Andrew Mills, Manager

MC-0049

3.27.94

Re: Missile Tests at Vandenberg

Dear Mr. Hosley,

I know of no one living in this area who is in favor of the planned increase of missile launches from Vandenberg Air Force Base. 1

Leave our islands alone! They were never meant to be bombed. Star Wars was a sorry waste of time and money from the first day it was conceived. 2

Please rethink this regressive planning.

Sincerely,

S. Scofield

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MC-0050

Written Comment Sheet

Theater Missile Defense Extended Test Range Environmental Impact Statement Public Hearing

Thank you for attending this Public Hearing. Please use this sheet to give us your written comments on the development of the Theater Missile Defense Extended Test Range Draft Environmental Impact Statement.

3/21/94

I am concerned about the launch sites on San Nicholas Island because of the hazard of a launch explosion [illegible] on the Island, and to the effect that increased human activity will have on the sea lion and guard seal rookeries.

The Island is small and facilities are close to each other. The possibility of launch explosion causing injury is worrisome.

The rookeries on San Nicolas are some of the most important in the Pacific Ocean. A stampede of the adults is easily caused by human activity and can result in injury to seal pups. It can also result in the adults deserting the rookery leaving the pups to their fate

1

2

3

4

Your Name Chester Phillipson

Address 957 Via Esparto Santa Barbara, Ca 93110
Street City / State / Zip Code

P.S. Launch sites are about 1 mi from the rookeries.

Please hand this form in or mail to:
David Hasley
U.S. Army Space and Strategic Defense Command
ATTN: CSSD-EN-V
P.O. Box 1500
Huntsville, AL 35807-3801
Comments must be received by March 28, 1994

HSUS C Phillipson 957 Via Esparto Santa Barbara CA 93110

DM 360

MC-0051

ENVIRONMENTAL DEFENSE CENTER

March 28, 1994

Commander, U.S. Army Space and Strategic Defense Command
Attention: CSSD-EN-V (David C. Hasley)
Post Office Box 1500
Huntsville, Alabama 35807-3801

RE: Comments on Draft Environmental Impact Statement, Theater Missile Defense Extended Test Range Program

Dear Mr. Hasley:

The Environmental Defense Center (EDC) is a non-profit public interest environmental law firm located in Santa Barbara, California. EDC represents a broad spectrum of local environmental interests with concerns regarding regional biological resources. EDC is also a member of the North County Coastal Access Task Force (CATF), an *ad hoc* group of representatives from several Santa Barbara County organizations involved in coastal recreational access issues. Other organizations represented by CATF include the Surfrider Foundation and Save Our Coast. Please accept the following comments on the January, 1994 Draft Environmental Impact Statement (EIS) for the Theater Missile Defense (TMD) Extended Test Range Program on behalf of EDC and the CATF.

These comments focus on certain potential impacts associated with the Western Range Candidate Test Area site discussed in the Draft EIS.

1. Affected Environment: Recreational Use at Vandenberg Air Force Base

1

The EIS's description of the affected recreational environment at Vandenberg Air Force Base (VAFB) (§ 3.3.2.8, pp.3-199 to 3-200) should take into account the limited public coastal access opportunities between Gaviota and Point Sal. The California Coastal Commission (reviewing a proposed coastal access restriction at VAFB) has noted that:

> these access restrictions must be analyzed in the context of existing access resources in the area. Access to the northern Santa Barbara County coast is more limited than almost any other portion of the California coast. Between Gaviota and Point Sal is a 64 mile stretch of coastline that is only open to the public at two locations: Ocean Beach and Jalama Beach. Both of these beaches are subject to temporary closures during missile launches at Vandenberg. Only 4% of the northern Santa Barbara Coast is open to the public. Most of this coast is owned by three large landowners: Air Force (96,000 acres), Bixby Ranch (24,000 acres), and Hollister Ranch (14,400 acres).

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Staff Report and Recommendation on Consistency Determination CD-12-94, March 1994, p. 6. The limited coastal access opportunities in the area thus add to the significance of the locations that are open to the public. 2

2. Recreational Use Impacts-Vandenberg Air Force Base

In view of the limited public coastal access on VAFB and the remoteness of the available coastal resources, the Draft EIS understates the total recreational impact of using VAFB as a launch site for defensive missiles. The Draft EIS notes that launch hazard areas (LHAs) associated with several potential launch sites at VAFB may have a temporary impact on recreation at Point Sal State Beach, the northern part of Ocean Beach County Park, and Jalama Beach County Park. § 4.3.2.8, p 4-204. This impact would involve closure of one or more of these beaches (depending on the launch site) for no more than 60 minutes at the time of a launch. *Id.* 3

Both Jalama Beach and Point Sal, however, are rather remote from major population centers and multi-lane transportation routes. In addition, many recreational users of Ocean Beach invest considerable time travelling to and from their destination. Thus, closure and evacuation of these beaches for up to 60 minutes will create time costs in excess of one hour per person affected. Moreover, since the effective time of beach closure must include the time needed to complete evacuation of the LHA, presumably to some other site where public facilities and services are available, as well as the time to return to the reopened beach, the total number of people affected will be substantially greater than the estimates in the Draft EIS. At a minimum, we suggest that estimated impacts be based on the assumption that launches will require an effective beach closure time of one half day. Since many recreational users will forego returning to a beach if only part of a day remains available for recreational activities, actual coastal access impacts may be even greater. 4

If this revised analysis reveals that the proposed action may produce significant effects on public coastal access, the EIS should consider appropriate alternatives and mitigation measures. Mitigation might include provision for additional public coastal access opportunities on VAFB or acquisition of public coastal access rights on privately-owned properties in the area. 5

3. Cumulative Recreational Impacts-Vandenberg Air Force Base

The Draft EIS notes, with respect to land use impacts at VAFB, that "[s]ince the TMD Extended Test Range Program would be using existing facilities and all missile flight tests must be scheduled and approved by the appropriate safety office, the possibility of significant adverse incremental cumulative land use impact is avoided." § 4.3.2.8, p. 4-205. This analysis does not account for various past, present, and future activities that may impact coastal access, recreation, and other land uses in the affected area. 6

In determining whether the proposed Federal action is one that significantly affects the human environment an EIS must consider cumulative impacts that may result from the action. 42 U.S.C. § 4332(2)(C); 40 C.F.R. §§ 1508.8. The Council on Environmental Quality's (CEQ) regulations for the National Environmental Policy Act (NEPA) define "cumulative impact" as: 7

> the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other action. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

40 C.F.R § 1508.7. 8

Pursuant to NEPA, the EIS must therefore discuss other actions that may contribute to an incremental loss of public coastal recreational opportunities between Gaviota and Point Sal. Such an analysis is necessary even if the instant action would produce only a minor or insignificant impact on coastal access. 40 C.F.R. §§ 1508.7, 1508.27(b)(7). At a minimum, the EIS should discuss the limited extent of existing access, VAFB's proposal to restrict access at Ocean Beach to provide habitat protection for the Western snowy plover, commercial space launch proposals for VAFB, and any and all "past, present, and reasonably foreseeable future actions" that may result in an incremental loss of coastal recreational opportunities in the region. 9

4. Noise Impacts on Biological Resources-San Nicolas Island

San Nicolas Island "contains significant breeding populations of California sea lions . . . and northern elephant seals." § 3.3.1.3, p. 3-165. One of the candidate launch sites proposed for San Nicolas Island is located directly adjacent to Sea Lion Beach, a major pinniped rookery. Launches from this site would produce momentary noise levels of as high as 115 dB at Sea Lion Beach; the candidate launch site located inland on San Nicolas Island would also produce high momentary noise levels at this pinniped site. Figure 4.3-1, p. 4-182. The Draft EIS states that, although "California sea lions have a strong fear of humans and will stampede into the water when disturbed", "the intermittent launches associated with the proposed project are expected to cause not significant impacts to wildlife because the actual duration and frequency of the effects are expected to be low." § 4.3.1.3, p. 4-173. 10

While the noise exposure of pinnipeds on San Nicolas Island will indeed be intermittent, this analysis does not consider the impact of short-term pinniped exposure to high noise levels at very close proximity. The EIS should consider that such intermittent impacts may be significant and include a discussion of appropriate alternatives and mitigation measures. Alternatives should emphasize avoidance of project impacts on pinnipeds and other sensitive receptors. Avoidance may require relocating one or both of the candidate launch sites on San Nicolas Island and/or scheduling launches only during periods when potential pinniped impacts can be minimized. 11 12

5. Surface-to-Surface Missile Testing

The Draft EIS states that "San Clemente Island . . . would be used . . . as an impact point for Army TACMS surface-to-surface missiles launched from Vandenberg Air Force Base." § 2.2.3.1, p. 2-74. While it is not clear from Figure 2.2-21 (p. 2-68) what the precise flight path for TACMS testing would be, this figure shows a potential flight path that crosses over or very close to both Santa Rosa and Santa Cruz Islands. Both islands are components of Channel Island National Park. Moreover, both islands are home to a small permanent and 13

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a larger transient human population, as well as many rare or sensitive plant and animal species. The EIS should discuss the potential significance of overflights or near overflights of Santa Rosa and Santa Cruz Islands. 14

Thank you for your consideration of these comments. Please do not hesitate to contact this office if you have any questions or concerns regarding these comments.

Sincerely,

John T. Buse

John T. Buse
Staff Attorney
Environmental Defense Center

cc: Surfrider Foundation
Save Our Coast
California Coastal Commission

MC-0052

DM362 March 28, 1994

Attention: Mr. David Hasley.

Re: Proposed Theater Missile Defense Extended Test Range. (VAFB, SAN NICOLAS Is., SAN CLEMENTE I

Dear Sir;

1

Phrases such as "high degree of certainty, possible, do not expect; rather remote; almost none; may; potential; could be; not significant impacted" etc. are peppered throughout the EIS draft like the fragments from a DoD test on San Clemente Island in June 1993. (These explosive fragments ignited fires which destroyed two-thirds of the existing habitat of "loggahead shrikes" - an endangered species.) Sect. 3.3.3.3. p. 3-214.

Section 3.3.5.3. p 3-231 states: approximately 75% of seals and sea lions that inhabit So. California spend some portion of time in the Northern Channel Islands. VAFB has resident sea otter population frequently sighted along the coast. Gray whales travel within a few kilometers of shore during migration from -- Bering Sea to ... Baja.

Section 4.3.1.3. p.4-172, 4-173
Re: San Nicolas Island.

"For the purpose of biological impact analysis, a maximum of 4 launches per month has been assumed."

2

(My interpretation is - let's do 4 launches a month and see what damage is done. Of course, then the damage is done!)

"The two areas that may be affected most by potentially elevated sound levels associated with the proposed project are the launch area and debris impact areas. California sea lions have a strong fear of humans and will stampede into the water when disturbed. Continuous disturbance will cause abandonment of the rookery. Northern elephant seals show an unusual indifference to humans, but persistent human disturbance will cause them to abandon beaches. Launching from SLC Launch Complex could significantly impact species such as the Federally threatened sea otters and protected northern Elephant seal and California sea lion."

3

Section 4.3.2.3. p.4-195
This section lists mammals and bird

species that could potentially significantly be impacted -
Sea lions, harbor seals, sea otters, snowy plovers, least terns, seabirds, brown pelicans, peregrin falcons and candidate bird species.

"These indirect effects could be defined as a 'take' by the Endangered Species Act."
(Per Section 10 of the Endangered Species Act, a 'taking permit' can be obtained if the destruction is anticipated to be unavoidable.)

4

The 2/18/94 Lompoc Record article reads -
"The Army report contends there is almost no chance that 1100 pound boosters or fragments of intercepted rockets would land on people or populated areas, or threaten wildlife or valuable archaeological sites."
If people were killed, would that also be considered a 'take'?

5

The 3/24/94 Lompoc Record article reads -
"The Patriot missiles being sent to South Korea are almost useless as a serious defense system, and are intended to provide a placebo effect on the situation," said a statement by High Frontier, a private group that has long pushed for

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improved missile defenses. "The sad reality is that if missiles fly, people will die," the statement said.

6

The Dept. of the Army, on their own behalf compiled this E.I.S. The Army will determine whether or not this document is sufficient. This is akin to asking the fox if his raids on the chicken coop will have a negative impact on the chickens.

7

I fervently hope that the Dept. of the Army will weigh the impact that these tests create on this wide planet and shelve the projects that are questionable at best.

Thank you for your time and consideration of this letter.

Sally Keane

916 Anacapa Street • Santa Barbara, California 93101 • (805) 966-3979

MC-0053

Dm 391

CITIZENS PLANNING ASSOCIATION OF SANTA BARBARA COUNTY, INC.

March 28, 1994

Commander, U.S. Army Space and Strategic Defense Command
Attention: CSSD-EN-V (David C. Hasley)
P.O. Box 1500
Huntsville, Alabama 35807-3801

Re: Draft EIS, TMD Extended Test Range

Thank you for the opportunity to review the DEIS for this program. We have several comments and questions regarding specifically the Western Test Range (Santa Barbara County, California, and offshore).

BIOLOGICAL IMPACTS:

1

From a botanical point of view, we would request that more weight be given to (1) *cumulative impacts* and (2) vegetation degradation through increased *weeds*. "Cumulative" includes physical disruption of botanical habitat by roads, trenching, vehicle activity, and weed introduction and increase.

2

San Clemente Island has the most sensitive plants of any of the California islands. Impacts anticipated: (1) increase in road construction and related off-road disturbance; (2) increase in existing weed problems including *Salsola iberica*.

3

San Nicolas Island has significant documented sensitive vegetation. Military disturbance has already created the highest weed percentage of any California island (46%). Impacts anticipated: increase in existing weed problem including *Picris echioides* and *Tragopogon porrifolius*.

4

Also on San Nicolas Island, the launch noise (p. 4-181 ff) is greater than your significance level of 92 dBA at significant portions of the seal areas. Hydrogen chloride is also emitted during launch. The effect of HCl on wildlife is not discussed. Also, has any synergistic effect of the noise and irritating fumes been looked for or observed?

5

6

We note that contributions are missing from several authorities on the biology of these islands who should be consulted before finalizing the EIS: Ron Dow, and Tom Keeney, US Navy, Point Mugu (San Nicolas Island biology); Paul Collins, Santa Barbara Museum of Natural History, 805-682-4711 (San Clemente and San Nicolas Islands wildlife); and Steve Junak, Santa Barbara Botanic Garden, 805-682-4726 (San Clemente and San Nicolas Islands botany).

7

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MC-0053

OTHER IMPACTS:

p. 3-170, §3.3.1.6. EPCRA (SARA Title III) applies to the hazardous materials on San Nicolas Island **and at all other sites**. In California, EPCRA is codified along with similar state statutes in Chapter 6.95 of Division 20 of the Health and Safety Code, with corresponding regulations in Title 19 California Code of Regulations. California also requires Risk Management and Prevention Programs (Article 2 of Ch. 6.95) similar to the new federal Risk Management Plans (Clean Air Act) for Extremely Hazardous Substances, including for instance hypergolic propellants. 8 9

p. 4-18, last ¶: Impacts to air quality do not depend on the size of the LHA. Re-word this discussion to "impacts to air quality beyond the LHA..." This is particularly important to consider in the case of Vandenberg AFB, where the LHAs may include areas of sensitive wildlife. 10

P. 4-196, 197, Mitigation Measures: Any such recommendations of the USFWS and NMFS should be followed. 11

P. 4-239: Debris footprints: Note that the Channel Islands are a National Park. Under "Secondary Effects" it is stated that there is no potential for debris to cause fires since debris would land in open sea waters. Should debris land on one of the Islands, there would be such a potential. 12

Again, thank you for the opportunity to comment.

Sincerely,

Linda K. Phillips

Linda K. Phillips, Ph.D.
Chair, Environmental Regulations Committee
Citizens Planning Association of Santa Barbara County

DIANNE FEINSTEIN
CALIFORNIA

MC-0054

Dm396

COMMITTEE ON APPROPRIATIONS
COMMITTEE ON THE JUDICIARY
COMMITTEE ON RULES AND ADMINISTRATION

United States Senate
WASHINGTON, DC 20510-0504

EA
FUP/AA

May 11, 1994

Lt. Gen. Donald M. Lionetti
Commander
Army Space and Strategic Defense Command
1941 Jefferson Davis Highway
Arlington, Virginia 22215-0280

Dear General Lionetti:

Enclosed for your review and consideration is a letter from the City of Lompoc in support of Vandenberg Air Force Base (AFB) as a site for the Theater Missile Defense (TMD) Extended Test Range.

As the Mayor and City Councilmembers point out, Vandenberg AFB has the infrastructure and test range management capability to support the U.S. Army program. In addition, they are very supportive of activities at Vandenberg AFB and would welcome the TMD Extended Test Range. 1 2

Apparently, a final Environmental Impact Statement and Record of Decision is expected by mid-summer. I urge your full consideration of the City of Lompoc's views.

Sincerely yours,

Dianne Feinstein

Dianne Feinstein
United States Senator

DF:ram
Enclosure

Return to Contents

MC-0054

CITY OF LOMPOC

VALLEY OF FLOWERS

1994 MAY -6 AM 10:06

MAYOR
Joyce Howerton

CITY COUNCILMEMBERS
Mary Leach, William Mullins,
Michael Siminski, George Stillman

CITY ADMINISTRATOR
Frank L. Priore

April 21, 1994

The Honorable Dianne Feinstein
331 Hart Senate Office Bldg.
Washington, D.C. 20510

Dear Senator Feinstein:

We would like to express our support for selection of Vandenberg Air Force Base (VAFB) as the site for the U.S. Army Theater Missile Defense (TMD) flight test program.

We feel VAFB is the best site for this program based on the following existing conditions. The City of Lompoc has a history of excellent relations with VAFB regarding business and community activities. VAFB has existing infrastructure and test range management capability to support the U.S. Army program. This base has operated as a missile test facility for many years without negative environmental impacts. The addition of this program to VAFB activities would be routinely accepted by the community. VAFB also has a history of safe and environmentally acceptable operations.

The City considers VAFB to be a long term partner of our community. The addition of this U.S. Army program to VAFB may benefit our community by stimulating jobs locally.

Please support selection of Vandenberg Air Force Base as the site for this program.

Sincerely,

Joyce Howerton, Mayor

Mary Leach, Councilmember

William Mullins, Councilmember

Mike Siminski, Councilmember

George Stillman, Councilmember

CITY HALL, 100 CIVIC CENTER PLAZA, P.O. BOX 8001, LOMPOC, CA 93438-8001
(805) 736-1261; FAX: (805) 736-5347

MC-0055

DM 395

FAX 205 837 0169
From: Jeffrey T. Davis

Attn: Randy Gallien, Army Environmental Engineer
Re: Jalama Campground - Santa Barbara, Ca.

We all recognise the importance of the nations defense. Then again, we all Know it's a large country. Can't we launch (test launch) these vehicles in the Allutions? Somewhere away from the large populace of So. Cal.? I work too much. I don't get that many chances to play. The Jalama campground has become very popular in recent years and for good reason. It's a great place to relax & play hard as well. 1

Please test launch your missles somewhere else. 2

Regards,

J.T. Davis
526 N. Paulina
Redondo Bch., Ca 90277

TOTAL P.01

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06-07-1994 13:55PM FROM MYRA FRANK & ASSOCIATES TO 12058370169 P.01

MC-0056

Dm 398

MC-0056

Myra L. Frank & Associates, Inc.

Fax Transmittal

Sent To: Randy Gallien, U.S. Army

Fax Number: (205) 837-0169 Job Number:

From: Gilberto R. Ruiz

Date: June 7, 1994 Total number of pages including this one: 1

Comments: I would like to express my opposition to the closing of Jalama Beach up to 48 times per year, as described in Surfer Magazine's August 1994 issue. I am particularly disturbed by the fact that the Santa Barbara County Board of Supervisors is supporting an EIS that the planning staff opposes. Mr. Gallien, Jalama Beach is a pristine ecological environment both in and out of the water. In addition, it is one the best surfing spots in California and must be accessible at all times. I am sure the Army can come up with a better plan that is both respectful to the environment and the surfers who enjoy the spot year-round. Thank you for your time.

1

Phone: (213) 627-5376
Fax: (213) 627-6853

811 West 7th Street, Suite 800, Los Angeles, CA 90017

TOTAL P.01

MAY-24-94 TUE 09:55 MELANIE'S ISLAND FLOWERS 619 431 8295 P.01

MC-0057

Dm 399

MC-0057

FAX # 205-837-0169

5-24-94

TO: RANDY GALLIEN

PLEASE DO NOT CLOSE 1 JALAMA BEACH PARK AT ALL DURING THE YEAR. MY FAMILY & I TRAVEL THERE SEVERAL TIMES A YEAR FROM S.D. COUNTY AND WOULD BE EXTREMELY DISAPPOINTED TO FIND IT CLOSED. COASTAL ACCESS IS SEVERLY LIMITED NOWADAYS AND THIS CLOSING WOULD INCREASE THE HARDSHIP ON US.

THANK YOU,

RICHARD McKENNA
920 HILLCREST PLACE

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MC-0058

DM 400
MC [redacted] - 00 [redacted]
58

Dear Mr. Gallien,

I have recently heard of the Army's decision to close Jalama State Beach Park up to 48 times a year for missile testing.

1

I understand the need to consistently test all equipment, especially something as complicated as a rocket. But I am concerned over the closing of what is one of California's if not America's most spectacular ocean state park.

I have been surfing and diving Jalama since 1973 and visit the park 4-5 times a year. It is a special place unlike all other places I have visited. Families, surfers, people from all over the world coexist in this geographically unique setting.

I hope a comprimise can be found where it will not be necessary to close the park and force may people to change plans that are often made monthes and sometimes years in advance.

It is important to protect the country so we, the American people can enjoy places like Jalama without worry form foreign intervention, but it is jsu as important to preserve and keep access today and in the future for all generations the majesty and beauty of this wonderful place.

Thank-you for your consideration to this issue.

Sincerely,

Jeff Lipsoomb

10.0 COMMENTS REGARDING EGLIN AIR FORCE BASE CANDIDATE TEST AREA (DRAFT EIS)

This section presents copies of the transcripts (Section 10.1), exhibits (Section 10.2), and written comments (Section 10.3) received during the public comment period associated with the publication of the Draft EIS that pertain to the Eglin AFB Candidate Test Area. The public comment period ran from February 4 to March 28, 1994. The commenter number appears in the upper left corner, and categorized comments are shown in the right margin.

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10.1
Transcripts

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UNITED STATES ARMY
SPACE AND STRATEGIC DEFENSE COMMAND

PUBLIC HEARING
Theater Missile Defense (TMD) Extended Test Range
Draft Environmental Impact Statement

This Hearing commenced on Tuesday, March 1st, 1994, between the hours of 7:00 PM and 9:02 PM, at the Sheraton Inn, Highway 98, Fort Walton Beach, Florida, before Teresa Emmanuel, Court Reporter.

APPEARANCES:

CYNTHIA CALDWELL, Moderator

MAJOR JOHN ADAMS, Army TMD Program Office

RANDY GALLIEN, USASSDC, Environmental and Engineering Office

TERESA EMMANUEL
108 B West Strong Street
Pensacola, Florida 32501
(904) 434-6169

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MS. CALDWELL: Good evening, and welcome to tonight's public hearing. My name is Cynthia Caldwell, and I've been asked by the US Army Space and Strategic Defense Command to moderate tonight's meeting.

Before I go over tonight's agenda and ground rules, I'd like to take this opportunity to introduce you to the Army's representatives who are here with us tonight.

Representing the Army Theater Missile Defense Program Office from Huntsville, Alabama is Major John Adams.

Also from the Army, we have Randy Gallien of the Space and Strategic Defense Command's Environmental and Engineering Office.

In the audience tonight are other technical representatives from the Ballistic Missile Defense Organization, Army and Eglin Air Force Base who are here tonight to listen to your comments.

To start the meeting, I'd like to take a minute to briefly outline the purpose of tonight's meeting, and to go over the agenda so you'll know what to expect as we proceed.

Tonight's public hearing has three essential purposes. The first is to describe to you the

nature of the program being examined in the Environmental Impact Statement. In this case, the Theater Missile Defense Extended Test Range Proposal.

The second is to briefly describe the Environmental Impact Statement, or EIS, process and some of the findings in the EIS.

The third and primary purpose is to listen to your suggestions, concerns and comments on the Draft EIS. Your comments tonight will then be used in the preparation of the Final EIS.

The agenda then for tonight's meeting is as follows: we'll show a brief video on the Army's proposal, followed by two short presentations. The first presentation by Major Adams will provide a brief overview of the Theater Missile Defense Extended Range Test, particularly as they relate to activities that could have potential environmental impacts.

In the second presentation, Randy Gallien will describe the environmental process being followed by the Army and the development of the EIS. He will also provide examples of the potential environmental impacts and mitigations that the Army has identified in the EIS.

If you have any questions of clarification about the presentations, we have a written comment sheet available, which can be used to write down your questions. We ask that you hand in your written questions during the break that follows the presentation.

Major Adams and Mr. Gallien will then look at these questions during the break and answer any of them that they can when we come back from the break.

The second-to-last item on the agenda, "Public Comments" is really the most important. Remember that the Draft EIS is just that, a draft. This is your opportunity to tell us how to improve it's analysis of potential environmental impacts before the document is finalized and before a decision on whether or not to proceed with the proposed action is made.

The final item on the agenda will be Closing Remarks by Major Adams.

A few administrative points before we -- on making your comments. If you have already signed up to speak, that's great. If not, and you would like to speak tonight, please go to the registration table and sign up. Everyone is welcome to speak, but it makes the process run more smoothly if I can

call on people from a sign-up list.

Everyone will have five minutes to speak. Then, after everyone has had a chance to speak, and if time permits, you're welcome to take a second turn to offer additional oral comments.

By the way, we have a court reporter here tonight to make a verbatim transcript of this hearing so that all of your oral comments will be recorded accurately. To aid in preparing the transcript, an audio recording of tonight's hearing will be made as well.

Also, you can make your comments in writing if you wish and there are three ways to do that. You can hand in written comments that you brought with you tonight to me, or at the registration table.

You can use the written comment sheets that are available at the registration table to write down any comments you wish to make and turn them in tonight.

Or you can mail written comments to the name and address, which appear on the written comment sheet and on the back of the agenda.

Whichever option you choose, your written comments will be entered into the formal record on Public Comments on the Drat EIS and they will be

given the same consideration as oral comments received tonight.

If you choose to mail in comments, please be sure to send them by March 28th, 1994, which is the closing date for the comment period.

If you want to receive a copy of the Final EIS when it becomes available, there are three ways to do that. If you receive the Draft EIS in the mail, you're already on the list and will automatically receive the Final. If you -- if you comment on the Draft EIS tonight, either orally or in writing, and provide us with your name and address, you'll be placed on the list to receive the Final EIS.

If you're not already on the list, and you do not plan on making comments, but still want to receive a copy of the Final EIS, there is a sign-up sheet at the registration table for that purpose.

The Army also has a mailing list of interested individuals so if you don't want to receive the Final EIS, you can still receive future notices of its availability and the decision that is eventually made, if you signed an attendance card.

Finally, it's important for you to understand that the Department of Defense representatives are not here today to make any decisions. Their role is

take the results of the public comment process, including the comments received at this hearing, and make sure that they are considered in preparation of the Final EIS. Their main purpose in being here tonight is to listen to your suggestions and concerns firsthand.

We'll now begin tonight's meeting with a brief video on the Theater Missile Extended Test Range Proposal.

(The video was shown)

MAJ. ADAMS: Good evening, my name is John Adams and I am representing the Army Theater Missile Defense Program Office located in Huntsville, Alabama. Since the main purpose for me being here tonight is to listen to your comments, I would like to keep my remarks relatively brief, and as much as possible, not repeat a lot of what was already covered in the video that you already saw.

Instead, I would concentrate on the key features of the proposed Theater Missle Defense Program that are probably of greatest interest to you. Let me first briefly summarize the proposed action that is evaluated in the Draft Environmental Impact Statement.

We propose to launch target missiles and

defensive missiles from existing ranges and proposed off-range launch locations. Tests would include missile-to-missile intercepts over existing military ranges, or open sea areas, and surface-to-surface flights in which missiles would impact on existing ranges, or within open sea areas.

These flights would be realistic in most respects except that the target missile would not contain any nuclear, chemical or biological weapons, and instead, these missiles would contain material designed to safely simulate the various characteristics of these weapons, such as the size and the weight.

The proposed off-range locations could include both land and sea-based launch sites, and we propose to conduct approximately one hundred such tests between 1994 and 2000 from one or more locations. In fact, it is unlikely that one launch location could satisfy all the test needs.

This slide shows the basic type of testing being proposed using one or more existing test ranges. As you can see on the left, there is a target missile that would be launched from up to seven hundred miles away, several hundred miles away, towards an existing range such as White Sands

Missile Range. Some of these test missiles would have one-stage boosters and others would have two-stage booster.

These boosters separate during the flight of the target missile and would come to rest on existing range and possibly on the -- on one of the extended ranges proposed. These areas, called booster drop zones, are evaluated in the Draft EIS and will be further discussed in my presentation and afterwards by Mr. Gallien.

The target would continue on its flight, and after being detected by tracking radar, a defensive missile would be launched for a planned intercept point over an existing military range or open-sea area. In some cases the TMD defensive missile may, itself, have a booster that would separate prior to the intercept and fall back to earth.

So how does your community fit into all this? In order to evaluate the full range of possible options for these extended range tests, four alternative testing range areas, as shown by these maps, have been evaluated by the Draft Environmental Impact Statement.

Potential flight paths of the targets and the interceptor missiles are represented by the dotted

lines on the map. Where the arrows meet, is the point of intercept.

Three of these potential extended range alternatives allow missile flight tests over water. They include: the Western Range off the coast of southern California, Eglin Air Force Base with launches in the Gulf of Mexico off Florida, and the Kwajalein in the mid-Pacific Ocean.

The forth extended range alternative is the White Sands missile range with potential launch sites at the Green River Launch Complex, Utah and the Fort Wingate Depot Activity in New Mexico. Keep in mind that we propose to test more than one type of Theater Missile Defense system. This means that different tests may require different range characteristics.

For example, the White Sands Missile Range provides the best opportunity to recover debris because the missile intercept point would occur over land. On the other hand, the Eglin Air Force Base alternative may provide more flexibility in terms of the altitude, speed and angle of attack for target missiles because the intercepts would occur over the Gulf of Mexico. As a result it is not -- excuse me, it is not at all unlikely the EIS could result in a

decision to conduct testing at more than one range..

Let me now focus on the range that is undoubtedly of the most interest to you. This map shows the proposed defensive missile flight paths from Santa Rosa Island and Cape San Blas, Florida. Because most defensive missiles and their sensor systems are fully mobile and self-contained, facility construction requirements at these sites is expected to be minimal.

The target missile would be launched from a mobile or fixed-sea platform for planned intercept well off the coast of Florida. Shown here is a more detailed map of the Sant Rosa launch site. Proposed defensive missiles would be launched from the A-15 launch site, and as delineated on this map, there is a six-thousand foot radius launch hazard area surrounding the launch site.

This area must be cleared of all non-essential personal prior to a launch. As you can see, this area does not include any land or residence on the other side of Santa Rosa Sound, although the intracoastal waterway would need to be temporarily closed. Booster drop zones for the Santa Rosa and Cape San Blas launch sites would be in the Gulf of Mexico. Recovery of spent boosters or intercept

debris is not planned, but may be conducted for some test flights.

In a minute, I will describe to you the procedure proposed for clearing these areas in order to ensure public safety during launches.

As shown here -- also shown here are two proposed Theater Missile Defense Portable Radar Test locations, site A-7 and A-11. Any of the several existing parking areas near these sites could be used. The purpose of the radar would be to track both the defensive and the target missile in flight over the Gulf. Appropriate safety zones would be set up in front of the radar during its operation.

As shown on this next map, the proposed Cape San Blas launch area has similar six thousand foot radius launch hazard area surrounding the launch pad D-3A. Again, this is area does not include any residences. It does include a portion of undeveloped private property north of the launch site and most of the adjacent US Coast Guard property to the west.

Launch operations at pad D-3A would also require temporary closure of State Road 30E connecting St. Joseph Peninsula to the mainland.

The launch hazard area and the other test areas

where missile debris could fall would need to be cleared of all non-essential personnel. To accomplish this, we propose to do the following: The anticipated closure period for the launch hazard area, either at Cape San Blas or Santa Rosa Island, would be approximately one hour per missile launch event with a minimum of forty-eight hours between launches. The number of launches is not expected to exceed four per month at either location.

Eglin Air Force Base would sign an agreement with private landowners within the Cape San Blas launch hazard area that would allow that area to be evacuated.

The temporary closure of State Road 30E at Cape San Blas is a safety measure routinely taken by Eglin Air Force Base during launches. Road blocks would be placed just outside the launch hazard area and would be coordinated with local authorities.

Commercial and private aircraft and sea vessels would be notified prior to any test flight through the Federal Aviation Administration and the US Coast Guard, respectively. These notices are usually issued several days in advance for a specific time period. Test areas would be monitored and verified clear of aircraft and watercraft before missile

launch.

Now, at this time I would like to turn the microphone over to Randy Gallien so that he can describe the Draft Environmental Impact Statement that is the subject of tonight's meeting. Thank you.

MR. GALLIEN: Thank you, Major Adams. Good evening, I am Randy Gallien with the US Army Space and Strategic Defense Command and Environmental Engineering Ofice. Our organization is responsible for preparing the Environmental Impact Statement for the Theater Missile Defense Extended Test Range Proposal.

Before I give an overview of the Draft EIS however, I would like to acknowledge some of the other agencies that have participated in its preparation. The Army Theater Defense Program Office and the US Army Space and Strategic Defense Command are proponents for the Theater Missile Defense Extended Test Range proposal.

The Ballistic Defense Organization is a cooperating agency for the EIS and has been directly involved in its preparation. The Ballistic Missile Defense Organization is also responsible for all Theater Missile Defense programs within the

Department of Defense.

Because the use of US Navy and Air Force facilities are a part of the proposed action, they are also directly involved in the preparation of the EIS.

Within the Federal government the Federal Aviation Administration has jurisdiction over the use of airspace and as such is participating in the preparation and the review of the environmental analysis.

The Bureau of Land Management will have direct involvement in the preparation of the Final EIS and establishment of booster drop zones and launch hazard areas involving BLM property for the over-land option.

In addition to these cooperating agencies, many other federal, state and local agencies have or will participate in reviewing and commenting on the EIS. Throughout the EIS process, we rely upon the participation of these organizations to help us develop a thorough, objective document, just as we rely on your participation. Your input is an integral part of the process for ensuring that we make well-informed decisions.

There are several purposes for preparing an

Environmental Impact Statement. The main purpose is to ensure that the potential environmental impacts are identified and considered in the federal decision making process. It also provides a means for informing the public and other agencies of programs and actions proposed by the federal government.

More importantly, it provides a means for obtaining your input before a final decision is made. The EIS identifies reasonable alternatives to the proposed action and evaluates potential impacts from them. It also identifies measures which can be taken to avoid or reduce these impacts. These are called mitigations.

Finally, the decision maker uses the environmental information contained in the EIS and your comments on it, to decide whether or not to proceed with one of the proposed alternatives, also taking into account other relevant technical, economic, mission and national policy considerations.

This slide outlines the EIS process we've been following. As I mentioned before, a key characteristic of the process is the public's opportunity to comment on the action. We began the

process by conferring with other federal agencies and holding nine scoping meetings to ask you, the public, for your ideas.

The next phase was the preparation of the Draft EIS. This document was then distributed for public and agency comment. The public comment period, which we are in now, includes public hearings and the opportunity to provide oral or written comments. During the public comment period, we want you to tell us if we have analyzed or considered all the environmental areas that potentially could be affected by the proposals.

Your comments on the Draft EIS will then be evaluated and addressed in the Final EIS. The final step is the Record of Decision. The decision on whether or not to proceed with the proposed action will not be made until at least thirty days after the distribution of the Final EIS. The decision will be made by senior level officials in the Department of Army and the Department of Defense. It's only after that decision that we will proceed with any of the actions.

In the Record of Decision we will discuss all the alternatives considered and state whether all the practical means to avoid or minimize

environmental harm have been adopted. In the case of the Theater Missile Defense Extended Test Range EIS, the decision could be to use one or more off-range locations at one or more candidate test range areas.

In other words, we're not faced with an either/or decision with regard to the alternative ranges. The no-action alternative action literally means a decision not to proceed with any ground-base Theater Missile Defense tests using these range extensions. This is the other action which could be chosen. Testing, however, would continue to occur using existing ranges.

This chart shows a list of the environmental topics covered in the Draft EIS. Obviously, this list is much longer than I can cover in a brief overview, but hopefully, you have had or will have a chance to look at the Draft EIS and review its analysis.

So at this point I would like to highlight some of the more significant environmental issues we encountered and analyzed in the Draft EIS, particularly those that may have been raised during the scoping process.

The next several charts are a summary of the

potential impacts we identified for each resource area, as well as any potential mitigations to reduce these impacts. I will try to leave the charts up here long enough for you to read each one, but in the interest of time, I'm going to highlight just a few topics.

For this chart let me highlight Biological Resources. Our analysis shows the potential for disturbing shorebirds from such activities as security vehicles traveling on the beach or debris recovery operations from an early flight termination near the beach. To reduce these potential impacts, we have identified the use of qualified biologists to locate potentially affected shorebird nesting sites so they can alert ground crews when necessary.

In the case of sea turtle nesting and hatching activities, we found the potential for lighting used in nighttime operations to confuse the turtles who use moon and star light to guide their direction. To avoid this potential impact, we've identified the use of shielded low-pressure sodium as a mitigation measure.

On the next chart, let's have a look at hazard material and waste. The EIS identifies the shipment of propellants and the generation of additional

hazard waste as activities that could have potential impacts. These materials and waste however, are all similar to the ones currently used by Eglin Air Force Base, which already has established procedures in place for their shipment and disposal. By ensuring all Theater Missile Defense activities follow these procedures, we found that the potential impact would be not be significant.

On this chart, let me highlight health and safety. In our analysis we found the primary potential for impacts to be related to the handling and the use of live ordnance and propellants and the creation of missile debris from the tests.

To mitigate potential hazard from ordnance and propellants, the EIS states that all operations involving their use would be performed by experienced personnel following approved procedures. In the case of missile debris, evacuation of potentially affected areas is the primary mitigation.

Potential impacts to transportation are caused by the need to clear people from the potential affected areas near the defensive missile launch sites. Activating the launch hazard area for the Santa Rosa Island launch site would require closure

of the intracoastal water way adjacent to it for up to sixty minutes.

Similarly, State Road 30E would need to be closed for up to sixty minutes if the Cape San Blas launch site were used potentially creating a backup of vehicles to and from the St. Joseph Peninsula. Although these closures would be short-lived and infrequent, we've identified two potential mitigations.

The first would be to provide notification well in advance of road closure so that area residents and users could plan accordingly. The second potential mitigation would be to avoid launches during holiday and summer weekend periods.

I've taken time only to highlight a few of our findings on the Draft EIS and the EIS has a wealth of information and analysis in it. I hope you have had the opportunity to review it. If not, we have available at the registration table a summary from the Draft EIS. This contains a more complete overview than time permits me now.

Also, keep in mind that while the Army takes responsibility for the conclusions in the EIS, its preparations have been and will continue to be a team effort. In this team effort we consult and

coordinate with state and local and other federal agencies to reach our conclusions.

Our main purpose for being here tonight though, is to listen, not to talk. That's because your input is very important in the development of the EIS and I can assure you that your input will be fully considered by the decision makers along with other information.

Let me point out a few dates. The closing date for receiving comments on the Draft EIS is March 28th of this year. The Final EIS will be prepared and made available to the public and this should occur in late spring of this year.

For the Record of Decision for the EIS -- issued no earlier than thirty days following the release of the Final EIS -- we anticipate this to be the summer of '94.

Again, if you're going to submit written comments after tonight's meeting, please mail them to the address here. Thank you for your time.

MS. CALDWELL: Thank you, Mr. Gallien. We're going to take a ten-minute break. However, before we do, if you have any questions concerning the presentation, please write them down on the comment sheet provided and hand them in at the registration

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table. Then when we come back Major Adams and Mr. Gallien will try to answer any questions they can before we start taking your comments.

(Brief recess)

MS. CALDWELL: We collected the questions you submitted during the break and Major Adams and Mr. Gallien have been reviewing them. They'll try to answer all the questions they can particularly for those who provide clarification on their presentation.

Keep in mind that some of the questions don't have answers at this point in the process prior to the Final EIS being prepared and the Record of Decision that will follow, but they would like to take just a few minutes here to clarify whatever they can.

MAJ. ADAMS: I'd like to begin. I have a couple of sheets here, and I'm going to try to keep this as short and succinct as possible. Just very briefly to summarize the question and hopefully, even briefer, give a clear answer to the question:

TWQ-0001

QUESTION: For an Eglin launch, how many personal are needed at land site or based at Eglin?

ANSWER: The EIS covers this on the

socioeconomic impact of it, and what we're looking for right now, the best estimates we have, is that these launches would be conducted in a campaign fashion, which means, we bring the personnel in, we conduct the pre-launch operation, the launch operations and the post-launch operations and get out of there.

It looks right now, depending on if it's a defensive or a Theater Target Missile launch, that we're going to be looking at about a hundred and forty folks, give or take, for about a two-week period and that would -- there would be an influx of those folks for the launch operation and then they would once again leave once that's over with.

We don't anticipate any additional built-up of personnel at Eglin Air Force Base for this. They have the expertise and the experience associated with this type of operation.

TWQ-0002

QUESTION: Where would ships -- I assume they're talking about the sea-bases launch platform -- for the Eglin launches be ported?

ANSWER: That right now, there are various alternatives to that. They're being looked at and that will be determined at a later date. I don't

have that answer -- we don't have that answer right now for that.

TWQ-0003

QUESTION: What means would be used to destroy errant missiles, if any?

ANSWER: One of the questions asked earlier was: if we had a miss during the intercept, those arrows look like they're coming right back on the coast of Florida. That, in fact, is not the case. These intercept points are -- have been designated and are assigned out far enough that if we, one, do have a missed intercept, there are two means to take the appropriate action for these missiles so they don't take the coast.

One is, that the trajectories of the target missiles are such that if it does have a clean miss and we still have it intact, the trajectory of that is going to take it down right into the ocean far well before it reaches the coast.

The second and the more important one for the safety aspect of the public is, that on each of these targets there will be a flight termination system. These targets are monitored by radar. We know exactly where they're going to be, and if, in fact, we do have a fly-by, the mission has not been

accomplished, there's no other reason to keep that target intact. The safety personnel would push the button and that missile would be destructed far before it reaches the coast.

TWQ-0004

QUESTION: What chemicals or other debris will be left in the water for the successful testing on the air and in the ground?

ANSWER: The EIS, once again, covers this and the fact that there are -- have been no -- no hazardous concentrations of any chemicals or contaminants that would be left in the air or in the water. That's a normal dispersion mechanism of the ocean flowing and air breezing along would disperse without having any harmful effects on them.

TWQ-0005

QUESTION: One probability of risk assessment being made regarding clearances -- detonations on land or striking a residence is a particular concern.

ANSWER: These assessments are on-going right now. We have launch hazard areas that take into account catastrophic events on the launch pad and these are on-going activities up until the actual launch of the missile itself. These are on-going to

ensure that the public safety is a highest concern and we do not launch if there is an unacceptable public safety risk.

These are the same procedures that Eglin has been using for a number of years now, and we see that there will be no changes. There's an excellent record here and the history of Eglin is beyond compare on that.

TWQ-0006

QUESTION: Asked for information regarding some damage from previous tests.

ANSWER: That's not applicable to this program. Those would -- any information on anything prior to what we're asking right now could be gotten from public affairs, from Eglin Air Force Base.

TWQ-0007

QUESTION: What arrangement, if any, has the government made to compensate individuals that are injured or compensated for loss associated with this program?

ANSWER: And there is an identified claims process that -- that the public has at their disposal to go through and put in claim to the government for any injuries or loss of property associated with this Theater Missile Defense

Program.

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MR. GALLIEN: A few others, as Major Adams and Ms. Caldwell said, we can only give you a very short answer here. These questions and comments will be given full consideration in the Final EIS and detailed answers will appear there.

TWQ-0008

QUESTION: The first one I have is a -- several questions, which essentially all concentrate on the use of depleted uranium or radioactive material.

ANSWER: There are no known plans for the use of depleted uranium or radioactive material at this time. I can't see into the future, but if there are plans -- if there are considerations given to its use in the future, similar analysis would have to be performed.

TWQ-0009

QUESTION: The next question, was the Ocean Dumping Act considered a potential problem area?

ANSWER: The Ocean Dumping Act was considered in the analysis. It is listed in the EIS as one of the statutes compared against.

TWQ-0010

QUESTION: Has the Coast Guard been consulted regarding the Intercoastal Waterway barge traffic safety in light of their handling the characteristics and hazardous material corridors?

ANSWER: Essentially, notice to Mariners will be issued and the Coast Guard will be consulted on each closure of the Intracoastal Waterway and also on the shipment and transport of hazardous materials through the waterway and existing procedures will be followed.

TWQ-0011

QUESTION: I got a question here on the economic impact of the project.

ANSWER: This is fairly well detailed in the EIS. Very quickly; there's no significant positive or negative impact identified in the EIS. However, the estimate for a hundred and forty people to come in, temporary duty, for a couple of weeks to support launch activities comes out to, I believe, in the neighborhood of two million dollars annual input into the local economy.

TWQ-0012

QUESTION: Site locations for the project, what defines the -- how do we arrive at the locations

that we're considering for activities, is the way I read that question.

And essentially -- then it asks: is losses, due to cut back in military strength, a factor in our deciding to consider Eglin, as well as Vandenburg and other locations, for potential areas.

ANSWER: No; the considerations given there were the existing facilities, the instrumentation, as well as for Eglin. One of the primary drivers for consideration there is the excellent safety record that exists for summer flight tests.

With that; Ms. Caldwell, we can move on into the comment period. If there are more questions, if you would step outside as we go through the comment period and record them, we'll either try to answer them tonight or we will answer in the Final EIS.

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MS. CALDWELL: Okay. We're ready to start calling the names of those of you who have indicated, that you'd like to make comments tonight. I have a list of people who have signed up so far and I'll start by calling out the first several

names so that you can get ready to come up to the front here to use the podium.

Because we want to record your comments fully and accurately, we ask that you speak clearly into the microphone. Also, if you would please state your name for the court reporter.

Finally, we kindly request that you observe the five-minute limit for oral comments. We use the five-minute limit at these hearings to give everyone a fair and equal chance to give their comments.

Keep in mind that after everyone has had a chance to speak for five minutes, you can have a second turn, but we want to let as many people speak as early in the evening as possible. To aid you in knowing when five minutes are up, I have a simple method for indicating time. After four minutes I'll put up my index finger like this (indicating) indicating that you have one minute left, this should help you find a comfortable place to wrap up your comments.

At the end of five minutes I'll put up my closed hand like this (indicating) indicating it's time to finish your comments. We greatly appreciate your corporation and understanding in observing the five-minute limit.

Also, keep in mind the oral comments are only one way to share your thoughts and concerns with us regarding the EIS. You can also hand in written comments tonight or mail them in by March 28th, and as I mentioned, written comments are given the same consideration as oral comments offered here tonight.

If you'd like to see a copy of the Draft EIS it's available at local libraries in your community and a complete list of the information repositories is available at the registration table. William Jordan is the first, Jim Baxley will follow.

TW-0001

MR. JORDAN: This is Resolution 94-2. The Resolution of the City Council of the City of Niceville, Florida urging the Department of Defense to support the designation of Eglin Air Force Base as a site for the Theater Missile Defense Program and providing the effective date there hereof, whereas the United States Congress passed the Missile Defense Act directing the Secretary of Defense to develop a Theater Missile Defense System by the mid-to-late 1990s, and whereas the United States Army is considering several potential sites to test multiple anti-missile systems being developed under the Theater Missile Defense Program

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TW-0001

and whereas Eglin Air Force Base is one of the locations under consideration by the United States Army, to conduct Theater Missile Defense flight tests.

Now, therefore, be it resolved by the City Council of the City of Niceville, Florida that the City of Niveville urges the Department of Defense to support the designation of Eglin Air Force Base as a site for the Theater Defense Program.

Section two: that the City Manager is hereby authorized to send copies of this Resolution to the Governor of the State of Florida Representative Earl Hotto, Senators, Commander of Eglin Air Force Base, State legislatures, state and federal delegations and other persons as directed by the City Council.

Section three: this Resolution shall take effect upon approval by the City Council and the signature of the mayor. Adopted in session this 11th day of January 1994.

And I have a certified -- that this is a certified forgoing -- is a true and correct copy of Resolution 94-2, signed January 11th, 1994 in the period of record in the office of the City Clerk. Thank you.

MAJ. ADAMS: Thank you, sir.

TW-0002

MS. CALDWELL: Jim Baxley, and to follow, Larry Trenary.

MR. BAXLEY: Jim Baxley and I'm from the office of Bob Graham. I thank you for the opportunity to be here tonight and I want to thank the military for giving the public the opportunity to comment on this. It's very important. As we know our military economy out here in North Florida is very important to this community.

Senator Graham, as I understand it, would be supportive of locating the project here at Eglin pending favorable approval of the State review, which at this point we, as I understand it, we -- we don't see a problem with that. So Senator Graham would be supportive of locating the project here at Eglin. Thank you.

MAJ. ADAM: Thank you, sir.

MS. CALDWELL: Larry Trenary, and to follow, Larry Williamson.

TW-0003 MR. TRENARY: Madame Moderator, I have also a Resolution from the City of Fort Walton Beach. My name is Trenary -- you almost got it right -- I'm the Mayor of Fort Walton, and I'll read my Resolution only by title in the interest of time since it's essentially the same as the gentleman's

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TW-0003

from Niceville.

It's Resolution 93-28 and it is a Resolution of the City of Fort Walton Beach urging the Department of Defense to support the designation of Eglin Air Force Base as a site for the Theater Missile Defense program.

I have a couple of personal comments. Having been in this kind of business myself before for about thirty years, I know you need some all-weather test capability. Have you witnessed the weather outside? You won't find that at the -- in California, you won't even find it in New Mexico. So I'm not so sure about Kwajalein. Anyway, that's one thing that we should bear in mind.

Another reason for your coming here to Eglin is we have a friendly community to military test procedures. We've had it for close to forty years. The people here are retired military -- a good many. Of course, we have some twenty thousand in active duty people. We have many civilians that have been in the test business of this kind -- of this nature. So we're test friendly so far as this kind. We understand -- we understand sonic booms and we understand a good many things that happen in the test procedures.

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TW-0003

It's certainly good for our business, but it would be equally good for other people's business too. So -- so some are worried about safety. I've been introduced to many of the test procedures that are at Eglin, and, you know, their excellent tracking facilities that they have. I don't believe that they would have to add another computer from what I've seen. So we urge you to consider us favorably.

MAJ. ADAMS: Thank you, Mr. Mayor.

MS. CALDWELL: Thank you, Mr. Trenary. Larry Williamson and then Richard Gage.

TW-0004 MR. WILLIAMSON: Thank you, I am Larry Williamson. I am the District Representative for US Congressman, Earl Hutto. I'm very sorry that the congressman could not be here this evening. I spoke with him on this project and would like to communicate several of his views. First of all, I would like to congratulate you on the thoroughness and the detail of the Draft Environmental Impact Statement. It's quite clear that you have gone to extensive steps to do as much as you can to satisfy all of the concerns.

It's clear that it is a quality piece of work and we congratulate you for your work in that

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TW-0004

regard. If I might inject a personal note, I am a Reservist and served in the Middle East and Desert Storm and I am very personally acquainted with the importance of this system and strongly support it as does the congressman.

The congressman has been working with the Department of Army and the Department of Defense and all other interested agencies to make sure that this happens in the first place and preferably that it happens here at Eglin. In that regard, he's been communicating with the Governor on a regular basis.

Most recently in a letter last December. I leave a copy of the letter for enclosure in the record, but simply read the one paragraph that does relate to the environmental concerns. In a letter to Governor Chiles dated December 13, the congressman says (reading) Eglin Air Force Base includes an extensive over-water test range which would be ideal for this test. All intercepts would be over water and all debris would fall in the water range boundaries.

Eglin has a complete array of test capabilities from laboratories to final operational tests. Also, eglin has a long and distinguished history of handling complex weapons tests in the Gulf. I've

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TW-0004

been informed that these tests can be performed without any compromise of public safety or the environmental.

Also one other comment, I think that you know this, but for purposes of making sure that it is in the record, Eglin Air Force Base has been the recipient of numerous unsolicited awards in the environmental area for its track record, and that needs to be a part of this record. Their record for safety and diligence and attention to the environment is well established.

This is not something that they do begrudgingly; they do it voluntarily and energetically and they do an excellent job. So we invite you to seriously consider Eglin Air Force Base for these tests. We want you come here. You will find a warm and receptive environment. We want your business.

MAJ. ADAMS: Thank you, sir.

MS. CALDWELL: Richard Gage followed by Chris Holly.

TW-0005 MR. GAGE: Good evening, I'm Richard Gage. I'm here representing the Town of Cinco Bayou. I'm a Councilman of the town. I'm also representing the Panhandle League of Cities as a member of the Board

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TW-0005

of Directors. I have two Resolutions here from -- one from each organization.

The first is Resolution 94-01 the Town of Cinco Bayou, which I'll read by title. (reading) The Resolution of the Town of Cinco Bayou, Florida urging the Department of Defense to support the designation of Eglin Air Force as a site for the Theater Missile Defense Program.

The second Resolution is from the Panhandle League of Cities. It is also Resolution 94-01. By title it reads: the Resolution of the Panhandle League of Cities urging the Department of Defense to support the designation of Eglin Air Force Baase as a site for the Theater Missile Defense Program. If it's all right with you, I'll dispense with all the whereas's.

MAJ. ADAMS: Thank you, sir.

MS. CALDWELL: Chris Holly followed by Brenda Bush.

TW-0006 MR. HOLLY: Good evening, name is Chris Holly, and I'm the Okaloosa County Manger, and I've been asked by the board to come to this evening's meeting and try to impress upon you how the board feels about the Department of Defense's presence here in Okaloosa County and how important it is. And that

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Teresa Emmanuel, Court Reporter

TW-0006

we support the mission statement of Eglin Air Force Base and how the board feels that this program fits right into that mission statement.

I will also dispense with all the whereas's, but I'll read the title of the Resolution. Resolution 93-112, a Resolution of the Okaloosa County Board of Commissioners urging the Department of Defense to support the designation of Eglin Air Force as the site of the Theater Missile Defense Program. This Resolution adopted December 28th, 1993, signed by Ray Sansom, Chairman.

MAJ. ADAMS: Thank you, sir.

MS. CALDWELL: Brenda Bush, followed by Shelly Epson.

TW-0007 MS. BUSH: Good evening, thank you for having me here this evening. I am Brenda Bush, City Councilwoman, Crestview, Florida. I'm here this evening on behalf of our City Council representing our city, and I too have a Resolution which I will read because the wording is much the same as these previously read.

Resolution number 93-47, Resolution of the City of Crestview, Florida urging the Department of Defense to support the designation of Eglin Air Force Base as a site for the Theater Missile Defense

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Teresa Emmanuel, Court Reporter

TW-0007

Program and for providing the effective date hereof. It has been signed by our Council President, William F. Kilpatrick attest by William Mill our city clerk as true on the 27th day of December '93 by the Mayor of Crestview, C.H. Madison. Thank you.

MAJ. ADAMS: Thank you, ma'am.

MS. CALDWELL: Shelly Edson, followed by Hayward Strong.

TW-0008 MS. EDSON: Hi; my name is Shelly Edson and I'm here tonight representing the City of Destin on behalf of our mayor, Mayor Vaughn who couldn't be here tonight. I also have a Resolution which I'll read by title.

Resolution 94-1, the Resolution of the City of Destin urging the Department of Defense to support the designation of Eglin Air Force Base as a site for the Theater Missile Defense program, adopted 18th day of January 1994, signed by the mayor, attested by our city manager and city clerk.

MAJ. ADAMS: Thank you.

MS. CALDWELL: Hayward Strong, followed by Walter Spence.

TW-0009 MR. STRONG: My name is Hayward Strong. I'm representing the City of Valparaiso. Tonight I have with me -- I am a city commissioner. I have with me

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Teresa Emmanuel, Court Reporter

TW-0009

a Resolution similar to the ones you've heard and we encourage you to bring the testing of Theater Missile Defense to Eglin and I'm sure you can do a good job. Thank you.

MAJ. ADAMS: Thank you, sir.

MS. CALDWELL: Walter Spence followed by Wesley Pool.

TW-0010 MR. SPENCE: Hi; I'm Walter Spence representing Spence Brothers Fish Company, Niceville, Florida. Having reviewed the Environmental Impact Statement, I find it to be a generally complete and well-researched document. There are two specific issues related to the EIS upon which I will comment.

The first issue concerns range safety as it affects the sea food industry. My family has engaged in commercial fishing and sea-food production for more than sixty years. We are the largest producers of Red Snapper on the Gulf Coast and a major producer of other fin fish.

Our boats have operated in the Gulf of Mexico throughout the entire history of Air Force testing and training over these water ranges. We have never had a complaint from any boat captain about any testing or training missions over the Gulf water ranges, nor are we aware of any civilian injury or

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Teresa Emmanuel, Court Reporter

TW-0010

property damage resulting from these missions.

Eglin and Tyndall range safety appears to have functioned extremely well and because of this excellent safety record we have no qualms about the location of the Army's TMD, extended test range here. The one to four missions generated per month should not significantly affect our industry.

The other issue to be raised is the effect of this test program on threatened and endangered species on Santa Rosa Island. The location of the TMD extended test range should provide a net-positive benefit for these species for the following reason; such testing justifies designation of that part of the island as a closed or restricted area with no access allowed to the general public.

For decades this thirteen-mile long segment of Santa Rosa Island located between Okaloosa Island and Navarre Beach has been closed to the public because of Bomark Missile firings and electronic warfare testing and training. Bomark launches ended a few years ago and the EW mission is likely to move to Edwards Air Force Base soon.

Without some new test activity, Eglin may have no reasonable justification for continuing to bar access to the public. The resulting unrestricted

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TW-0010

human traffic would likely have a greater impact on sea turtle nesting sites and a far greater impact on Snowy Plover nesting sites than has the military activity.

The EIS points out that the dunes on this portion of Santa Rosa Island constitute the most abundant site for Snowy Plover nests in Florida and that the birds are very sensitive to disturbance during nesting season. The prospect of beach goers blundering about in this dune ecosystem seems likely to be a far greater negative impact on these nests than will continued military testing activities.

In summation, we see no problem with the proposed testing activity and support the choice of Eglin, Cape San Blase as the site for the TMD extended test range.

MAJ. ADAMS: Thank you.

MS. CALDWELL: Wesley Pool, followed by Bernadette Taylor.

TW-0011 MR. POOL: I'm Wesley Pool with the Chamber of Clean Commerce. I have a Resolution I'd like to read to the record. The Chamber of Clean Commerce is against the proposed activities of the US Military off the Florida coast. The Chamber finds that since the US Military is totally dependent at

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TW-0011

present on various private contractors of various multinational affiliations, safety cannot be guaranteed or expected.

The Chamber finds that graft and corruption by the US Military contractors must by corrected by formulating and adopting clear guidelines for the meaningful oversight of military contractors. The Chamber urges the US Military to wean itself away from relying on the private sector, especially from multinational contractors and corporations of questionable reputation.

Wesley Pool, the Chamber 31-94.

I'd like that -- that question on depleted uranium. I'd like to read it into the record. So can I have it?

MR. GALLIEN: It will be part of the record.

MR. POOL: I would like to read into the record -- you sort of -- somewhat summarized it.

MR. GALLIEN: You can read it.

(Document tendered)

MR. POOL: I was at the previous public hearing here. At the previous public meeting, ya'll summed up my question and concerns about depleted uranium radioactive materials and said "at this time we won't do it" and "good night and thanks for coming."

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TW-0011

In this book on page four thirty, I don't have the book, but it says "not anticipated." And early in the meeting you said "would not contain."

That's the jugular all around the world now, is -- are we going to wean ourselves off? Are we going to stay married to the nuclear? And that's some filthy stuff. We can make a statement somewhere or another. We don't have to have three different weasel answers. No offense to the species.

The remark about Eglin having a -- such a good track record -- getting all these environmental awards, that's -- they're bad off to give the awards to somebody. They got cosmetic stuff going on, yes, but the hard-core stuff, we ain't scratched the surface.

You mentioned the local organizations were involved. The key one we need involved, the Emergency Management Services, stays uninvolved. They try their best to keep the Army's distance. For instance, if this vehicle or whatever ya'll call it, was to land up on building four forty and bump into one of them one and sixty-two thousand gallon tanks of methylene chloride -- that's a possibility, because it's two of them -- but we can have serious trouble. We wouldn't have any idea what to do.

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TW-0011

Ya'll could be helping us work on the railroad north and south of the county and when we get this railroad I hope you can be good neighbors, because Eglin is right -- it divides that county pretty well right down the middle. Ya'll can help us, but we're going to go right ahead and -- I don't know who we're going to shoot? We're about to run out of countries to shoot. It's like going through a herd of goats, it's hard to pinch which goat you want to send off.

I'd hate to select a country right now, but ya'll have that Resolution from the Chamber, and I want to thank various members of the citizenry and various members of government for supporting the Chamber and what we need to do is support the Chamber of your choice. Thank you.

MR. GALLIEN: Mr. Pool, if I could get you to turn the sheet back in so we can get it into the EIS.

MR. POOL: Oh, yes, there are three or four more lines at the bottom --.

MR. GALLIEN: We'll get it in there.

MS. CALDWELL: Bernadette Taylor followed by D.S. Gillespie.

TW-0012 MS. TAYLOR: I'm Bernadette Taylor. I'm an Air

TW-0012

Force widow and I would enjoy the program very much. I did ask some questions and it was just a tip of iceberg, I'm sure. I am surprised that there are so many yeas -- not enough nays, because I'd like to have peace in the world and not to try and destroy. Thank you.

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MAJ. ADAMS: Thank you, very much.

MS. CALDWELL: Basil Bethea, followed by Kelly Windes. Kelly Windes?

TW-0013 MR. WINDES: I'm Kelly Windes. I am a native to the area. Have been a self-employed charter boat owner/operator for twenty-three years. I have been a licensed ocean operator for twenty-eight years, presently operate three charter boats out of Destin. My wife and I own and lease property on Old Pass Lagoon and reside in Destin.

Being a fisherman, I look at this TMD project from a fisherman's point of view, which is from the Gulf of Mexico. Ever since I was a boy fishing as a deckhand out of Destin, I can remember there being military exercises going on in the Gulf. In most cases it was the Air Force conducting the missions, but in some cases it was Navy and other cases the Army. During these exercises the military worked with the fisherman in order to do the job with the

TW-0013

least amount of inconvenience to the fisherman.

We sometimes had to adjust our fishing agenda to avoid certain areas or had to plan a different route from one place to another. Nevertheless, the military always gave advance notice and were very courteous and professional.

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It is my understanding that from one to four missions per month would be scheduled if the TMD project were brought to out area. These missions might impose slight inconveniences to some fisherman at times, however, it would be nothing new. It seems to me that the matters of national defense and the local economic benefit, in addition to the cost savings to the government, would by far outweigh any inconveniences to the fisherman.

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In closing, I would say that as a fisherman, I would support any over-the-Gulf activities by the government to make this project a success. Thank you very much.

MAJ. ADAMS: Thank you, sir.

MS. CALDWELL: Roger Peters, followed by Nick Nickelson.

TW-0014 MR. PETERS: I'm Roger Peters. I am here as the Executive Director of the greater Fort Walton Beach Chamber of Commerce. The Board of Directors

TW-0014

of the Greater Fort Walton Beach Chamber in April of 1993 unanimously adopted a Resolution supporting the US Army Theater Missile Defense test program at Eglin Air Force Base providing all safety and environmental safe guards have been put into place prior to conducting these tests.

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Following a briefing by Air Force officials by our Board meeting February 28th, 1994 at which time the concerns of the chamber were discussed, the board unanimously supported the Theater Missile Defense Mission to Eglin Air Force Base.

Based on the information made available to the Chamber, we are convinced that the best location for these missile tests would be at Eglin Air Force Base Florida. Thank you.

MAJ. ADAMS: Thank you, sir.

MS. CALDWELL: Nick Nickelson followed by Chuck Kelly.

TW-0015 MR. NICKELSON: My name is Nick Nickelson. I am the president of the Okaloosa League of Cities. We have two cities that have not responded tonight; I think they did not show, so very quickly, I'll read a Resolution 94-6 from the City of Mary Esther which says: the Resolution of the City of Mary Esther Florida urges the Department of Defense to

TW-0015

support the designation of Eglin Air Force Base as a site for the Theater Missile Defense program and providing a protective date hereof. It was signed the 3rd of January 1994.

And also the Mayor of Shalimar asked if I would read his Resolution 94-3. It says the Resolution of the Town of Shalimar urges the Department of Defense to support the designation of Eglin Air Force Base as a site for the Theater Missile Defense program and providing effective date hereof and that was signed the 11th of January 1994.

And from the Okaloosa League of Cities, we have Resolution 93-6 which says: the Resolution of the Okaloosa County League of Cities urges the Department of Defense to support the designation Eglin Air Force Base as a site for the Theater Missile Defense program and providing an effective date hereof.

And since my Mayor of Fort Walton Beach made a personal comment, I would like to add one -- that said basically that during Desert Storm, Fort Walton Beach proclaimed itself as America's Most Patriot City. We had a local parade and we just invited everybody to show up, everybody and anybody, and the parade was approximately two miles long. We reached

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TW-0015

a destination; about twenty minutes later the people were still leaving the original spot, and that night on TV a young mother with a stroller with a red and white banner and little flags was asked if her husband was in the military, and she said, no, she just wanted to show her support. I think that's indicative of our community.

MS. CALDWELL: Chuck Kellie, followed by Jim Breder.

TW-0016

MR. KELLIE: Good evening, I'm Chuck Kellie here on behalf of the Niceville -- Valparaiso Bay Area Chamber of Commerce and I too have a Resolution tonight. Resolution 94-R-2. And that Resolution is entitled a Resolution of Niceville, Valparaiso Bay Area Chamber of Commerce urging the US Department of Defense to support the designation of Eglin Air Force Base as a site for the Theater Missile Defense program.

This Resolution was adopted by the Chamber, the Board of Directors, on the 22nd day of February 1994 and is signed by our President Don Collins and attested by Kellie Jo Kilberg.

MAJ. ADAMS: Thank you, sir.

MS. CALDWELL: Jim Brietenfield, followed by Christina Larson.

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TW-0017

MR. BRIETENFIELD: Thank you, my name is Jim Brietenfield. I'm the Executive Director for the Economic Development Council of Okaloosa County, and I'm here to state our full and unequivocal support of locating the TMD program at Eglin Air Force Base.

We have taken the time to review the Draft Environmental Impact. We believe that it was objectively and carefully done. We believe it addresses the full range of issues that effect the program.

Our review of the EIS leads us to the conclusion that Eglin Air Force Base is certainly the most logical site in the United States or offshore for the TMD program. We also believe that there is little doubt that the US Government must continue development of the Theater Missile Defense Program.

The question seems simple to us. The United States needs TMD; Eglin Air Force Base is the most feasible site, and we respectfully request that you consider locating the program here.

Santa Rosa Island has a long and successful history of missile and rocket launches. Santa Rosa Island and Eglin test range were created for just this type program. Encroachment is not an issue.

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TW-0017

The EIS reveals no down side to conducting the TMD at Eglin.

Eglin Air Force Base as stated earlier has demonstrated its commitment to the preservation of the environment.

The community had demonstrated an overwhelming support for this program and similar programs. Basically, there is no reason not to conduct the test here. Our hope is that fact and logic will prevail and we stand ready to welcome the TMD program to Eglin Air Force Base, and we thank you.

MAJ. ADAMS: Thank you.

MS. CALDWELL: Christina Larson followed by Steve Riggs.

TW-0018

MS. LARSON: I'm Christina Larson, Spokesperson for Patriots for Peace, a Florida Panhandle peace coalition with over four hundred members. I'd first like to commend those precious few who had the wisdom and courage here tonight to speak against the program. It takes great courage to stand up against such large numbers in an area like this.

Patriot missiles used in Desert Strom were a dismal failure despite Pentagon news releases to the contrary. Now, you tell us that the Theater Missile Defense, which includes Patriot missiles, is

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TW-0018

virtually safe. However, according to page four dash one six six of the Theater Missile Defense briefing, this safety assumption is based on a NASA study done over twenty years ago.

I'd like to give you a quote from that, if I don't knock your microphone. It was concluded that eventually all hazardous materials falling in the sea would become diluted by the water and would cease to be of any possible concern.

That lack of concern is over twenty years old. Next door -- right next door here -- is the Gulfarium which is called to do marine wildlife rescues. We'd like to know if there is any correlation between the marked increase in dolphin deaths this past year, and Eglin tests already being conducted in the Gulf of Mexico. The US citizens deserve a current independent analysis of both environmental economic impact before any more tax money is spent promoting this project.

Based on testing, manufacturing and employment costs, how can the Theater Missile Defense be considered economically feasible for our country when the US budget is so unbalanced that a tax on food stamps is being considered be bring in revenue? Thank you.

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TW-0019

MAJ. ADAMS: Thank you for your concern.

MS. CALDWELL: Steve Rigs, followed by Robert Larson.

MR. RIGS: My name is Steve Rigs. I've lived in the Fort Walton Beach area since 1960. I'm the father of four children; I'm married. I grew up and lived on the sound directly across from launch site A-15 from 1964 until I left for college. During the time I saw many Bomark missiles launched approximately two miles away from my home directly across the sound, and not once did it impact the quality of life on my family.

I now currently live a few hundred feet away from where I grew up, and I am still looking out my back door across the sound at launch site A-15 where these missiles will be launched. And as the father of four children living there, playing in the sound, I personally have no problem with missiles being launched there.

I'm not aware, having grown up in this area and been here for approximately thirty-four years, that there have been many casualties in the area as a result of the Bomark missile program during the '60s and '70s.

Our area does have a history of being very

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TW-0019

supportive of the United States military and I really don't see any problem with a hundred launches over a six-year period as to the safety of the citizens here. I also believe that these launches would be greatly appreciated and a boost to our economy.

To summarize, I own real estate in Santa Rosa County. I live in Okaloosa County and in Walton County and me and my family are very supportive of this program being located in this area. Thank you very much.

MAJ. ADAMS: Thank you, sir.

MS. CALDWELL: Robert Larson followed by Chuck Morgan.

MR. LARSON: I'm Robert Larson and I speak here as a private citizen. And if it's any credibility to what I am about to say, I was also a computer operator for surface-to-air missiles when I was in the Army. And I don't have the overriding feeling of security that I've heard from most people here tonight, and I have some anecdote that I can back it up with.

I would like to stay close to home on that however and mention the neighbor who was killed by a -- he was driving in his car and one of my neighbors

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TW-0020

was responsible for a program that was -- it involved drones and a drone went out of control and hit my other neighbor's car and killed him.

And then I have some friends up in DeFuniak who lost two members of their family when the Army inadvertently, by mistake, bombed their home one night during manuvers and killed those two people. Some mistakes happen and I don't like to see them just talked about in terms of one in a million or whatever the statistics are.

Also tonight we saw a program which it was implied that the Patriot missiles really did a bang up job in the Gulf War. And quite a while after the war was over and the public access to some of the information became a little bit easier, it came out that we didn't hit as many of those scuds as we were made to believe that were hit.

Actually the Patriots did very poorly and the whole reason for the pump up was to support SDI and get congressmen's support for that, and the American public were just inadvertently exposed to that -- what I call nonsense.

Finally the depleted uranium, I'm not satisfied that we know the effects of that. We have right now thirty-five to forty thousand veterans from the Gulf

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TW-0020

War who are clamoring at the VA for an investigation as to what has been called the Gulf War Syndrome. I think it's from the use of depleted uranium over there and we know from FOYA releases that the depleted uranium has reached thirty inches, in our last report anyway, below the surface of the ground on Eglin.

When you talk about a nuclear simulation I don't imagine you will be using anything but depleted uranium for ballast in that, and I don't know how much is acceptable to go down in the Gulf, but I'm concerned about it. And I wouldn't site Eglin as being a prime example of someone who knows how to handle hazardous waste, because for a long time we thought of Eglin as the biggest polluter in our area -- at least the people that I talked to. Thank you very much.

MAJ. ADAMS: Thank you, sir.

MS. CALDWELL: Chuck Morgan followed by Bill Banks.

TW-0021 MR. MORGAN: I speak for myself, no other person, firm, corporation, city or government. First, I want to thank the gentleman who came to present the program to us. I know that the Public Information Office at Eglin and the Chambers of

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TW-0021

Commerce with deep abiding interest have done an obviously grand job. I know that the area has affinity to Eglin and fears that in the Defense cutbacks Eglin, might suffer. And I know that many in the area want to demonstrate their support for Eglin, and I understand that, and I feel empathy for those business people.

Now, I know a little bit the about depleted uranium. I know about Eglin and depleted uranium. For instance, not too many years ago it is my understanding that Eglin did ship depleted uranium for storage to the disposal site in South Carolina where the Nuclear Regulatory Commision established it, and was rejected because the containers were leaking.

I've noticed in the newspapers lately a number of stories about the forests at Eglin, the woodpecker that's back, something about eagles. I've noticed as long ago as six months, city councils and chambers of commerce taking positions in favor of this venture long before there was any Environmental Impact Statement. It was merely a dream in the minds of those who are in charge.

Now, I know this much; those of us who watched the Gulf War learned that missiles don't always go

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TW-0021

where they're intended and sometimes they kill innocent people. We know secondly that there is an entire history that could be garnered for probabilities risk assess. Those kind of assessments are statistically based. They use the nuclear power plants and Nuclear Regulatory Commission areas. They're used with respect to research and engineering areas constantly. I have only now received the EIS. I've gone through it quickly. I notice no reference in it, in the index or in the table of contents regarding any probabilities risk assessment with respect to this venture.

Now, I think that everyone here means well. I have no question about the city officials, the folks with the Chamber of Commerce and the people in business in the area. They think that what they're saying is right and so do the people on the other side. But I am absolutely certain that my insurance man has told me that my policies on my private property don't cover any such damage that occur from a missed fired missile and I know that sometimes folks don't shoot missiles down when they're supposed to, and don't trigger the devices to do so.

I know that there's a great economic interest

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TW-0021

in Eglin, but I also know that there's a changing nature in the area with respect to environment, and with respect to tourism. I know that one mistake, whatever the probabilities risk assessment would show, with one major parcel of item falling on a condominium, striking frighteningly near a tourist center, would reek more havoc then this program could possibly bring here economically.

And I also know that you gentleman have a job to do and I want you to know that representing absolutely no one but me, I'm here to speak for Kwajalein.

MAJ. ADAMS: Thank you, sir.

MS. CALDWELL: Mr. Banks.

TW-0022 MR. BANKS: I'm Bill Banks. I'm a private citizen. What can you say after that one? That was a great presentation; that was wonderful.

I'm very concerned about the species of animal that has not been -- that has not been mentioned in any of this Environmental Impact Study and that is Maxnumammary sunbutticus or common nudists.

Nobody has said anything about the effect of the nudist colony on Santa Rosa Island and I'm very concerned about that.

Seriously, here's what I have to say. I think

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TW-0022

Theater Missile Defense is of vital importance in protection of the US troops against advanced medium range missiles. We must have the ability to defend against this threat. Development and testing will enable us to field a system, and I believe that the Eglin test range is ideally suited for over-water testing, and here's why:

Number one, we have a good existing infrastructure and contrary to what some people think, I think we do have an excellent safety record. We have a rather sparse population in this area compared to other areas. Although Kwajalein beats us, I've got to admit that. And so I think there is a diminished danger of injury.

From what I can see I believe there's a minimum environmental effect and I think there's adequate accommodations for TDY personnel. As a private citizen and a permanent resident of Okaloosa County, I wish to go on record of being in support of Theater Missile Defense testing at Eglin Air Force Base Florida.

MAJ. ADAMS: Thank you, sir.

MS. CALDWELL: Wesley Pool is going to speak a second time, and if anyone else would like to speak once more, please let me know.

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TW-0011

MR. POOL: I'll be very brief. This -- I mean, it's not much resistance here. I mean, everybody is scared to jump out of the click, and that's pretty dog-gone obvious. The most resistance I see is, ya'll are going to try to stop those coal barges from going up and down that intracoastal, hey, ya'll are going to run into some substantial trouble. That's it.

MS. CALDWELL: We're going to take a five minute break and come back.

(Brief recess)

MS. CALDWELL: We have started again. We have more one more person who wants to make a comment. If anybody else would like to speak, please let us know. Marium Skulca (phonetic).

TW-0023 MR. SKULCA: Seeing as how I'm the tail end here, first let me say my name is Marty Skulca. I'm the President of Computer Science and Application Incorporated here in Fort Walton Beach. I'm a member of the Defensive Establishment and I think I'm about the only one that hasn't spoken here tonight.

We're very gratified by the public support that we've gotten from all our public officials. I'd like to present one view of environmental impact

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TW-0023

that perhaps has been overlooked in the Environmental Impact Statement, and in the discussion, and that is the following; today's weapon systems are very complex, and they're very expensive. You spend a lot of money to go out and test the weapons system. Eglin here has two of the finest facilities in the country that do non-destructive laboratory testing of missile and weapon systems without the necessity for flight tests.

Now, I'm not questioning the necessity for flight tests. When I have a missile simulation you're required an occasion flight test to prove that you're missile simulation is accurate and valid. So flight tests are necessary.

However, with one flight test I can validate a simulation in one of these simulation facilities at Eglin where we can run thousands, literally thousands, of simulation tests in a controlled laboratory non-destructive environment, thereby eliminating the necessity for at a lot of flight testing. And so consequently, the most environmentally sound flight tests that you could possibly run, is the one that you don't have to fly because you got the same information out of the

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TW-0023

laboratory simulation. That is a factor that I think has not been emphasized.

I think if you compare the four facilities that we're talking about, Eglin is clearly at the lead in the capability of having simulation facilities that can minimize the necessity for flight tests. Thank you very much.

MS. CALDWELL: Basil Bethea.

TW-0024 MR. BETHEA: I'm Basil Bethea from Fort Walton Beach, and I received a copy of a letter from State Representative, James Kerrigan, and I'd like to read that at this time if I can, please. It's to the Army.

I would like to take this opportunity to express my support in having Eglin Air Force Base Florida as a site for the Theater Missile Defense program. Last year I was informed by the US Army Space and Statistics Defense Command of their intentions to possibly locate this valuable program in my district.

I know that Eglin is the ideal location for such a program based on the fact that Eglin has recently been designated the best Air Force Base in the US, having received the Air Force Installation Excellence Award indicating its commitment to

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provide high quality products and protection of the environment.

Other aspects of my support include the fact that Eglin has a previous history of successful missile launches from Santa Rosa Island and a minimum amount of ship and commercial air traffic in this district. Therefore, you have my full support in this project.

I have enclosed copies of several Resolutions in support of the Eglin Air Force Base location for the Theater Missile Defense Extended Test Range.

With warm regards, James P. Kerrigan, State Representative, District Four, State of Florida.

MAJ. ADAMS: Thank you, sir. I understand that's all the speakers -- all the comments. On behalf of the US Army Space and Strategic Space Command and for the ballistic missile -- or the Bullistic Missile Defense Organization, I would like to thank each and everyone of you for coming out today to participate in this process.

And that's what it is; it's a process that we, in this Environmental Impact Statement, are going to be recommending, making recommendations to the decision makers and our recommendations would not be complete if we did not have the comments that this

process, here in the public hearing, gives us -- affords us, the opportunity to take.

It's not a very pretty night outside and I just want to say on behalf of all of us, thank you very much for coming out and participating in this process and it is important. Thank you.

MS. CALDWELL: We have closed the hearing at 9:02 PM.

(Hearing concluded)

CERTIFICATE OF REPORTER

STATE OF FLORIDA

COUNTY OF ESCAMBIA

I, TERESA EMMANUEL, Court Reporter and Notary Public, State of Florida at Large, do hereby certify that I attended and did report the PUBLIC HEARING for the United States Army Space and Strategic Defense Command on March, 1st, 1994 from 7:00 PM to 9:02 PM.

I further certify that the within transcript, pages 2 to 70, is a true and accurate record of my stenographic notes taken at that time.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal this 5th day of March, 1994.

Teresa Emmanuel

TERESA EMMANUEL, COURT REPORTER
NOTARY PUBLIC, STATE OF FLORIDA
MY COMMISSION EXPIRES 7-14-94

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U.S. ARMY SPACE AND STRATEGIC DEFENSE

SCOPING MEETING

MARCH 2, 1994

IN RE: Port St. Joe, Cape San Blas

Scoping meeting held on March 2, 1994, commencing at approximately 7:00 p.m. EST, at the Gulf County Board of County Commissioner's Room, Gulf County Courthouse, Port St. Joe, Florida.

APPEARANCES

Cynthia Caldwell
The Earth Technology Corporation
Huntsville, Alabama

Major John Adams
Army Theater Missile Defense Program Office

Mr. Randy Gallien
Space and Strategic Defense Command
Environment and Engineering Office

Reported By: Gertrude B. Downs

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PUBLIC HEARING

MARCH 2, 1994

CAPE SAN BLAS

MS. CALDWELL: Good evening and welcome to tonight's public hearing. My name is Cynthia Caldwell, and I've been asked by the U.S. Army Space and Strategic Defense Command to moderate tonight's meeting.

Before I go over tonight's agenda and ground rules, I'd like to take this opportunity to introduce you to the Army representatives who are here with us tonight.

Representing the Army Theater Missile Defense Program Office from Huntsville, Alabama is Major John Adams. Also from the Army, we have Randy Gallien of the Space and Strategic Defense Command's Environmental and Engineering Office.

In the audience tonight are other technical representatives from the Ballistic Missile Defense Organization, Army, and Eglin Air Force Base who are here tonight to listen to your comments.

To start the meeting, I'd like to take a minute to briefly outline the purpose of tonight's meeting and to go over the agenda so you'll know what to expect as we proceed.

Tonight's public hearing has three essential purposes. The first is to describe to you the nature of the

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program that is being examined in the Environmental Impact Statement, in this case, the Theater Missile Defense Extended Test Range proposal.

The second is to briefly describe the Environmental Impact Statement, or EIS, process and some of the findings in the EIS.

The third, and primary purpose, is to listen to your suggestions, concerns, and comments on the Draft EIS. Your comments tonight will then be used in the preparation of the Final EIS.

The agenda, then, for tonight's meeting is as follows: We will show a brief video on the Army's proposal, followed by two short presentations.

The first presentation by Major Adams will provide a brief overview of the Theater Missile Defense Extended Range tests, particularly as they relate to activities that could have potential environmental impact.

In the second presentation, Randy Gallien will describe the environmental process being followed by the Army some of the--in the development of the EIS. He also will provide examples of some of the potential environmental impacts and mitigations that the Army has identified in the EIS.

If you have any questions of clarification about the presentations, we have a written comment sheet available

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which can be used to write down your questions. We ask that you hand in your written questions during the break that follows the presentations. Major Adams and Mr. Gallien will then look at these questions during the break and answer any of them they can when we come back from the break.

The second-to-last item in the agenda, public comments, is really the most important. Remember that the Draft EIS is just that, a draft. This is your opportunity to tell us how to improve its analysis of potential environmental impacts before the document is finalized and before a decision on whether or not to proceed with the proposed action is made. The final item on the agenda will be closing remarks by Major Adams.

A few administrative points on making comments. If you have already signed up to speak, that's great. If not and you would like to speak tonight, please go to the registration table and sign up. Everyone is welcome to speak, but it makes the process run more smoothly if I can call on people from a sign-up list.

Everyone will have five minutes to speak. Then, after everyone has had a chance to speak, and if time permits, you're welcome to take a second turn to offer additional oral comments.

By the way, we have a court reporter here tonight to

make a verbatim transcript of this hearing so that all of your oral comments will be recorded accurately. To aid in preparing the transcript, an audio recording of tonight's hearing will be made as well.

Also, you can make your comments in writing if you wish, and there are three ways to do that. You can hand in written comments that you brought with you tonight to me or at the registration table.

You can use the written comment sheets that are available at the registration table to write down any comments you wish to make and turn them in tonight. Or you can mail written comments to the name and address which appear on the written comment sheets and on the back of the agenda.

Whichever option you choose, your written comments will be entered into the formal record of public comments on the Draft EIS, and they will be given the same consideration as oral comments received here tonight.

If you choose to mail in comments, please be sure to send them in by March 28, 1994, which is the closing date for the comment period.

If you want to receive a copy of the Final EIS when it becomes available, there are three ways to do that. If you received a Draft EIS in the mail, you're already on the list and will automatically receive the final.

If you comment on the Draft EIS either orally or in writing, and provide us with your name and address, you'll be placed on the list to receive the Final EIS.

If you're not already on the list, and you do not plan on making comments but still want to receive a copy of the Final EIS, there is a sign-up sheet at the registration table for that purpose.

The Army also has a mailing list of interested individuals, so even if you don't want to receive the Final EIS, you can still receive future notices of its availability and the decision that's eventually made, if you sign an attendance card.

Finally, it's important for you to understand that the Department of Defense representatives are not here today to make any decisions. Their role is to take the results of the public comment process, including the comments received at this hearing, and make sure they're considered in the preparation of the Final EIS. Their main purpose in being here tonight is to listen to your suggestions and concerns first-hand.

We'll now begin tonight's meeting with a brief video on the Theater Missile Defense Extended Test Range Proposal.

(Video shown to audience. Major John Adams gives slide presentation.)

MAJOR ADAMS: Good evening. Before I begin, do we have any available chairs for the folks who are--is there one up front here? Let the people get comfortable.

Well good evening. My name is Major John Adams, and I am representing the Army Theater Missile Defense Program Office located in Huntsville, Alabama.

Since the main purpose for us being here tonight is to listen to your comments, I would like to keep my comments relatively brief and not cover much--very much of what you just saw in the video, and not repeat that but instead, to concentrate on the features of the proposed Theater Missile Defense Program that are of the greatest interest to you.

Let me first briefly summarize the proposed action that is evaluated in the Draft Environmental Impact Statement. We propose to launch target missiles and defensive missiles from existing ranges and proposed off-range locations.

Tests would include missile-to-missile intercepts over existing military ranges or open sea areas, and surface-to-surface flights in which missiles would impact on existing ranges or within those open sea areas.

These flights would be realistic in most respects, except that the target missile would not contain any

nuclear, chemical, or biological weapons.

Instead, these missiles will contain materials designed safe--to safely simulate the various characteristics of these weapons, such as their size and their weight.

The proposed off-range locations could include both land and sea-based launch sites, and we propose to conduct approximately 100 such tests between the years 1994 and the year 2000 from one or more locations. In fact, it is unlikely that one launch location could satisfy all the test needs.

This slide shows the basic type of test being proposed using one or more extended test ranges. As you can see on the left, there is a target missile that would be launched from up to several hundred miles away toward an existing range, such as White Sands Missile Range.

Some of these target missiles would have a one-stage booster, and others would have two-stage boosters. These boosters separate during flight--during the flight of the target missile, and would come to rest on the existing range, and possibly on one of the extended ranges proposed. These areas, called booster drop zones, are evaluated in the Draft EIS, and will be further discussed in my presentation, and afterwards by Mr. Gallien.

The target would continue on it's flight and after

being detected by a tracking radar, a defensive missile would be launched from a planned intercept point over an existing military range, or open sea area. In some cases, the TMD defensive missile may itself have a booster that would separate prior to the intercept and fall back to earth.

So how does your community here figure into all of this? In order to evaluate a full range of possible options for these extended test ranges--range tests, four alternative test range areas, as shown by these maps, have been evaluated in the Draft Environmental Impact Statement.

Potential flight paths of the targets and interceptor missiles are represented by the dotted lines. Where the two arrows meet is the intercept point. Three of these potential extended range alternatives allow missile flight tests over water. They include the western range off the coast of Southern California, Eglin Air Force Base with launches in the Gulf of Mexico off Florida, and the Kwajalein Missile Range in the mid-Pacific Ocean.

The fourth extended range alternative is the White Sands Missile Range with potential launch sites at the Green River Launch Complex, Utah, and the Fort Wingate Depot Activity in New Mexico.

Keep in mind that we propose to test more than one

type of Theater Missile Defense system. This means that different tests may require different range characteristics. For example, the White Sands Missile Range provides the best opportunity to recover debris because the missile intercept point would occur over land.

On the other hand, the Eglin Air Force Base alternative may provide more flexibility in the terms of the altitude, speed, and angle of attack for target missiles because the intercepts would occur over the Gulf of Mexico. As a result, it is likely that the EIS could result in a decision to conduct testing at more than one range.

Let me now focus on the range that is undoubtedly of the most interest to you. This map shows the proposed defensive missile flight paths from Cape San Blas, Florida.

Because most defensive missiles and their sensor systems are fully mobile and self-contained, facility construction requirements at these sites is expected to be minimal. The target missile would be launched from a mobile or fixed sea platform for a planned intercept well off the coast of Florida.

As shown on this next map, the proposed Cape San Blas launch area has a 6000 foot radius Launch Hazard Area surrounding the launch pad D-3A. This area does not include any residences. It does include a portion of an undeveloped private property north of the launch site, and

most of the adjacent U.S. Coast Guard property to the west.

Booster drop zones for the Cape San Blas launch sites would be in the Gulf of Mexico. Recovery of spent boosters or intercept debris is not planned, but may be conducted for some tests.

Launch operations at pad D-3A would also require temporary closure of State Road 30E connecting St. Joseph Peninsula to the main land.

The launch hazard area and other test areas where missile debris could fall would need to be cleared of all nonessential personnel. To accomplish this, we propose to do the following: The anticipated closure period for the launch hazard area at Cape San Blas would be approximately one hour per missile launch event, with a missile--with a minimum of 48 minutes--excuse me--minimum of 48 hours between launches. The number of launches is not expected to exceed four per month at either location, say, Cape San Blas or the Santa Rosa launch site.

Eglin Air Force Base would sign an agreement with private land owners with the Cape San Blas launch hazard area that would allow that--the area to be evacuated.

The temporary closure of the State Road 30E at Cape San Blas is a safety measure routinely taken by Eglin Air Force Base during launches. Road blocks would be placed

just outside the launch hazard area and would be coordinated with the local authorities.

Commercial and private aircraft and sea vessels would be notified prior to any test flight through the Federal Aviation Administration and the U. S. Coast Guard respectively. These notices are usually issued several days in advance for a specific time period. Test areas would be monitored and verified clear of all aircraft and watercraft before missile launches.

At this time, I would like to turn the microphone over to Mr. Randy Gallien so that he can describe the Draft Environmental Impact Statement that is the subject of tonight's meeting. Thank you

(Mr. Gallien gives slide presentation.)

MR. GALLIEN: Good evening. I am Randy Gallien with the U.S. Army Space and Strategic Defense Command's Environmental and Engineering Office.

Our organization is responsible for preparing the Environmental Impact Statement for the Theater Missile Defense Test Range proposal. Before I give an overview of the Draft EIS, however, I would like to acknowledge some of the agencies that have participated in it's preparation.

The Army Theater Defense Missile Program Office and the U.S. Army Space and Defense Command are proponents for

the Theater Defense Extended Test Range proposal. The Ballistic Missile Defense Organization is a cooperating agency for the EIS, and has been directly involved in this preparation.

The Ballistic Missile Defense Organization is also responsible for all Theater Missile Defense programs within the Department of Defense. Because the use of U.S. Navy and Air Force facilities are a part of the proposed action, they are also directly involved in the preparation of the EIS.

Within the Federal government, the Federal Aviation Administration has jurisdiction over the use of air space. Therefore, they are participating in the preparation and review of the environmental analysis.

The Bureau of Land Management will have direct involvement in the preparation of the Final EIS and establishing of the booster drop zones and launch hazard areas involving BLM property for the over-land alternative.

In addition to these cooperating agencies, many other federal, state, and local agencies have or will participate in reviewing and commenting on the EIS.

Throughout the EIS process, we rely on the participation of these organizations to help us develop a thorough, objective document, just as we rely upon your participation. Your input is integral to the process for ensur-

ing that we make well informed decisions, and we--we really do appreciate the time you have taken to be here tonight.

There are several purposes for preparing the Environmental Impact Statement. The main purpose of an EIS is to ensure that the potential environmental impacts are identified and considered in the federal decision making process. It also provides a means of informing the public and other agencies of programs and actions proposed by the Federal government. More importantly, it provides the means of obtaining your input before a final decision is made.

The EIS identifies reasonable alternatives to the proposed action and then it evaluates the potential impacts from them. It also identifies measures which could be taken to reduce or avoid these impacts. These are mitigations.

Finally, the decision maker uses the environmental information contained in the EIS and your comments, and then makes the decision on whether or not to proceed with one of the proposed alternatives, also taking into account other relevant technical, economic, mission, and national policy considerations. (Mr. Gallien coughs.) Excuse me.

This slide outlines the EIS process that we've been following. As I mentioned before, a key characteristic of

the process is the public's opportunity to comment on the proposed action.

We began this process by conferring with other Federal and state agencies, and by holding nine scoping meetings to ask you, the public, for your ideas. The next phase was the preparation of the Draft EIS which was then distributed for public and agency comment.

This public comment period, which we are in now, includes public hearings and the opportunity to provide oral and written comments. During the public comment period, we want you to tell us if we have analyzed or considered all environmental areas that potentially could be affected by the proposal. Your comments on the Draft EIS will then be evaluated and addressed in the Final EIS.

The final step is the Record of Decision. The decision on whether or not to proceed with the proposed action will not be made until at least 30 days following the distribution of the Final EIS. This decision will be made by senior level officials in the Department of Defense and the Department of Army. It is only after that--this decision that any of the activities would proceed.

In the record of decision, we will discuss all the alternatives considered and state whether all practical means to avoid or minimize environmental harm have been adopted.

In the case of the Theater Missile Defense Extended Test Range EIS, this decision could be to use one or more off-range locations and one or more candidate test ranges. In other words, we are not faced with an either/or decision with regard to the alternative ranges.

The other action could be--that could be chosen is the no-action alternative. The no-action alternative literally means the decision not to proceed with any ground based Theater Missile Defense tests using these new range extensions. Testing, however, would continue to occur using existing ranges.

This chart shows the list of environmental topics covered in the EIS. Obviously this list is much longer than I can cover in a brief overview, but hopefully you've had a chance to look at the Draft EIS and review its analysis. So at this point, I'd like to highlight some of the more significant environmental issues we encountered and analyzed in the Draft EIS, particularly those that have been raised in the scoping process.

These next several charts provide a summary of the potential impacts that we identified for each of the resource areas, as well as any potential mitigation to reduce these impacts. I'll try to leave the charts up here long enough for you to read each one but in the interest of time, I'm just going to highlight a few of the

topics.

For the first chart, let me highlight biological resources. Our analysis shows the potential for disturbing shorebirds from such activities as security vehicles traveling on the beach or debris recovery operations from an early flight termination near the beach.

To reduce these potential impacts, we have identified the use of qualified biologists to locate potentially affected shorebird nesting sites so that they can alert ground crews when necessary.

In the case of the sea turtle nesting and hatching activi--excuse me--activities, we found the potential for lighting used in nighttime operations to confuse the turtles who use moon and starlight to guide their direction. To avoid this potential impact, we have identified the use of shielded low pressure sodium lights as a mitigation measure.

On this next chart, let's look at the hazardous material and hazardous waste here. The EIS identifies the shipment of propellants and the generation of additional hazardous waste as activities that could have potential impacts. These materials and waste, however, are all similar to the ones currently used and handled by Eglin Air Force base. Eglin Air Force Base already has established procedures in place for their shipment and

disposal. By ensuring that all Theater Missile Defense related activities follow these procedures, we found that the potential impacts would not be significant.

Here I'd like to highlight health and safety. In our analysis, we found that the primary potential for impacts were related to the handling and use of live ordnance and propellants and the creation of missile debris from the tests.

To mitigate the potential hazards from ordinance and propellants, the EIS states that all operations involving their use would be performed by experienced personnel following approved procedures. In the case of debris, evacuation of potentially affected areas is the primary mitigation.

Potential im-- (Mr. Gallien coughs). Excuse me, I'm catching a cold. Potential impacts to transportation are caused by the need to clear people from the potentially affected areas near the defensive launch sites. Activating the launch hazard area for the Santa Rosa Island launch would require the closure of the Intracoastal Waterway for up to 60 minutes.

Likewise, State Road 30E would need to be closed for up to 60 minutes if the Cape San Blas launch site were used, potentially creating a backup of vehicles to and from the St. Joseph Peninsula. Although these closures

would be short-lived and infrequent, we have identified two potential mitigations.

The first would provide--would be to provide notification well in advance of a road closure so that area residents and users could plan accordingly. The second potential mitigation would be to avoid launches during busy holiday and summer weekend periods.

I have taken only the time to highlight a few of our findings in the Draft EIS. The Draft EIS has a wealth of information, and I hope that you have had the opportunity to review it. If not, we've got a summary from the Draft EIS which contains a more complete overview than time permits me--available at the table.

Also keep in mind that while the Army takes responsibility for the conclusions in the EIS, its preparation has been, and will continue to be, a team effort in which we consult and coordinate with state, local, and other federal agencies to reach our conclusions.

Our main purpose in being here tonight is not to talk, but to listen. That's because your input is very important to us in the development of the EIS, and I assure you that your input will be fully considered by the decision maker, along with other information.

A few points I'd like to make are, the closing date for the Draft EIS is March 28, 1994. The Final EIS should

be prepared and available to the public in late spring of this year, with the Record of Decision to be issued no earlier than 30 days following the release of the Final EIS. This is expected in the summer of this year.

Again, if you are going to submit written comments after tonight's meeting, please mail them to the address shown here. Thanks.

MS. CALDWELL: Thank you Mr. Gallien. We're now going to take a 10 minute break. But before we do, if you have any questions concerning the presentations, please write them down on the comment sheets provided and hand them in at the registration table. Then when we come back, Major Adams and Mr. Gallien will try to answer any questions they can before we start taking your comments.

(The meeting recessed at 7:30 p.m. after which the following was had.)

MAJOR ADAMS: Thank you for these points of clarification, and these questions of clarification. TJQ-0001 We're going to try and answer these as briefly as we can.

One of the ones that I've been approached a couple of times and asked in varying forms on this one is, what if the interceptor misses the target missile, okay? Where is the target going to land? Is it going to come to shore? The long and short of it is no, and there's a couple of

reasons why that will not occur.

First of all, the target trajectories that we have for these test flights is that the intercept for these targets right now that we have planned on this EIS occur as the intercept or the target missile is in its downward flight path. Okay?

And these intercept points have been planned and determined far enough off the coast that if in fact you do have a miss from the interceptor missile, the flight path of that target vehicle is going to take it right down into the ocean. Okay? It's--throwing a rock, you don't have enough oomph to get it over here to the land, once you miss.

The second aspect of why that could not happen is because each of these target missiles are going to have a flight termination system associated with them. And what that flight termination system can do is, at any point during the missile flight path after it's been launched, range safety personnel who are tracking this missile and know it's exact trajectory--where it is along its flight path--has the capability of destroying the missile in flight.

Once--if an interceptor missile has missed it's point--missed its mark, then the objectives for the test are over, and the flight safety personnel in most cases

would probably just go ahead and destroy the missile in flight or just go ahead and let it fall, as it would, into the ocean, and it would not reach the coast. That's the long and short of that one. TJQ-0002

I had some questions here. Can the offensive or defensive missile possibly look on a false target, such as a fishing ship? And the answer to that is--without getting into specifics on our secret capability or whatnot--is no, they're not--they would not lock onto a false target such as a ship or--and, as a safety mitigation factor, we're going to have these areas cleared of ships and aircraft anyway, so they would not be in the area. And I do not feel that you could have a false lock onto a target that would create a concern such as that. TJQ-0003

What type of seekers will be used on the offensive missiles? We have several alternatives that are being developed right now, so I can't answer right now exactly what seekers these are going to have. It could be seekers that look for metal reflection, radar cross section, or seekers that look for infrared light heat-emitting type of targets. So, both of those are in development and could be either, or a combination of both. I just can't answer that right now. TJQ-0004

If C-30E is closed for one hour and problems develop in the launch and cannot be fixed within the allotted time

frames, will the launch be scheduled for a different day, and would the roads be closed for an extended period of time?

The procedures we use right now close the roads for an hour for that launch time. And if because of weather or a technical problem with the interceptor or the target missile itself we do have a postponement, those roads would be opened back up, and--we only have a specific number of flight windows, and those are specific times that we've been cleared from the Coast Guard and cleared by the Federal--FAA as to where we have clear zones to fire into. We know what those are days ahead of time, and if we miss those times, then we do postpone the test up to--between launch events of 48 hours or whatever that might be.

But the roads would not be closed for that extended period of time. We would open the roads and let those--let those folks use the roads and then post the other times when they would be closed also, so--

And this one was, what happens if the target missile interceptor fails or does not hit the target site? I think I've answered that. TJQ-0005

MR. GALLIEN: Okay, let's see if I can answer these to the best we can at this point. The first question is, what are your mitigations for noise damage in the surrounding areas?

Well, the modeling to support the analysis show that the noise would not provide a significant impact, primarily based on the contours that show the levels to be less than 62dB outside the launch hazard area. So there are no mitigations in their requirement. TJQ-0006

What area of the bay will be closed to boats and how long? Normally the closure would be around one hour, but the maximum is four hours as specified in the EIS. And the area is--the existing restricted area is south of Cape San Blas. I think there are some diagrams in the document that show that. TJQ-0007

What are the plans after the year 2000? That one is very easy. We don't know. They're unknown. TJQ-0008

Will Vitro benefit directly from this? I'll get to another question on the socioeconomic aspects, and essentially the conclusions of the EIS show there were no significant positive or negative socioeconomic impacts.

However, both Eglin and Vitro will benefit from a stabilization that occurs in this day and time to an installation or a military organization that does take on new programs. TJQ-0009

Okay, what will be the economic impact for this area? The analysis in the EIS shows, as I said before, shows no positive or negative--significantly positive or negative socioeconomic impact will occur. The launches will not

result in new jobs in the area, but would result in about 130 to 140 TDY personnel coming in to support each mission.

This is calculated in the EIS for comparison purposes to be approximately 2.3 million dollars input to the local economy.

The other aspect that--some comments earlier today brought about is, although there are no existing hotels as such in Port St. Joe, there are condominiums and through good communication arrangements, most probably could be reached to where the condominiums were used by these personnel coming in and out during the off-season especially, which would result in an even higher ratio of the 2.3 million being in St. Joe itself.

What I don't have, but we'll be looking at in the preparation of the final--and a good point we've received since we've been conducting public hearings--is an estimate of the ratio of that 2.3 million that would be in St. Joe as we stand today.

We did some talking about it, and I would estimate about a quarter of the 2.3 million per year would be here in St. Joe with the missions occurring in St. Joe.

CHANNEL 13 REPORTER: Is that per year or over the--standard?

MR. GALLIEN: Annually, annually.

Okay, as an overview, would you characterize the negative effects as minimal, substantial, et cetera? TJQ-0010

I have a hard time doing that. Essentially, we go by significance either based on a--the change to an existing condition, or based on established, accepted standards that exist for certain areas.

What I can say I think, though, is that the impacts that we found--the potential impacts we found for this alternative were determined to be not significant. And in other words, any potential environmental degradation could be avoided by mitigations, or where it just didn't exist.

When will construction and preparation of the Cape San Blas site begin? Once again, an easy question. I don't know, but it will be sometime following the Record of Decision, if this alternative is selected by the decision maker. TJQ-0011 TJQ-0012

Target date for moving personnel in? I have no idea. No decision has been made. We're gathering information at this point. And the same for the target of the first--target first launch intercept date. There are some planning--for planning purposes, I think we're looking at an FY '95. Is that right, John?

MR. WILLIAMS: Uh-huh.

MR. GALLIEN: But there are no dates. TJQ-0013

Clarify extent of evacuation of the St. Joseph Peninsula,

extent needed.

No evacuation of the St. Joseph Peninsula will be necessary. The only interference to public access is the short closure of Route 30 that Major Adams spoke of, up to one hour from launch.

(Mr. Gallien reviews another question.) TJQ-0014

That one is duplicative on the socioeconomics. How would the Army Strategic Defense Command propose to compensate homeowners should paying visitors choose not to come to the Cape due to launches?

We did analyze this as we looked at the socioeconomics, and we've got a little experience in this. We conduct launches from Kawai in Hawaii. We conduct launches from Vandenberg Air Force Base, and some from the Cape. And historically we found no evidence that rocket launches did detract from tourism at all. And so, from that standpoint, we have concluded that there would be no effect on tourism. TJQ-0015

The last question is, how are you going--and it's a good question. All of them are good questions, but this is a very good question--how will the Army propose to notify over an estimated 94,346 visitors projected of the closure of SR 30 during one of your test periods?

We normally do this--and Eglin would be the entity actually doing the notification--normally by newspaper

ads, radio spots, et cetera. We would welcome any input you have on this issue, a community bulletin board, maybe somewhere to put signs up a few days before the launch. Because as I said, the only interference here is one hour per launch, and that's the closure of the road.

If we can make people aware of that, one hour is something that most people are willing to plan around and maybe visit some other spot at that particular time of day in order to support the national defense effort.

But we do need some input from the public--from you the community--on that, how is the best way to do that. With that, I think we'll go to the comment period.

MS. CALDWELL: Okay, we're ready to start calling the names of those of you who have indicated you'd like to make comments tonight. I have a list of people who have signed up so far, and I'll start by calling out the first several names so you can get ready to come up to the front here to use the podium.

There are several people who have signed up, but if anyone else would like to sign up to speak this evening, please go to the registration table, and we'll put you on the list.

Because we want to record your comments fully and accurately, and we ask that you speak clearly into the microphone. Also, if you would, please state your name

for the court reporter.

Finally, we kindly request that you observe the five-minute time limit for oral comments. We've used the five-minute limit at these hearings to give everyone a fair and equal chance to give their comments.

Keep in mind that after everyone has had a chance to speak for five minutes, you can have a second turn, but we want to let as many people speak as early in the evening as possible.

To aid you in knowing when the five minutes are up, I have a simple method for indicating these times. After four minutes, I'll put up my index finger like this, indicating that you have one minute left. This should give you a comfortable place to wrap up your comments.

(Ms. Caldwell displays index finger.)

At the end of five minutes, I'll put up my closed hand like this, indicating it's time to finish your comments.

(Ms. Caldwell displays closed fist.)

We greatly appreciate your cooperation and understanding in observing the five-minute limit. Also keep in mind that oral comments are only one way to share your thoughts and concerns with us regarding the EIS. You can hand in written comments tonight, or mail them in by March 28. And as I mentioned, written comments are given the

same consideration as oral comments offered here tonight.

If you'd like to see a copy of the Draft EIS, it's available at local libraries here in your community, and a complete list of all of the information repositories is available at the registration table. The first commentor is William McGee, followed by Betty Jean London.

TJ-0001

MR. McGEE: Thank you very much. I represent the Cape San Blas Taxpayers Association at Cape San Blas. On May the 5th--19th of last year we wrote you a letter expressing our concerns, asking certain questions be answered during that period of time. We never received an answer to the letter.

You have met some of the concerns and issues within that document this evening. I'll make a couple of brief remarks about this. You mentioned what roads would be closed. You talk about EIO.

One of the problems we have with respect to notification is, people who come to this area to use the Cape come from distant lands. They come from Atlanta, and they come from Alabama, and the notification period of them seeing it when they arrive on the afternoon they're supposed to go into their rental unit or take possession of their own beach house is a little late. I'm not sure how you can cover that time and distance. But that's a problem that's going to be occurring down here.

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TJ-0001

Also, we have a problem with people who are visitors here who know nothing of these things. We had problems today when the helicopters come over from Eglin and you do an exercise at the test site. People shake in their beds saying, what's going on? Hey, what's going on? They don't know, because there's no notification.

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We feel that's unfair to our advertisement of this place as a nice beach resort area to come for the quiet. That's what people come here for, because they want to step back and get away. This is going to disturb that significantly in our opinion.

We asked questions about sea ranges to be used and how long sea ranges might be closed. I don't think I found an answer to that question. Exercise conducting nights, days, weekends, holidays, I don't think I found an answer to that question.

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Launch schedule, you briefly addressed that a moment or two ago by saying you do not know the launch schedule at this point in time. I think that's a little strange. I would think that your--your Federal program would require you to have a launch schedule as part of your budget back up in your budget data base.

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Level of noise pollution, you seem to have answered that question. Potential structural damage, I understand you feel no potential structural damage because of the

TJ-0001

launch--

Impact on wildlife, nesting turtles, et cetera. You indicate at this point in time that the impact would be negative, there would be no im-pact. Are you aware that the area that you're in is an established aquatic preserve of the State of Florida; St. Joseph's Bay Aquatic Preserve? Did you know that?

MAJOR ADAMS: (Nods head.)

MR. McGEE: You do?

MAJOR ADAMS: Yes.

MR. McGEE: Have you communicated with the manager of the aquatic preserve and the Department of Environmental Protection with respect to what you are going to be doing within the aquatic preserve? And have you read what it says an aquatic preserve is all about?

MAJOR ADAMS: You want to take that?

MR. GALLIEN: Yes. Well, what I'd like to do is go on with your comments, though, and wait until we-

MR. McGEE: Okay. My comment is that I would like you to respect the aquatic preserve for the purpose it was intended for the--nature who lives there. You've addressed briefly the ecosystem, and my remark with respect to the aquatic preserve also bear upon that point.

The other thing that I think is not clear in your discussion and impact is the respect for the quiet

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TJ-0001

lifestyle of the people who came here to reside, and the people who come here to enjoy the beaches and the Cape and quietness of it. I think this is going to be very disturbing.

And for that reason, our taxpayers association is not in favor of your doing this at this particular site. I think that concludes my comments at this time.

MR. GALLIEN: Thank you very much.

MS. CALDWELL: Betty Jean London, followed by Ken Davis.

TJ-0002

MS. LONDONO: For the record, it's Betty Jean Londono. I am president--the 1994 president of the Realtor Association of Franklin and Southern Gulf Counties.

My comments relate to the EIS that state--your document states, "Compared to the Florida average, growth in Gulf County has been relatively sluggish." True. We have been striving to stimulate the tourism industry in this county.

I know for a fact, having spoken informally with multiple owners, visitors, buyers--potential dollars all-in-all to this county. They have severe concerns about visitors--to returning, buyers, about purchasing properties, be it land or houses in Gulf County-- particularly at the Cape--which from the results of other areas,

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TJ-0002

the Cape will ultimately in a few short years--or we expect and would like it to be--the major tax base for Gulf County.

We feel that--homeowners and realtors alike, that I represent 45 members currently, who ultimately represent three to five thousand minimum homeowners in Gulf County--that this will diminish--seriously diminish our efforts to achieve a larger tourism industry, better property and more increasing property values for this area.

The EIS states that the region of--the ROI we'll call it, Region of Impact--would not include St. Vincent National Wildlife Refuge and St. Joseph Aquatic Preserve. That's interesting since the launch pads themselves are within 500 feet of a tidal pool governed by the Department--the Department of Environmental Protection Division of State Lands.

On that note, the--I'm concerned as to what extent--and you will need to get involved with DEP--to what extent has the military attempted to deal with DEP. Again, reiterating something the gentleman before me stated.

The gentleman that will be taking over the area of the St. Joseph Aquatic Preserve has no idea that this is even going on. And I spoke with him this evening just out of curiosity to what extent he knew. I hadn't realized that he had no idea what was going on.

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TJ-0002

The EIS states, "Road closure and LHA activation would be short-lived, usually lasting no more than one to four hours." The word one hour has been said again, and again. One to four hours could possibly--per your own statement--affect 94,000 visitors a year, as little as 86 a day, as much as 608 visitors during our prime season. Mitigation of avoiding missile launches for high tourism periods of time would help. But I don't believe it will truly eliminate the problem.

The 2.3 million dollars that is projected to bring income to the local area--your local definition being Panama City, Mexico Beach, and Gulf County, Port St. Joe in particular--the president--present limited capacity per the EIS for temporary housing would be overwhelmed by launch missile demands.

That means that, according to your statement, with our limited capacity for housing for your temporary 140, 130 people, the overage is going to end up in Bay County.

I don't believe that 25 percent of that 2.3 million dollars is even close to really what we will actually--I think it's underestimated seriously. The major tourist drop per the EIS states that for the Gulf County area, the annual St. Joseph Bay Arts and Crafts Festival and Art Exhibit in October is our major tourist draw. A total attendance of approximately 6,000 participants.

4

TJ-0002

I'm sorry, the largest tourist attraction in Gulf County currently is the beaches and Cape San Blas, with over eighty-six to ninety-four thousand visitors a year. The state park alone has 86,000 thousand visitors a year.

How can you pretend to estimate that this will not affect the economy of Cape San Blas which is--will--is now--I don't know to what--the full extent, how far it affects Gulf County as a whole, but I know it must be a large tax base, because there are some expensive properties sitting at the Cape that will be affected.

If you take the 94,346 visitors a year that would possibly be affected, and just minusculy estimate that two percent may never return to visit because of missile launching and would choose alternative destinations, you're looking at half a million dollars--excuse me, 1.4 million dollars. Two percent would only be 5,000--$500,000. That's a substantial loss in income in Gulf County, let alone the property value you mention. I thank you, and hope you take this under consideration.

MAJOR ADAMS: Your comments will be taken into consideration. Thank you very much.

TJ-0003

MS. CALDWELL: Michael Hammond, followed by Ken Davis.

MR. HAMMOND: I'd just like to speak on finances for a second. I'm a County Commissioner here in

TJ-0003

Gulf County. This isn't my district, but I have some affiliations with Vitro and just on the finance issue, when you have to look at the cutbacks in the military at the moment--especially with the Clinton administration--you want to do everything you can to make sure that your base isn't closed.

Vitro has a payroll of close to a million dollars a year, and anything that we can do to make sure that we keep that--keep 35 or 40 good paying, high-quality jobs in the county, we need to do.

I don't know about the figures that you just gave us on the tourism. I know good and well we don't have $5,000,000,000 worth of tourist industry, and we're going to lose--two percent's not going to be $500,000 that we're going to lose.

We're looking at people coming into the restaurants, people staying at the motels, people staying in the condominiums out there on the Cape. And for a minuscule inconvenience of an hour, I think that we need to push this wholeheartedly. And at the next Board meeting, I'll be bringing it up to woo you to come to Gulf County, because you would be bringing people in that's going to spend money and help us save our military base. Thank you.

MAJOR ADAMS: Thank you very much.

MS. CALDWELL: Ken Davis.

TJ-0004

MR. DAVIS: I'm with Congressman Peterson's office. I did not come to make a statement tonight, but I'm here to--my purpose is to get information on the concerns of the citizenry and how those concerns are addressed.

MS. CALDWELL: Thank you. Would anyone else like to make a statement?

MAJOR ADAMS: If I could just reiterate on your comment for just one second. These--being a public hearing, this is being reported with a court reporter here. All of these comments, verbatim, will be transcribed and put into the Final EIS for--just as a record for that.

So, you and anyone here who is interested in being able to get these, they will also be responded to in the EIS. There will be a formal response to each and every one of your concerns addressed here tonight. Thank you.

MR. KEMP: I would like to make a statement.

MS. CALDWELL: All right, if you'll come on up and--

MR. GALLIEN: Come on up and state your name.

MS. CALDWELL: --state your name. And Cathy, could you get the card?

TJ-0005

MR. KEMP: My name is Schley Kemp. I work for Vitro Services at site D-3. I'd like to know--I've been working there 33 years. Most of the people in Gulf County don't even know we're out there most of the time. We've never had a accident. I don't think--I think I can say that we've never lost over, maybe one day from accidents out there during that 33 year period.

Vitro is a very, very high safety conscience, and we've got all kind of safety features built in out there. And we was out there when it wasn't nothing but woods. We was--us and the Coast Guard station was the only thing there. There wasn't no state park. There wasn't no tourism. There wasn't no realtors or anything out there.

And you know, they finally let the land go out there--the military did--and let the civilians get control of it again, and I can't understand with us out there with missiles running up and down the coast and all this here, how come all these folks went out there in the first place? I mean, you know, it looks like to me we'd have scared 'em off. That's all I want to say.

MAJOR ADAMS: Thank you, sir.

MS. CALDWELL: Thank you. Would somebody else like to make a statement, like to get some comments?

MR. GALLIEN: Why don't we take a quick five-minute break, and if anyone else wants to make a

statement when we come back, we can quickly do that.

MS. CALDWELL: You can go to the registration desk and she'll get you a card.

(The meeting took a recess at 8:15, p.m., EST, and returned for the following.)

MS. CALDWELL: I just want to check one more time and see if everyone's had a chance to comment, but if not, we'll bring this to a close.

TJ-0006 JIM BAXLEY: I'd like to make a short comment. I'm Jim Baxley,, the district representative for Senator Graham out of our Tallahassee office. We appreciate the--you all coming down to offer the citizens input on this report project.

It's my understanding that if the project is given favorable Federal and state review, that Senator Graham would be supportive of locating the project in Florida, and we appreciate ya'll coming down.

MAJOR ADAMS: Thank you sir. Okay. Well, I'd like to conclude by thanking, on behalf of the United States Army Space and Strategic Defense Command in Huntsville, Alabama, and the United States Army, for ya'll coming out and participating in this process.

And just like to reiterate that under the--under this process for the Environmental Impact Statement, your comments will be taken and given the same consideration,

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as many other criteria, in being provided to the decision maker to make a decision on which site, or sites, that are ultimately chosen to be able to perform this task.

Your comments are important input to this process, and I just wanted to let ya'll know that we appreciate that--comments on all aspects of it. Whether they sound pro, or whether they sound con to this program, it's very important to the process.

And once again, we appreciate ya'll being able to come out and do this with us, and help us in this very much important process for this program. Thank you.

MS. CALDWELL: We now close this hearing at 8:25, p.m.

MEETING CONCLUDED

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COUNTY OF GULF

REPORTER'S CERTIFICATE

I, GERTRUDE B. DOWNS, Court Reporter, DO HEREBY CERTIFY that the foregoing public meeting of Cape San Blas was taken before me at the time and place therein designated; that my shorthand notes were thereafter transcribed into this computer-assisted transcript by me, and the foregoing pages numbered 1 through 42, inclusive, constitute a true and correct record of the proceedings that took place March 2, 1994.

I FURTHER CERTIFY that I am not a relative, employee, attorney or counsel of the parties, nor financially interested in the foregoing action.

Gertrude B. Downs

SWORN TO AND SUBSCRIBED BEFORE ME this 4th day of March, 1994, by GERTRUDE B. DOWNS, who is personally known to me.

Tonya A. Knox
Notary Public

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EW-0001

Written Comment Sheet

Theater Missile Defense Extended Test Range Environmental Impact Statement Public Hearing

Thank you for attending this Public Hearing. Please use this sheet to give us your written comments on the development of the Theater Missile Defense Extended Test Range Draft Environmental Impact Statement.

Please send a copy of each Federal Register Notice that pertains to the Eglin range, and the TMD response to each.

1

Your Name Robert A. Larson

Address 4 Longwood Drive Shalimar FL 32579
Street City / State / Zip Code

Please hand this form in or mail to:
David Hasley
U.S. Army Space and Strategic Defense Command
ATTN: CSSD-EN-V
P.O. Box 1500
Huntsville, AL 35807-3801
Comments must be received by March 28, 1994

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Christina Larson
PO Box 1092
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32579

EW-0002

3/1/94

Patriots for Peace

Theater Missile Defense proposal

Location: Sheraton Inn, Ft. Walton Beach

Patriot Missiles used in Desert Storm were a dismal failure, despite Pentagon news releases to the contrary. 1

Now, you tell us that TMD, which *includes* Patriot Missiles, is safe. However, according to page 4-166 of the TMD briefing, this safety assumption is based on a NASA study done over 20 years ago. 2

U.S. citizens deserve a current, independent analysis of both environmental and economic impact before any more tax money is spent promoting this project. 3

Based on testing, manufacturing, and deployment costs, how can TMD be considered economically feasible for our country, when the U.S. budget is so unbalanced that a tax on food stamps is being considered to bring in revenue? 4

(*Patriots for Peace is a peace coalition in the FL panhandle with over 400 members.)

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EW-0003.

GREATER FORT WALTON BEACH CHAMBER OF COMMERCE
INTEGRITY HONESTY SERVICE

March 1, 1994

Mr. David Hasley
U.S. ARMY SPACE AND
STRATEGIC DEFENSE COMMAND
ATTN: CSSD-EN-V
P. O. Box 1500
Huntsville, AL. 35807-3801

RE: THEATRE MISSILE DEFENSE

Dear Mr. Hasley:

1

The Board of Directors of the Greater Fort Walton Beach Chamber of Commerce in April of 1993, unanimously adopted a resolution supporting the U.S. Army Theatre Missile Defense Test Program at Eglin Air Force Base providing all safety and environmental safeguards have been put into place prior to conducting these tests.

Following a briefing by Air Force officials at our Board of Director's meeting on February 28, 1994, at which time the concerns of the Chamber were discussed, the Board unanimously supported bringing the Theatre Missile Defense Test mission to Eglin Air Force Base.

Based on the informaiton made available to the Chamber, we are convinced that the best location for these missile tests would be at Eglin Air Force Base, Florida.

Sincerely,

Roger E. Peters
Executive Director

REP:cam

ACCREDITED CHAMBER OF COMMERCE

P.O. Box 640, 34 S.E. Miracle Strip Pkwy, Fort Walton Beach, Florida 32549-0640 (904) 244-8191 Fax (904) 244-1935

EW-0004

Member
PANHANDLE LEAGUE OF CITIES

Okaloosa County League of Cities

Member
FLORIDA LEAGUE OF CITIES

RESOLUTION 93-06

A RESOLUTION OF THE OKALOOSA COUNTY LEAGUE OF CITIES URGING THE DEPARTMENT OF DEFENSE TO SUPPORT THE DESIGNATION OF EGLIN AIR FORCE BASE AS A SITE FOR THE THEATER MISSILE DEFENSE PROGRAM; AND PROVIDING THE EFFECTIVE DATE HEREOF.

1

WHEREAS, the United States Congress passed the Missile Defense Act directing the Secretary of Defense to develop a Theater Missile Defense system by mid to late 1990's; and

WHEREAS, the Army is considering several potential sites to test up to six different anti-missile systems being developed under the Theater Missile Defense program; and

WHEREAS, Eglin Air Force Base is one of the locations under consideration by the Army to conduct the TMD flight tests.

NOW, THEREFORE, BE IT RESOLVED BY THE OKALOOSA COUNTY LEAGUE OF CITIES:

SECTION I. That the Okaloosa County League of Cities urges the Department of Defense to support the designation of Eglin Air Force Base as the site for the Theater Missile Defense Program.

SECTION II. That the President of the Okaloosa County League of Cities is hereby authorized to send copies of this Resolution to the Governor of Florida, Congressman Hutto, Senators, Commander of Eglin Air Force Base, Legislators, State and Federal delegations and other persons as directed by the membership.

SECTION III. This Resolution shall take effect immediately upon approval of the general membership and the signature of the President of the Okaloosa County League of Cities.

ATTEST:

Secretary

ADOPTED: December 16, 1993

OKALOOSA COUNTY LEAGUE OF CITIES
Bill Lamb, President

Cinco Bayou	244-2712	Fort Walton Beach	243-3141	Niceville	678-4523
Crestview	682-6134	Laurel Hill	652-4441	Shalimar	651-5723
Destin	837-4242	Mary Esther	243-3566	Valparaiso	678-2912

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EW-0005

Office Of The Mayor

RESOLUTION 94-03

A RESOLUTION OF THE TOWN OF SHALIMAR URGING THE DEPARTMENT OF DEFENSE TO SUPPORT THE DESIGNATION OF EGLIN AIR FORCE BASE AS A SITE FOR THE THEATER MISSILE DEFENSE PROGRAM; AND PROVIDING THE EFFECTIVE DATE HEREOF.

1

WHEREAS, the United States Congress passed the Missile Defense Act directing the Secretary of Defense to develop a Theater Missile Defense system by the mid to late 1990s;

WHEREAS, the Army is considering several potential sites to test up to six different anti-missile systems being developed under the Theater Missile Defense program;

WHEREAS, Eglin Air Force Base is one of the locations under consideration by the Army to conduct the TMD flight tests;

NOW, THEREFORE, BE IT RESOLVED by the Town Commission of the Town of Shalimar, Florida:

SECTION I: That the Town of Shalimar urges the Department of Defense to support the designation of Eglin Air Force Base as the site for the Theater Missile Defense Program.

SECTION II: That the Town Clerk is hereby authorized to forward copies of this Resolution to the Governor of Florida, all State and Federal Legislators, Okaloosa County League of Cities, all Okaloosa County municipalities, the County Commissioners, the Commanders of Eglin Air Force Base and Hurlburt Field, and other interested citizens as directed by the Town Commission.

SECTION III: This resolution shall take effect immediately upon approval by Commission and signature of the Mayor.

ADOPTED January 11, 1994

ATTESTED:

Jean Wilkinson, Town Clerk

Mayor Harry V. Montague

2 Cherokee Road, Shalimar, Florida 32579 (904) 651-5723

EW-0006

RESOLUTION NO. 94-05

A RESOLUTION OF THE CITY OF MARY ESTHER, FLORIDA, URGING THE DEPARTMENT OF DEFENSE TO SUPPORT THE DESIGNATION OF EGLIN AIR FORCE BASE AS A SITE FOR THE THEATER MISSILE DEFENSE PROGRAM; AND PROVIDING FOR AN EFFECTIVE DATE HEREOF.

1

WHEREAS, the United States Congress passed the Missile Defense Act directing the Secretary of Defense to develop a Theater Missile Defense System by the mid to late 1990's; and

WHEREAS the Army is considering several potential sites to test up to six different anti-missile systems being developed under the Theater Missile Defense program; and

WHEREAS, Eglin Air Force Base is one of the locations under consideration by the Army to conduct the TMD flight tests.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF MARY ESTHER, FLORIDA:

SECTION I: That the City of Mary Esther urges the Department of Defense to support the designation of Eglin Air Force Base as the site for the Theater Missile Defense Program.

SECTION II: That the City Clerk is hereby authorized to send copies of this Resolution to the Governor of Florida, Representative Hutto, Senators, Commander of Eglin Air Force Base, Legislators and Congressmen.

SECTION III: This resolution shall take effect immediately upon approval of the City Council.

ADOPTED IN SESSION January 3, 1994.

Mayor Pro Tem Mary C. Smith

ATTEST:

City Clerk Cornelia Taylor

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EW-0007

RESOLUTION NO. 93-47

A RESOLUTION OF THE CITY OF CRESTVIEW, FLORIDA URGING THE DEPARTMENT OF DEFENSE TO SUPPORT THE DESIGNATION OF EGLIN AIR FORCE BASE AS A SITE FOR THE THEATER MISSILE DEFENSE PROGRAM; AND PROVIDING THE EFFECTIVE DATE HEREOF.

1

WHEREAS, the United States Congress passed the Missile Defense Act directing the Secretary of Defense to develop a Theater Missile Defense system by the mid to late 1990's; and

WHEREAS, the Army is considering several potential sites to test up to six different anti-missile systems being developed under the Theater Missile Defense program; and

WHEREAS, Eglin Air Force Base is one of the locations under consideration by the Army to conduct the TMD flight tests.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF CRESTVIEW, FLORIDA:

SECTION I. That the City of Crestview urges the Department of Defense to support the designation of Eglin Air Force Base as the site for the Theater Missile Defense Program.

SECTION II. That the City Clerk is hereby authorized to send copies of this Resolution to the Governor of Florida, Representative Hutto, Senators, Commander of Eglin Air Force Base, Legislators, State and Federal delegations and other persons as directed by the City Council.

SECTION III. This resolution shall take effect immediately upon approval by Council and signature of the Mayor.

PASSED AND IMPLEMENTED THIS 27th **DAY OF** December/1993.

WILLIAM F. KILPATRICK
Council President

ATTEST:

EDWARD M. NEAL
City Clerk

Approved by me on this 27th day of Dec 1993.

TED H. MATHIS
Mayor

EW-0008

Written Comment Sheet

Theater Missile Defense Extended Test Range Environmental Impact Statement Public Hearing

Thank you for attending this Public Hearing. Please use this sheet to give us your written comments on the development of the Theater Missile Defense Extended Test Range Draft Environmental Impact Statement.

1

Theater missile defense is of vital importance in protection of U.S. troops against advanced ballistic missiles. We must have the ability to defend against this threat. Development/testing will enable us to field a system. I believe that the Eglin test range is ideally suited for these tests. Why is it? Why:
(1) Existing infrastructure - excellent safety record
(2) Sparse population - diminished danger of injury
(3) minimal environmental effect
(4) Adequate accomodations for TDY personnel

2

3

4

Private citizen and
As a permanent resident of Okaloosa county, I wish to go on record as being in support of Theater missile defense testing at Eglin AFB Florida.

Your Name Rick G Barnes [Rick G. Barnes]

Address 568 Rooney Rd. Ft. Walton Beach, FL 32547
Street City / State / Zip Code

Please hand this form in or mail to:
David Hasley
U.S. Army Space and Strategic Defense Command
ATTN: CSSD-EN-V
P.O. Box 1500
Huntsville, AL 35807-3801
Comments must be received by March 28, 1994

This Document is Printed on Recycled Paper

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EW-0009

Charles K. Windes, Jr.
aka Captain Kelly Windes
Post Office Box 632
787 Spring Lake Drive
Destin, FLA 32540

March 1, 1994

To Whom It May Concern:

I am a native to the area and have been a self employed charter boat owner/operator for 23 years. I have been a licensed ocean operator for 28 years and presently operate 3 charter boats out of Destin. My wife and I own and lease property on Old Pass Lagoon and reside in Destin.

Being a fisherman, I look at this T.M.D. Project from a fisherman's point of view which is from the Gulf of Mexico. Ever since I was a boy fishing as a deckhand out of Destin, I can remember there being military exercises going on in the Gulf. In most cases, it was the Air Force conducting the missions, but in some cases it was the Navy and in other cases the Army. During these exercises, the military worked with the fishermen in order to "do the job" with the least amount of inconvenience to the fishermen. We sometimes had to adjust our fishing agenda to avoid certain areas or had to plan a different route from one place to another. Nevertheless, the military always gave advance notice and were very courteous and professional. 1

It is my understanding that from 1 to 4 missions per month would be scheduled if the T.M.D. Project were brought to our area. These missions might impose a slight inconvenience to some fishermen at times, however, it would be nothing new. It seems to me that the matters of national defense and the local economic benefit in addition to the cost savings to the government would by far outweigh any inconveniences to the fishermen. 2

In closing, I would say that as a fisherman, I would support any over the Gulf activities by the Government to make this project a success.

Respectfully submitted,

Kelly Windes

Captain Kelly Windes

3.1.94

EW-0010

1(B)o Written

The Chamber of Clean Commerce is against the proposed Activities of the U.S. military off the Florida coast. 1

The Chamber finds that since the U.S. military is totally dependant, at present, on various private contractors, - of various multinational affiliations - safety cannot be guaranteed or expected. 2

The Chamber finds that graft + corruption by the U.S. military contractors must be corrected by ~~adoption~~ Formulating and adopting clear guidelines for the meaningful oversight of the military contractors.

The Chamber urges the US military to wean itself away from reliance on the private sector - especially from the multi-national contractors and corporations of questionable Reputations.

Wesley Pate
Chamber of Clean Commerce

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EW-0011

RESOLUTION 93- 112

1

A RESOLUTION OF THE OKALOOSA COUNTY BOARD OF COMMISSIONERS URGING THE DEPARTMENT OF DEFENSE TO SUPPORT THE DESIGNATION OF EGLIN AIR FORCE BASE AS A SITE FOR THE THEATER MISSILE DEFENSE PROGRAM.

WHEREAS, the United States Congress passed the Missile Defense Act directing the Secretary of Defense to develop a Theater Missile Defense system by the mid to late 1990's; and

WHEREAS, the Army is considering several potential sites to test up to six different anti-missile systems being developed under the Theater Missile Defense Program; and

WHEREAS, Eglin Air Force Base is one of the locations under consideration by the Army to conduct the TMD flight tests.

NOW, THEREFORE, BE IT RESOLVED by the Board of County Commissioners of Okaloosa County, Florida:

SECTION I. That the Okaloosa County Board of Commissioners urges the Department of Defense to support the designation of Eglin Air Force Base as the site for the Theater Missile Defense Program.

SECTION II. That the Chairman of the Okaloosa County Board of Commissioners is authorized to send copies of this Resolution to the Governor of Florida, Representative Earl Hutto, Florida Senators, Eglin Air Force Base Commander, Legislators, State and Federal delegations, and other persons as directed by the Board of Commissioners.

DULY PASSED AND ADOPTED in regular session this the 28th day of December, 1993.

BOARD OF COUNTY COMMISSIONERS
OKALOOSA COUNTY, FLORIDA

RAY SANSOM
CHAIRMAN

ATTEST:

NEWMAN C. BRACKIN
CLERK OF CIRCUIT COURT

EW-0012

7th

Florida House of Representatives

James P. Kerrigan
Representative, 4th District

Committees
Agriculture & Consumer Services
Community Affairs
Criminal Justice
Employee & Management Services

February 9, 1994

Col. John M. Harnisch
Chief of Staff
Department of the Army
US Army Space & Strategic Defense Command
P. O. Box 15280
Arlington, Virginia 22215-0280

Subject: Theater Missile Defense Extended Test Range

Dear Col. Harnisch:

1

I would like to take this opportunity to express my support in having Eglin Air Force Base, Florida as the site for the Theater Missile Defense Program.

Last year, I was informed by the U.S. Army Space and Strategic Defense Command of their intention to possibly locate this valuable program in my district. I know that Eglin is the ideal location for such a program based on the fact that Eglin has recently been designated the best Air Force Base in the U.S., having received the Air Force's installation Excellence Award indicating its commitment to providing high quality products and protection of the environment.

Other aspects of my support include the fact that Eglin has a previous history of successful missile launches from Santa Rosa Island, and a minimal amount of ship and commercial air traffic in this district. Therefore, you have my full support in this project. I have enclosed copies of several resolutions in support of the Eglin Air Force Base location for the Theater Missile Defense Extended Test Range.

2

If I or my staff can be of assistance, do not hesitate to contact my district office.

With Warm Regards,

James P. Kerrigan
State Representative
District 4

Encl.

cc: Basil L. Bethea, Jr.

Reply to:
☐ Suite 404
151 Mary Esther Boulevard
Mary Esther, FL 32569
(904) 833-9320
SUNCOM 674-9320
FAX (904) 833-9329

☐ 400 House Office Building
Tallahassee, FL
32399-1300
(904) 488-1170

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EW-0013

EARL HUTTO
1ST DISTRICT
FLORIDA

2428 RAYBURN BUILDING
WASHINGTON, DC 20515-0901
(202) 225-4136

COMMITTEES:
ARMED SERVICES
MERCHANT MARINE AND FISHERIES

Congress of the United States
House of Representatives
Washington, DC 20515-0901

DISTRICT OFFICES:
MADISON PARK
4300 BAYOU BLVD., SUITE 28 A
PENSACOLA, FL 32503
(904) 478-1123

ADMINISTRATION BUILDING, ROOM 234
GULF COAST COMMUNITY COLLEGE
POST OFFICE BOX 459
PANAMA CITY, FL 32402
(904) 872-6813

SHALIMAR COURTHOUSE ANNEX
SHALIMAR, FL 32579
(904) 651-3111

December 13, 1993

Honorable Lawton Chiles
Governor
State Capitol
Tallahassee, Florida 32301

Dear Governor Chiles:

I urge you to support Eglin Air Force Base as the test range for the Army's Theater Missile Defense (TMD) test program. This program consists of the launch of threat representative ballistic missiles and the subsequent detection, tracking, and interception by a ground-based interceptor system. Eglin is one of four locations being considered, along with sites in New Mexico, Kwajalein, and California. 1

Eglin AFB includes an extensive over water test range which would be ideal for this test. All intercepts would be over water, and all debris would fall in the water range boundaries. Eglin has a complete array of test capabilities, from laboratories to final operational tests. Also, Eglin has a long and distinguished history of handling complex weapons tests in the Gulf. I've been informed that these tests can be performed without any compromise of public safety or the environment. 2 3

With the continued drawdown of our military forces, gaining new missions for our Florida bases is more important than ever. There are constant rumors of consolidations and moves which would be detrimental to Eglin; the TMD mission would breathe new life into the area. 4

I understand you are scheduled to visit Eglin later in December. I know that you will fully evaluate all facts as you assess this important program. I hope you will be able to lend your support. If I may be of any assistance to you, please let me know.

Warm regards.

Sincerely,

Earl

Earl Hutto

EH:gpp

THIS STATIONERY PRINTED ON PAPER MADE OF RECYCLED FIBERS

EW-0014

Spence Bros. FISH COMPANY, INC.

P.O. BOX 578
BAY SHORE DRIVE
NICEVILLE, FLORIDA
Telephone — OR 1-3921 OR 1-7151

W. E. SPENCE, President
W. S. SPENCE, Secretary

COMMENTS BY WALTER F. SPENCE ON ARMY TMD EXTENDED TEST RANGE EIS
EGLIN/CAPE SAN BLAS LOCATIONS, MARCH 1, 1994

Having reviewed the Environmental Impact Statement, I find it to be a generally complete and well-researched document. There are two specific issues related to the EIS upon which I will comment. 1

The first issue concerns range safety as it affects the seafood industry. My family has engaged in commercial fishing and seafood production for more than 60 years. We are the largest producers of red snapper on the Gulf Coast, and a major producer of other finfish. Our boats have operated in the Gulf of Mexico throughout the entire history of Air Force testing and training over these water ranges. We have never had a complaint from any boat captain about any testing or training mission over the Gulf water ranges. Nor are we aware of any civilian injury or property damage resulting from these missions. Eglin and Tyndall range safety appears to have functioned extremely well. Because of this excellent safety record, we have no qualms about the location of the Army's TMD Extended Test Range here. The 1-4 test missions generated per month should not significantly affect our industry.

The other issue to be raised is the affect of this test program on threatened and endangered species on Santa Rosa Island. Location of the TMD Extended Test Range should provide a net positive benefit for these species for the following reason. Such testing justifies designation of that part of the island as a closed or restricted area, with no access allowed to the general public. 2

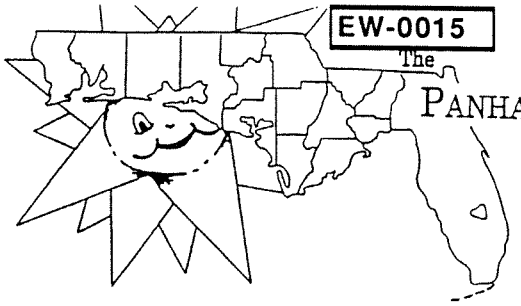
For decades this 13-mile long segment of Santa Rosa Island, located between Okaloosa Island and Navarre Beach, has been closed to the public because of Bomarc Missile firings and electronic warfare testing and training. Bomarc launches ended a few years ago, and the EW mission is likely to move to Edwards AFB soon. Without some new test activity, Eglin may have no reasonable justification for continuing to bar access to the public. The resulting unrestricted human traffic would likely have greater impact on sea turtle nesting sites, and a far greater impact on snowy plover nesting sites than has the military activity. The EIS points out that the dunes on this portion of Santa Rosa Island constitute the most abundant site for snowy plover nests in Florida, and that the birds are very sensitive to disturbance during nesting season. The prospect of beach goers blundering about in this dune ecosystem seems likely to be a far greater negative impact on these nests than will continued military testing activity. 3

In summation, we see no problems with the proposed testing activity, and support the choice of Eglin/Cape San Blas as the site for the TMD Extended Test Range.

Walter F. Spence

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EW-0015



The PANHANDLE LEAGUE OF CITIES

PRESIDENT
Hubert Rodgers, Mayor, Callaway
VICE-PRESIDENTS
Ted Mathis, Mayor, Crestview
A. O. Campbell, Jr., Mayor pro tem, DeFuniak Springs
TREASURER
Al Borchik, Town Mngr, Cinco Bayou

PANHANDLE LEAGUE OF CITIES
RESOLUTION 94-01

1

A RESOLUTION OF THE PANHANDLE LEAGUE OF CITIES URGING THE DEPARTMENT OF DEFENSE TO SUPPORT THE DESIGNATION OF EGLIN AIR FORCE BASE AS A SITE FOR THE THEATER MISSILE DEFENSE (TMD) PROGRAM.

WHEREAS, the United States Congress passed the Missile Defense Act directing the Secretary of Defense to develop a Theater Missile Defense system by the mid to late 1990s; and

WHEREAS, the Army is considering several potential sites to test up to six different anti-missile systems being developed under the Theater Missile Defense program; and

WHEREAS, Eglin Air Force Base is one of the locations under consideration by the Army to conduct the TMD flight tests;

NOW, THEREFORE, BE IT RESOLVED THAT THE PANHANDLE LEAGUE OF CITIES urges the Department of Defense to support the designation of Eglin Air Force Base as a site for the Theater Missile Defense Program.

ADOPTED: February 3, 1994

PRESIDENT: Hubert Rodgers

ATTEST:

Larry Walker, Ph.D.
Executive Director

Executive Director, Dr. Larry Walker, The Whitman Center, The University of West Florida, Pensacola, FL 32514-5751. (904) 474-2370, suncom 680-2370

EW-0016

RESOLUTION 94-01

1

A RESOLUTION OF THE TOWN OF CINCO BAYOU, FLORIDA, URGING THE DEPARTMENT OF DEFENSE TO SUPPORT THE DESIGNATION OF EGLIN AIR FORCE BASE AS A SITE FOR THE THEATER MISSILE DEFENSE PROGRAM.

WHEREAS, the United States Congress passed the Missile Defense Act directing the Secretary of Defense to develop a Theater Missile Defense system by the mid to late 1990's; and

WHEREAS, the Army is considering several potential sites to test numerous different anti-missile systems being developed under the Theater Missile Defense program; and

WHEREAS, Eglin Air Force Base is one of the locations under consideration by the Army to conduct the Theater Missile Defense program flight tests.

NOW, THEREFORE, BE IT RESOLVED BY THE TOWN COUNCIL OF THE TOWN OF CINCO BAYOU, FLORIDA, THAT:

1. The Cinco Bayou Town Council urges the Department of Defense to support the designation of Eglin Air Force Base as a site for the Theater Missile Defense Program.

2. The Cinco Bayou Town Manager/Clerk is hereby authorized to forward copies of this Resolution to the Governor of State of Florida, all State and Federal Legislators, the Panhandle League of Cities, the Okaloosa County League of Cities, all Okaloosa County municipalities, the Okaloosa County Commissioners, the Commanders of Eglin Air Force Base and Hurlburt Air Force Base and other interested citizens as directed by the Town Council.

ADOPTED THIS 13TH DAY OF JANUARY, 1994

APPROVED:

Mayor

ATTEST:

Town Manager/Clerk

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EW-0017

RESOLUTION 94-R-2

Niceville-Valparaiso-Bay Area Chamber of Commerce

A RESOLUTION OF NICEVILLE-VALPARAISO-BAY AREA CHAMBER OF COMMERCE URGING THE UNITED STATES DEPARTMENT OF DEFENSE TO SUPPORT THE DESIGNATION OF EGLIN AIR FORCE BASE AS A SITE FOR THE THEATER MISSILE DEFENSE PROGRAM

1

WHEREAS, Niceville-Valparaiso-Bay Area Chamber of Commerce and its more than 400 members work tirelessly to support the missions of Eglin Air Force Base; and,

WHEREAS, the United States Congress passed the Missile Defense Act directing the Secretary of Defense to develop a Theater Missile Defense system by the mid to late 1990s; and

WHEREAS, the United States Army is considering several potential sites to test up to six different anti-missile systems being developed under the Theater Missile Defense Program; and

WHEREAS, Eglin Air Force Base has the largest and most diversified test range facilities in the United States Air Force and is one of the locations under consideration by the Army to conduct the TMD flight tests; and

WHEREAS, the relationship between the military and civilian communities in Okaloosa County, Florida is one of mutual support, and encourages and promotes a safe and healthy social and family environment for military personnel and their dependents.

NOW THEREFORE BE IT RESOLVED by Niceville-Valparaiso-Bay Area Chamber of Commerce:

1. That the members of Niceville-Valparaiso-Bay Area Chamber of Commerce urge the Department of Defense to support the designation of Eglin Air Force Base as the site for the Theater Missile Defense Program and pledge their support to the personnel and families that will re-locate to Okaloosa County, Florida with the program.

2. That the Chamber President is hereby authorized to send copies of this Resolution to the U.S. Senators, Bob Graham and Connie Mack, Congressman Earl Hutto, Governor Lawton Chiles, the Commander of Eglin Air Force Base, Legislators, State and Federal delegations and other persons as directed by the Chamber's Board of Directors.

ADOPTED by the Board of Directors of Niceville-Valparaiso-Bay Area Chamber of Commerce in Regular Session this 22nd day of February, 1994.

NICEVILLE-VALPARAISO-BAY
AREA CHAMBER OF COMMERCE

Don Collins, as President

ATTEST:

Kellie Jo Kilberg
as Executive Director

EW-0018

RESOLUTION 94 - 2

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF NICEVILLE, FLORIDA URGING THE DEPARTMENT OF DEFENSE TO SUPPORT THE DESIGNATION OF EGLIN AIR FORCE BASE AS A SITE FOR THE THEATER MISSILE DEFENSE PROGRAM; AND PROVIDING THE EFFECTIVE DATE HEREOF

1

WHEREAS, the United States Congress passed the Missile Defense Act directing the Secretary of Defense to develop a Theater Missile Defense system by the mid to late 1990's; and

WHEREAS, the United States Army is considering several potential sites to test multiple anti-missile systems being developed under the Theater Missile Defense program; and

WHEREAS, Eglin Air Force Base is one of the locations under consideration by the United States Army to conduct the Theater Missile Defense flight tests.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF NICEVILLE, FLORIDA:

SECTION I. That the City of Niceville urges the Department of Defense to support the designation of Eglin Air Force Base as the site for the Theater Missile Defense Program.

SECTION II. That the City Manager is hereby authorized to send copies of this Resolution to the Governor of the State of Florida, Representative Earl Hutto, Senators, Commander of Eglin Air Force Base, Legislators, State and Federal delegations and other persons as directed by the City Council.

SECTION III. This resolution shall take effect immediately upon approval by the City Council and signature of the Mayor.

ADOPTED in Session this 11th Day of January, 1994.

Randall Wise
MAYOR

ATTEST:

Gary K. Leland
CITY CLERK

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EW-0018

STATE OF FLORIDA

CITY OF NICEVILLE

I, George H Ireland, City Clerk for the City of Niceville, Florida, do hereby certify the foregoing is a true and correct copy of Resolution No. 94-2, January 11, 1994 and appears on record in the office of the City Clerk.

IN WITNESS WHEREOF, I hereunto set my hand and official seal this 1st day of March, 1994.

George H Ireland, CMC
City Clerk

EW-0019

RESOLUTION 94-1

1

A RESOLUTION OF THE CITY OF DESTIN URGING THE DEPARTMENT OF DEFENSE TO SUPPORT THE DESIGNATION OF EGLIN AIR FORCE BASE AS A SITE FOR THE THEATER MISSILE DEFENSE PROGRAM.

WHEREAS, the United States Congress passed the Missile Defense Act directing the Secretary of Defense to develop a Theater Missile Defense System by the mid to late 1990s; and

WHEREAS, the Army is considering several potential sites to test up to six different anti-missile systems being developed under the Theater Missile Defense Program; and

WHEREAS, Eglin Air Force Base is one of the locations under consideration by the Army to conduct the TMD flight tests.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF DESTIN, FLORIDA:

SECTION I. That the City of Destin urges the Department of Defense to support the designation of Eglin Air Force Base as the site for the Theater Missile Defense Program.

SECTION II. That the City Manager is hereby authorized to forward copies of this Resolution to the Governor of Florida, all State and Federal Legislators, the Okaloosa County League of Cities, all Okaloosa County Municipalities, the County Commissioners, the Commanders of Eglin Air Force Base and Hurlburt Field, and other interested citizens as directed by the City Council.

Adopted this 18th day of January 1994.

James W. Vaughn, Mayor

ATTEST:

Philip Cook, City Manager

Carolyn Lee Garrett, City Clerk

G:\CityClerk\Resol\RES94-1.Doc

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EW-0020

City of Fort Walton Beach

America's Most Beautiful Beaches

Resolution 93-28

1

A RESOLUTION OF THE CITY OF FORT WALTON BEACH URGING THE DEPARTMENT OF DEFENSE TO SUPPORT THE DESIGNATION OF EGLIN AIR FORCE BASE AS A SITE FOR THE THEATER MISSILE DEFENSE PROGRAM; AND PROVIDING THE EFFECTIVE DATE HEREOF.

WHEREAS, the United States Congress passed the Missile Defense Act directing the Secretary of Defense to develop a Theater Missile Defense system by the mid to late 1990s.

WHEREAS, the Army is considering several potential sites to test up to six different anti-missile systems being developed under the Theater Missile Defense program.

WHEREAS, Eglin Air Force Base is one of the locations under consideration by the Army to conduct the TMD flight tests.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FORT WALTON BEACH, FLORIDA:

SECTION I. That the City of Fort Walton Beach urges the Department of Defense to support the designation of Eglin Air Force Base as the site for the Theater Missile Defense Program.

SECTION II. That the City Manager is hereby authorized to forward copies of this Resolution to the Governor of Florida, all State and Federal Legislators, the Okaloosa County League of Cities, all Okaloosa County municipalities, the County Commissioners, the Commanders of Eglin Air Force Base and Hurlburt Field, and other interested citizens as directed by the City Council.

SECTION III. This resolution shall take effect immediately upon approval by Council and signature of the Mayor.

ADOPTED December 14, 1993

MAYOR: Larry Nessary

ATTEST:

DEPUTY CITY CLERK

The form and legal sufficiency of the foregoing has been reviewed and approved by the City Attorney.

EW-0021

CITY OF VALPARAISO

"THE VALE OF PARADISE"

Resolution No. 01-01-10-94

1

A RESOLUTION OF THE CITY OF VALPARAISO URGING THE DEPARTMENT OF DEFENSE TO SUPPORT THE DESIGNATION OF EGLIN AIR FORCE BASE AS A SITE FOR THE THEATER MISSILE DEFENSE PROGRAM; AND PROVIDING THE EFFECTIVE DATE HEREOF.

WHEREAS, the United States Congress passed the Missile Defense Act directing the Secretary of Defense to develop a Theater Missile Defense system by the mid to late 1990s.

WHEREAS, the Army is considering several potential sites to test up to six different anti-missile systems being developed under the Theater Missile Defense program.

WHEREAS, Eglin Air Force Base is one of the locations under consideration by the Army to conduct the Theater Missile Defense flight tests.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF VALPARAISO, FLORIDA:

SECTION 1. That the City of Valparaiso urges the Department of Defense to support the designation of Eglin Air Force Base as the site for the Theater Missile Defense Program.

SECTION 2. That the City Administrator is hereby authorized to send copies of this Resolution to the Governor of Florida, Representative Hutto, Senators, Commander of Eglin Air Force Base, Legislators, State and Federal delegations and other persons as directed by the City Commission.

SECTION 3. This resolution shall take effect immediately upon approval by the Commission and signature of the Mayor.

PASSED AND ADOPTED THIS 10TH DAY OF JANUARY, A.D. 1994.

John B. Arnold, Jr.
Mayor

ATTEST:

Faye B. Floyd

Return to Contents

DS5
Handed in

EJ-0001

Written Comment Sheet

Theater Missile Defense Extended Test Range Environmental Impact Statement Public Hearing

Thank you for attending this Public Hearing. Please use this sheet to give us your written comments on the development of the Theater Missile Defense Extended Test Range Draft Environmental Impact Statement.

As to the CONCERN for VISITORS to Cape San Blas area and notifying them of Scheduled launches and Road Closures. #

The Local Tourism business should include Scheduled of launches in brochures and Publications promoting business.

1

Your Name TM.

Address _____
Street City / State / Zip Code

Please hand this form in or mail to:
David Hasley
U.S. Army Space and Strategic Defense Command
ATTN: CSSD-EN-V
P.O. Box 1500
Huntsville, AL 35807-3801
Comments must be received by March 28, 1994

This Document is Printed on Recycled Paper

Return to Contents

10.3
Written Comments

Return to Contents

MF-0001

City of Fort Walton Beach

Office of the Mayor

P.O. Box 4009 • Fort Walton Beach, Florida 32549
Telephone (904) 243-3141

December 28, 1993

Colonel John M. Harnisch
Chief of Staff
Department of the Army
U.S. Army Space and Strategic
Defense Command
Post Office Box 15280
Arlington Virginia 22215-0280

Dear Colonel Harnisch:

1

The City Council of the City of Fort Walton Beach passed the enclosed Resolution 93-28 on December 14, 1993.

The Resolution encourages the Florida Legislature, the Governor and the appropriate State Agencies and Departments to urge the Department of Defense to support the designation of Eglin Air Force Base as a site for the Theater Missile Defense Program.

The resolution is forwarded for your information and to advise that I am sending it to all of our Florida elected representatives. I earnestly request your support.

Sincerely,

Larry Trenary

Larry Trenary
Mayor

T/m

AMERICA'S MOST BEAUTIFUL BEACHES

MF-0001

City of Fort Walton Beach

America's Most Beautiful Beaches

Resolution 93-28

1

A RESOLUTION OF THE CITY OF FORT WALTON BEACH URGING THE DEPARTMENT OF DEFENSE TO SUPPORT THE DESIGNATION OF EGLIN AIR FORCE BASE AS A SITE FOR THE THEATER MISSILE DEFENSE PROGRAM; AND PROVIDING THE EFFECTIVE DATE HEREOF.

2

WHEREAS, the United States Congress passed the Missile Defense Act directing the Secretary of Defense to develop a Theater Missile Defense system by the mid to late 1990s.

WHEREAS, the Army is considering several potential sites to test up to six different anti-missile systems being developed under the Theater Missile Defense program.

WHEREAS, Eglin Air Force Base is one of the locations under consideration by the Army to conduct the TMD flight tests.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FORT WALTON BEACH, FLORIDA:

SECTION I. That the City of Fort Walton Beach urges the Department of Defense to support the designation of Eglin Air Force Base as the site for the Theater Missile Defense Program.

SECTION II. That the City Manager is hereby authorized to forward copies of this Resolution to the Governor of Florida, all State and Federal Legislators, the Okaloosa County League of Cities, all Okaloosa County municipalities, the County Commissioners, the Commanders of Eglin Air Force Base and Hurlburt Field, and other interested citizens as directed by the City Council.

SECTION III. This resolution shall take effect immediately upon approval by Council and signature of the Mayor.

ADOPTED December 14, 1993

Return to Contents

MF-0002

DM 335

GEORGE A. WARREN, JR.
FIVE COOSA COURT
DESTIN, FLORIDA 32541

March 25, 1994

Commander, U. S. Army Space & Strategic Defense Command
Attn. CSSD-EN-V
PO Box 1500
Huntsville, Al. 35807-3801

Dear Sir:

I have reviewed the Draft Environmental Impact Statement for the TheatreMissle Defense, Extended Test Range proposal and it certainly is a massive document.

I am struck with the fact that a great deal of concern is expressed for the birds and the plants but a small degree of concern is expressed for people in the areas that would be affected. 1

There appears to be no concern shown for the impact on the commercial interests in the areas where the tests are being considered. 2

Population and employment figures that have been considered for this area are not accurate nor is the percentage that are considered employed by the government. This area is now one of the fastest growth areas in the State of Florida. The tourist business is a year round situation, not as you have depicted, and the influx of families from California, South Florida, and the Northern states have all had a great deal to do with the growth. 3

Traffic congestion is a way of life right now and to indicate that movement of equipment such as you have described will not impact the local road systems is simply false and misleading in your assumptions. 4

The noise factor and dangers from possible accidents have been treated very lightly and the report treats the Santa Rosa Island site as if it were adjacent to the Eglin Reservation, this being far from the truth. It is surrounded by a heavily populated area which is growing at a very fast rate. 5 6

The Eglin area is not suitable for such testing that will extend over many years and would impact adversely a fast growing population group. Simply stated, take the testing to an area with far fewer people, businesses, and commercial activities. 7

Cordially yours,

George A. Warren Jr.

MF-0003

DM 015

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

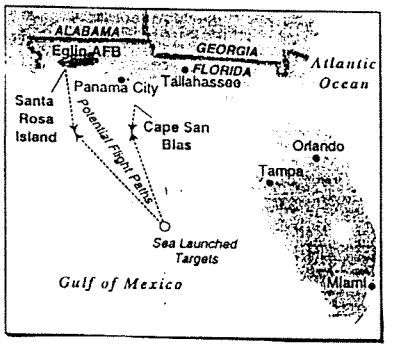
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

Wayne Boyette 14 FEB 92 863-1600
Name Date Phone Number



Return to Contents

DM016

MF-0004

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

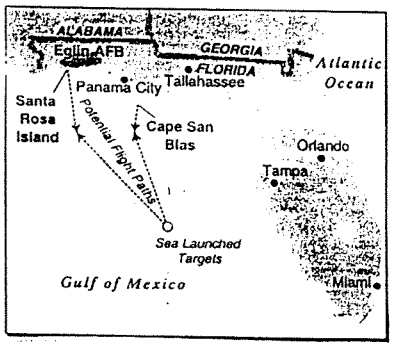
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

C. Wayne Jam 2/15/94 863-1600
Name Date Phone Number



DM021

MF-0005

THE FLORIDA SENATE
Tallahassee, Florida 32399-1100

COMMITTEES:
Governmental Operations, Vice Chairman
Corrections, Probation and Parole
Criminal Justice
Personnel, Retirement and Collective Bargaining

SENATOR ROBERT T. HARDEN
7th District

January 10, 1994

Mr. David Halsey
US Army Space & Strategic Defense Command
ATTN: CSSD-EN-V
P.O. Box 1500
Huntsville, AL 32807-3801

SUBJECT: Proposal for Theater Missile Defense Program at Eglin Air Force Base

Dear Mr. Halsey:

It has been brought to my attention the Army is considering Eglin Air Force Base as a potential site to test six different types of anti-missile systems being developed under the Theater Missile Defense program. Eglin Air Force Base would be an excellent choice for the Army to conduct its flight tests. 1

Eglin has a history of successful missile programs. In 1985 BOMARC missiles were launched from Santa Rosa Island culminating a program of 200 launches. Currently, Eglin conducts Hellfire missile verification testing in support of the Army's Program Office at Huntsville.

By locating the Theater Missile Defense testing at Eglin, it would greatly enhance logistics and communications through close proximity of the Program Office in Huntsville. In addition, Eglin's location would allow launchings from the coast over the Gulf Mexico without overflying any public land. Also, there is a minimal amount of ship traffic and commercial air traffic within the proposed test range. 2 3

Eglin AFB has received the Air Force Installation Excellence Award, designating it the best Air Force Base in the U.S. This embodies Eglin's commitment to providing the highest quality products and services.

Locating The Theater Missile Defense Program at Eglin Air Force Base would enable the Army to better utilize the assets dedicated to defense along with complimenting the Theater Missile Defense Program at White Sands Missile Range. The State of Florida welcomes this program and encourage the Army to select Eglin as the site. 4

REPLY TO:
☐ Executive Park, Suite D-3, 11 Racetrack Road, N.E., Fort Walton Beach, Florida 32547-1868 (904) 833-9155
☐ 328 Senate Office Building, Tallahassee, Florida 32399-1100 (904) 487-5009

PAT THOMAS, President
ANDER CRENSHAW, President Pro Tempore
JOE BROWN, Secretary
WAYNE W. TODD, JR., Sergeant at Arms

Return to Contents

MF-0005

Thank you for your consideration of this recommendation. If I can be of any assistance, please do not hesitate to let me know.

Sincerely,

Robert Harden

ROBERT T. HARDEN
State Senator

RH:NF

DM023

MF-0006

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

Dear Sir,

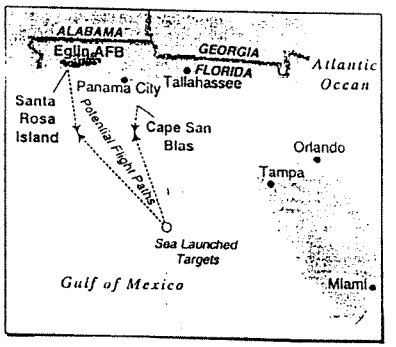
Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

Name Date Phone Number

17Feb94 - 904-875-2272



Return to Contents

DM024

MF-0007

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

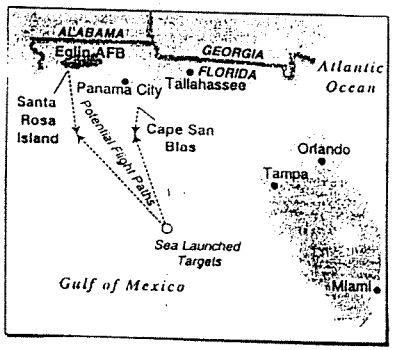
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

[signature] 17 FEB 94 904 835-4284
Name Date Phone Number



MF-0008

U.S. Army Space & SDC Feb. 17, 1994
Good Luck!
We need all the help we can get!
Betty Talmyard
1055 Oasis Village
Milton, Florida
32570

DM027

1

Return to Contents

MF-0009

Randall Wise
Mayor

DM 386

Telephone (904) 729-4008
208 N. Partin Dr.
Niceville, Florida 32578

"Home of the Boggy Bayou Mullet Festival"

February 16, 1994

Robert F. Shearer
Chief, Environmental & Engineering Office
Department of the Army
U.S. Army Space and Strategic Defense Command
Post Office Box 1500
Huntsville, AL 35807-3801

Dear Mr. Shearer:

1

Enclosed please find Resolution 94-2 in which the City of Niceville urges the Department of Defense to support the designation of Eglin Air Force Base as the site for the Theater Missile Defense Program.

Sincerely,

Randall Wise
Mayor

mm

encl

MF-0009

RESOLUTION 94 - 2

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF NICEVILLE, FLORIDA URGING THE DEPARTMENT OF DEFENSE TO SUPPORT THE DESIGNATION OF EGLIN AIR FORCE BASE AS A SITE FOR THE THEATER MISSILE DEFENSE PROGRAM; AND PROVIDING THE EFFECTIVE DATE HEREOF

WHEREAS, the United States Congress passed the Missile Defense Act directing the Secretary of Defense to develop a Theater Missile Defense system by the mid to late 1990's; and

WHEREAS, the United States Army is considering several potential sites to test multiple anti-missile systems being developed under the Theater Missile Defense program; and

WHEREAS, Eglin Air Force Base is one of the locations under consideration by the United States Army to conduct the Theater Missile Defense flight tests.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF NICEVILLE, FLORIDA:

SECTION I. That the City of Niceville urges the Department of Defense to support the designation of Eglin Air Force Base as the site for the Theater Missile Defense Program.

SECTION II. That the City Manager is hereby authorized to send copies of this Resolution to the Governor of the State of Florida, Representative Earl Hutto, Senators, Commander of Eglin Air Force Base, Legislators, State and Federal delegations and other persons as directed by the City Council.

SECTION III. This resolution shall take effect immediately upon approval by the City Council and signature of the Mayor.

ADOPTED in Session this 11th Day of January, 1994.

MAYOR

ATTEST:

CITY CLERK

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MF-0010

DM036

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

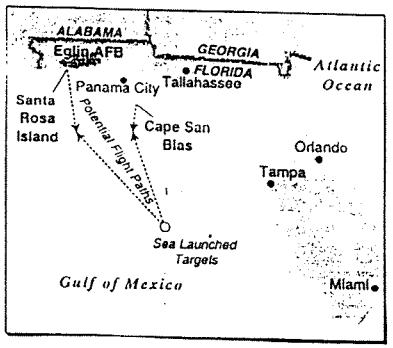
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

Gary R. Billingsley 2/24/94 835 4249
Name Date Phone Number



MF-0011

DM037

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 46TH TEST WING (AFMC)
EGLIN AIR FORCE BASE, FLORIDA

23 FEB 1994

MEMORANDUM FOR COMMANDER, U.S. ARMY SPACE AND STRATEGIC
DEFENSE COMMAND
CSSD-EN-V (MR. HASLEY)
PO BOX 1500
HUNTSVILLE AL 35807-3801

FROM: 46 TW/XPX
101 WEST D AVE SUITE 222
EGLIN AFB FL 32542-5492

SUBJECT: Eglin-Area TMD Support - ACTION MEMORANDUM

1. Please find the enclosed resolution supporting TMD testing at Eglin AFB from our neighboring city, Destin. This resolution is indicative of the strong community support enjoyed by Eglin.

2. Please call Mr. Russ Howard at DSN 872-5307 if you have any questions.

THOMAS H. MERRIMAN, Lt Col, USAF
Chief, Plans & Requirements Div

Attachment:
Resolution for Destin

Return to Contents

MF-0011

The City of Destin

Post Office Box 399 Destin, Florida 32540 (904) 837-4242 FAX (904) 837-3267

January 25, 1994

Brigadier General Stewart E. Cranston
AFDTC/CC
101 W. "D" Avenue
Suite 117
Eglin AFB, FL 32542-5495

Dear General Cranston:

Enclosed is the City of Destin's Resolution #94-1 which was recently passed unanimously by our City Council.

1

The City of Destin is urging the Department of Defense to support the designation of Eglin Air Force Base as the site for the Theater Missile Defense Program.

Copies of this resolution has been sent to the Governor, State and Federal Legislators, the County Commissioners, the Okaloosa County League of Cities and Municipalities, and the Commander of Hurlburt Field.

Sincerely,

THE CITY OF DESTIN

James W. Vaughn
Mayor

Enclosure(1)

G:\CityClerk\Resol\RES94-1.Ltr

MF-0011

RESOLUTION 94-1

A RESOLUTION OF THE CITY OF DESTIN URGING THE DEPARTMENT OF DEFENSE TO SUPPORT THE DESIGNATION OF EGLIN AIR FORCE BASE AS A SITE FOR THE THEATER MISSILE DEFENSE PROGRAM.

2

WHEREAS, the United States Congress passed the Missile Defense Act directing the Secretary of Defense to develop a Theater Missile Defense System by the mid to late 1990s; and

WHEREAS, the Army is considering several potential sites to test up to six different anti-missile systems being developed under the Theater Missile Defense Program; and

WHEREAS, Eglin Air Force Base is one of the locations under consideration by the Army to conduct the TMD flight tests.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF DESTIN, FLORIDA:

SECTION I. That the City of Destin urges the Department of Defense to support the designation of Eglin Air Force Base as the site for the Theater Missile Defense Program.

SECTION II. That the City Manager is hereby authorized to forward copies of this Resolution to the Governor of Florida, all State and Federal Legislators, the Okaloosa County League of Cities, all Okaloosa County Municipalities, the County Commissioners, the Commanders of Eglin Air Force Base and Hurlburt Field, and other interested citizens as directed by the City Council.

Adopted this 18th day of January 1994.

James W. Vaughn, Mayor

ATTEST:

Philip Cook, City Manager

Carolyn Lee Garrett, City Clerk

G:\CityClerk\Resol\RES94-1.Doc

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DM042

MF-0012

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

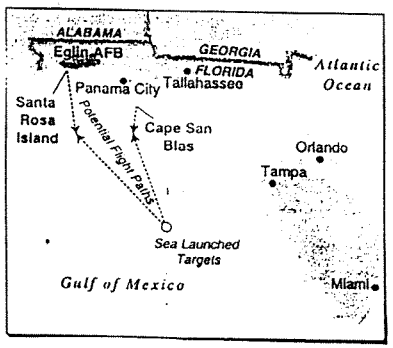
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

David Comment 2-21-94 932-5708
Name Date Phone Number



DM043

MF-0013

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

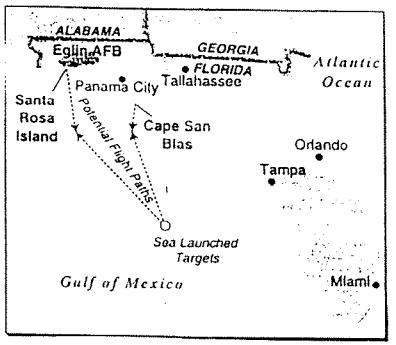
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

[signature] 2/21/94 904-837-7903
Name Date Phone Number



Return to Contents

MF-0014

DM057

Feb. 26. 1994

Dear Sirs

Thank you for sending me the information about your testing sites 1
for Eglin area.

I am very appaled to this. We have retired and are building our last home in Destin. Please don't ruin our beautiful emerald water and snow white beaches. 2

There was an article in our local paper saying that aluminum oxide and hydrogen chloride might be distributed over the water and land. I am no scientist, but I went to the library and tried to learn what this is. I am enclosing my findings, which did not sound good to me.

MF-0014

I urge you to consider a less populated area for your testing. aluminum oxide - is the only oxide which reacts both in H_2O medium and at fusion temperature, to form salts with both acids & alkalis. Hydrogen Chloride - paper enclosed.

We will not be able to attend the meeting March 1st at Ft. Walton as we will be out of town.

Thank you for considering my Comments.

A Concerned citizen

Kay Hamish
625 Gulf Shore Dr
Destin, Fl. 32541
Phone 904-654-4892

Return to Contents

MF-0014

1764 Photocell

PHOTOCELL. Photoelectric Effect.

PHOTOCHEMICAL EQUIVALENCE LAW. Stark-Einstein Equation; Stark-Einstein Law.

PHOTOCHEMISTRY AND PHOTOLYSIS. When certain substances are subjected to light, a chemical change results. Such reactions comprise *photochemistry*. The production of an image on a photographic plate is an example. Photosynthesis in the green leaf of a plant is another. Where the change involves chemical decomposition of the radiated material, the process is termed *photolysis*. As used in this context, the term light may include visible light and ultraviolet radiation. One of the better known and most extensive examples of photolysis is the production of ozone, O_3, in the upper atmosphere, a reaction critical to life on earth because ozone acts as a filter of the middle- and far-ultraviolet radiations which destroy living organisms. Regular oxygen, O_2, absorbs solar ultraviolet radiation with a wavelength of 190 nanometers. The released oxygen atoms may combine with oxygen molecules present to form ozone, or the freed oxygen atoms may recombine to form O_2. Thus, there is a continuing combination of processes in dynamic equilibrium, that is, the synthesis and the photolysis of ozone.

In photochemical reactions light supplies the energy necessary for the activation of the reacting molecules (Grotthus, 1818, and Draper, 1839). Sometimes the light waves which are absorbed by a body produce only an increase in temperature, sometimes fluorescence as in the cases of eosin and fluorescein, and sometimes chemical change. The reaction of hydrogen and chlorine in light was studied by Bunsen and Roscoe (1862), and they discovered that the amount of chemical change is proportional to the intensity of the light and to the length of time of exposure to the light. The first law of photochemistry (Draper-Grotthus) states that light that is absorbed causes chemical change. The energy of light is measured in quanta, and according to the Stark-Einstein law,

$$E = Nhc/\lambda$$

where N is Avogadro's constant, h is Planck's constant, c is velocity of light, λ is wavelength of light; that is, each molecule that takes part in a chemical reaction induced by exposure to light absorbs one quantum of radiation causing the reaction. Photochemical processes are of two kinds: primary and secondary. The primary process in a photochemical reaction is limited by the Einstein law to the absorption of one quantum by a molecule or atom. A knowledge of the spectrum of the reactants is necessary to determine what happens in this process. The molecule may be disrupted into fragments or an electron may be excited from a lower orbit to a higher one. Which of these events takes place can often be determined by spectroscopic studies. The secondary process deals with the fate of the molecular fragments or of the excited molecules. The excited molecule may emit its extra energy as light, causing fluorescence; it may lose it by transferring it to other molecules as thermal energy; or it may cause a chemical reaction. On the other hand, the molecular fragments may either recombine to give the original reactant or cause further chemical reactions. The study of the quantum yield (which is the number of molecules reacting divided by the number of quanta absorbed), is used as a means of formulating the secondary processes. If the quantum yield is less than one, fluorescence, deactivation or recombination of fragments must take place. If the quantum yield is unity every photon absorbed decomposes one molecule. When the quantum yield is greater than unity (and in some reactions it may be as high as a million) chain reactions are involved. The classical example of such a reaction is the combination of hydrogen and chlorine. The primary reaction is Cl_2 and light $\rightarrow$ 2Cl. The chain propagation reactions are

$$Cl_2 + h\nu \rightarrow 2Cl$$
$$Cl + H_2 \rightarrow HCl + H$$
$$H + Cl_2 \rightarrow HCl + Cl$$

creating a cycle which is only stopped by

$$Cl + Cl \rightarrow Cl_2$$
$$H + H \rightarrow H_2$$

Since the last two processes are slow compared to the two [illegible] them, one quantum of light can bring about a combination [illegible] million molecules of hydrogen and chlorine.

See also Photosynthesis.

References

Porter, G.: "Flash Photolysis and Some of Its Applications," *Science*, [illegible] (3834) 1299–1307 (1968).

Oster, G. K. and H. Kallmann: "Energy Transfer from High-lying Excited States," *J. de Chim. Phys.*, **64** (1), 28–32 (1967).

Oster, G. and N. Yang: "Photopolymerization of Vinyl Monomers," *Chem. Rev.*, **68** (2), 125–151 (1968).

Kosar, J.: "Light-sensitive Systems: Chemistry and Application of Nonsilver Halide Photographic Processes," Wiley, New York, 1965.

Green, A. E. S. (editor): "The Middle Ultraviolet: Its Science and Technology," Wiley, New York, 1966.

PHOTOCONDUCTIVITY (Vidicon). Television.

PHOTOCONDUCTORS. Photoelectric Effect.

PHOTOELASTICITY. A term that refers to certain changes in optical properties of isotropic, transparent dielectrics when subjected to stresses. A block of glass, free of optical flaws, exhibits a "[illegible]" double refraction when subjected to compression or tension parallel to one of its dimensions. If the block is placed between crossed Nicol prisms, the field remains dark so long as the glass is in its normal condition, but as stress is applied, colored fringes appear which are characteristic of the internal deformations of the glass.

PHOTOELECTRIC CONSTANT. A quantity equal to h/e where h is the Planck constant, and e, the electronic charge, and which multiplied by the frequency of any radiation exciting photoemission gives the potential difference corresponding to the quantum energy absorbed by the escaping photoelectron.

$$h/e = 4.1349 \times 10^{-7}\ \text{erg-sec-emu}^{-1}$$
$$= 1.3793 \times 10^{-17}\ \text{erg-sec-esu}^{-1}$$

PHOTOELECTRIC EFFECT. Changes in electrical characteristics of substances due to radiation, generally in the form of light. Radiation of sufficiently high frequency (short wavelength), impinging on certain substances, particularly, but not exclusively, metals, causes bound electrons to be given off with a maximum velocity proportional to the frequency of the radiation, i.e., to the quantum energy of the photon. The Einstein photoelectric law, first verified by Millikan, states:

$$E_k = h\nu - \omega$$

where E_k is the maximum kinetic energy of an emitted electron, h the Planck constant, ν is the frequency of the radiation (frequency associated with the absorbed photon), and ω is the energy necessary to remove the electron from the system, i.e., the photoelectric work function for the surface of the emitting substance. An inverse photoelectric effect results from the transfer of energy from electrons to radiation. For example, in an x-ray tube, there is observed the transfer of energy from electrons accelerated by the anode voltage to radiation emitted by the target. This radiation exhibits a continuous spectrum at lower voltages, upon which are superimposed, at higher voltages, intense lines characteristic of the anode material.

Two principal aspects of the photoelectric effect are described here: (1) Photoconductivity; and (2) photovoltage.

Photoconductivity is the phenomenon evidenced by the increase in electrical conductivity of a material by the absorption of light or other electromagnetic radiation. Although insulating or semiconducting materials exhibit this effect to some degree, there are relatively few materials that give sufficiently large change in conductivity with illumination for application of the principle in useful devices. The principle can be explained briefly by reference to cadmium sulfide photoconductor as an example. As in the case of luminescence, the band-type of energy level diagram is used. In Fig. 1, Transition 1 represents absorption of a photon of energy at least equal to that of the band gap, giving rise to a free electron and free hole. Transition 2 represents absorption at a local crystal

DM063

MF-0015

277 TRISMEN TERRACE, WINTER PARK, FLORIDA 32789
OFFICE - P O BOX 3542, ORLANDO, FLORIDA 32802
407/849-6420 FAX 407/841-9416

RESIDENCE - 407/644-4704

February 25, 1994

Commander
U.S. Army Space and Strategic Defense Command
ATTN: CSSD-EN-V (David C. Basley)
P O Box 1500
Huntsville, AL 35807-3801

SUBJECT: DEIS for the Theater Missile Defense (TMD) Extended Test Range—Cape San Blas

Gentlemen:

1 By this letter I wish to express opposition to proposed activities as outlined in the Draft Environmental Impact Statement referenced above.

2 I own the only private property directly abutting the proposed Cape San Blas launch site, and the largest private property holding on Cape San Blas. A substantial portion of my property is encompassed in the nominal launch hazard area. All of my property is in the heavily weighted maximum noise level area—with a substantial portion in the 105 dB designated area.

3 I am presently, slowly but surely, reactivating my "grandfathered" 3,000' airstrip on this property for private use permitted many years ago by the Air Force in what at that time was a restricted area. This airstrip is an extremely short distance from the launch site—with consequent additional inconvenience and hazards not discussed in the impact statement. Also within an extremely short distance from the launch site, I have for many years had a 110' fire tower which directly overlooks the launch site. This was not mentioned in the impact statement.

4 Most importantly, on this adjacent property for over 30 years I have protected from activities and intrusion, the largest complex of Indian Mounds on the entire Gulf coast, and one of the largest in the nation. The potential from both fire and falling debris plus vandalism generated by such a proposed nearby active facility greatly increases the potential hazards to this unique and irreplaceable cultural resource. Certainly, I was greatly disturbed by your admission that "impact to cultural resources could also occur as a result of collection of artifacts from previously unrecorded sites within the ROI by flight preparation personnel during outdoor recreational activities." I have for many years had a 6'-high chainlink 3-strand barbed-wire fence protecting this area—and it is always a source of curiosity and challenge to the uneducated and unthinking. Obviously, your proposed activity would seriously endanger this irreplaceable heritage.

5

C:\MS-D\GULFCO\ARRESTEE.HAZ-1

Return to Contents

MF-0015

Commander
U.S. Army Space and Strategic Defense Command
ATTN: CSSD-EN-V (David C. Hasley)
February 25, 1994

The Indian Mounds are eligible to be registered on the National Register of Historic Places, and according to your Executive Order No. 11593 you are directed to exercise caution to ensure that potentially qualified properties are not inadvertently transferred, sold, demolished, or substantially altered, and various other Acts also protect historic sites such as this. 6

Obviously, placing a large portion of my residentially taxed property under an area designated as hazardous substantially reduces its economic value without compensation, and I will consider it a "taking" should your plan be implemented. 7

St. Josephs Bay in itself is unique inasmuch as it is the highest salinity bay in the entire Gulf coast--perhaps in the nation. It does not have a source of freshwater dilution--and therefore supports a unique community of sealife that could easily be equated to that around the Keys. The Conch population, Green Turtle and Ridly Turtle population, Horseshoe Crab population, and many others deserve better attention than was given in your environmental impact statement. Certainly, the Bay will be adversely affected both by human activity and your admitted "chemical stimulants"--as well as missile emissions. 8

I am familiar with a number of endangered species within the ROI proposed area--and your environmental impact statement does not even address this issue. 9

Finally, your typically governmentally elaborate and very expensive "Environmental Impact Statement" in two large volumes reminds me of tobacco advertisements--where the purpose is to "sell a product" regardless of the cost to the public welfare. Obviously, its purpose is self-reassurance and justification--not environmental concern, and I vehemently protest the waste of taxpayers money on such a poorly motivated study. 10

Very truly yours,

Troy M. Deal, Jr.

TMDjr:neo

C:\WP-D\GULFCO\ARMYSITE.FM2-2

DM070

MF-0016

March 1, 1994

U.S. Army Space and Strategic Defense Command
CSSD-EN-V
P.O. Box 1500
Huntsville, AL 35807-3801
ATTN: Mr. David Hosley

Sir,

I am a Gulf County, Florida resident and I live approximately five miles from the proposed Cape San Blas missile launching site.

I object to the use of Cape San Blas as a missile launching site for the following reason: public safety. That includes the safety and protection of human life and personal and real property. 1

Cape San Blas and the surrounding communities of Indian Pass, Simmons Bayou, Gulf Sands, Gulf Pines, and others, not to mention the proximity of the town of Port St. Joe, would all be within the umbrella of exploding and/or errant missiles. The facts are simple. When you launch a missile you cannot guarantee where it will go or what it will do. Witness the Challenger disaster. If your range safety officer has to destroy an errant missile, can you guarantee missile debris will not fall on populated areas? No, you cannot. Can you guarantee that you will be able to destroy the target missile or that it will fall short (into the water) before it impacts populated areas? No, you cannot. Witness our inability to destroy a simple SCUD during the recent U.N.-Iraqi war. Cape San Blas is a populated area. With that consideration alone, it is preposterous that the U.S. Army even consider Cape San Blas as a launch site for this type of activity. 2

The fact is there are already many launch sites available to the Department of Defense where such missile launches can be done with no threat to the population. Such as White Sands Missile Range, which already belongs to the U.S. Army, Vandenberg Missile Range, CA, and China Lake Missile Range, CA. There are others. 3

At this point in the history of the defense of the United States, you should strive to create fewer military sites, not more.

The proposed missile launching site at Cape San Blas is clearly not in the best interests of Gulf County, Florida.

Respectfully,
Gerald L. Jenkins

Return to Contents

MF-0017

Dm076

Your selection of the Cape San Blas site would indeed be of utmost importance to the Cape as well as Gulf County. I value the work and jobs that Eglin AFB is currently involved with here, and hope that continues for some time. 1

The military presence on Cape San Blas is vital to Gulf County's economy. The slight inconvience that may be associated with the missile testing on the Cape, is far outweighed by the benefits to the area. The flow of additional money into Gulf County businesses, in the way of housing, food, etc. would certainly be welcome. My only concern is that the lodging,food, and other services not be provided to the military by adjoining counties, such a Bay or Franklin, and hopefully the military will recognize the importance of that and act accordingly.

Cheryl W. Summers
HC 1, Box 210
Port St. Joe, FL 32456

MF-0018

Dm077

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

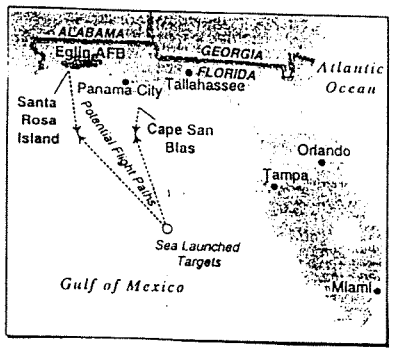
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARE on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

Scott Hatchell — Name
2/14/94 — Date
882-5952 — Phone Number



Return to Contents

DM078

MF-0019

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

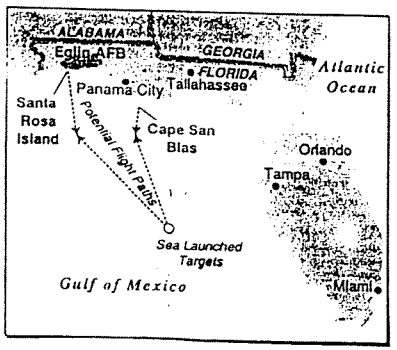
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

Name Date Phone Number



DM079

MF-0020

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

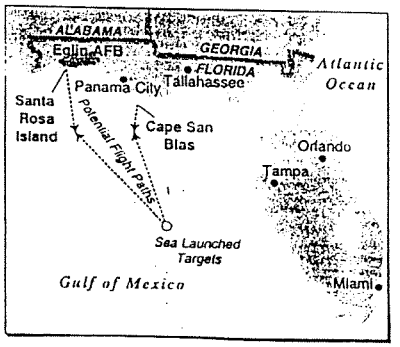
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

Name 3-1-94 904/244-0877
Date Phone Number



Return to Contents

DM080

MF-0021

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

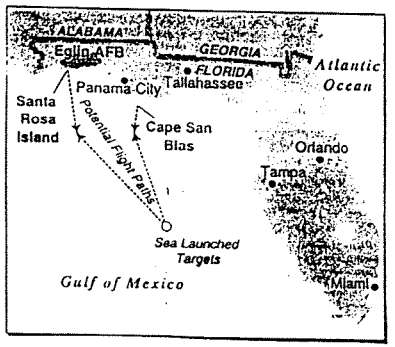
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

Virginia L. Mateer 2-26-94 904-244-0877
Name Date Phone Number



DM081

MF-0022

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

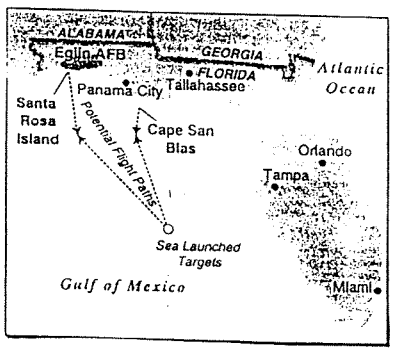
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

Charles M. George IMAC 94 [redacted] (882-3952)
Name Date Phone Number



Return to Contents

DM082

MF-0023

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

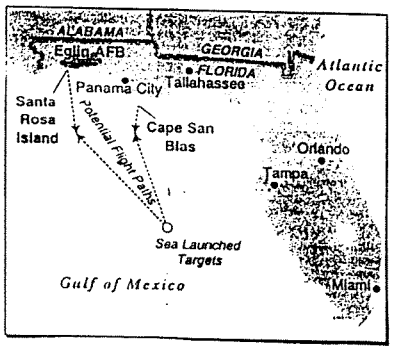
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

Name: [signature] Date: 3-2-94 Phone Number: 651-3795



DM083

MF-0024

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

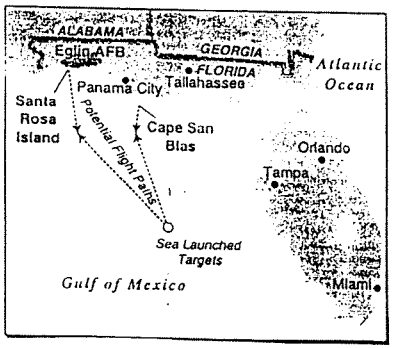
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

Name: George Horner Date: 3/2/94 Phone Number: 882-9451



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DM084

MF-0025

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

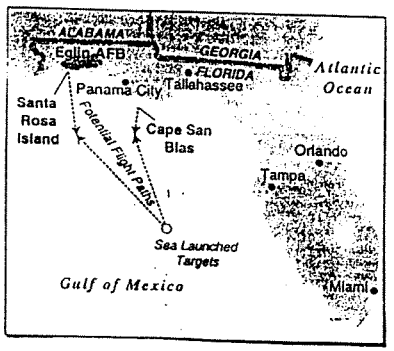
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

Name 3/2/94 882-4884
Date Phone Number



DM085

MF-0026

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

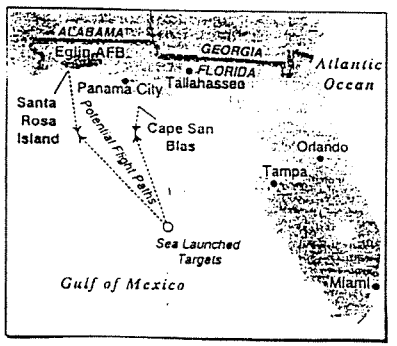
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

Name 3-2-94 882-5203
Date Phone Number



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Dm086

MF-0027

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

Dear Sir,

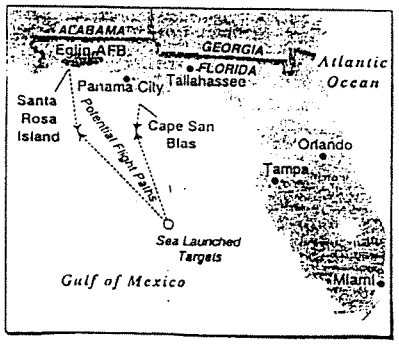
Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

James M. Beel 1 Mar 94 (904) 882-9201

Name Date Phone Number



Dm087

MF-0028

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

Dear Sir,

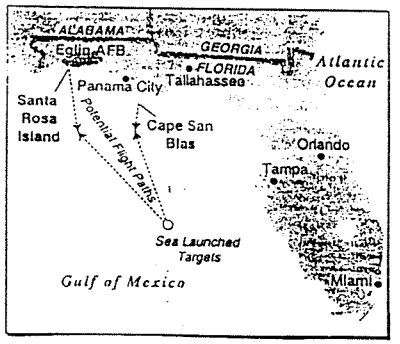
Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

Mary L. Stanley 3/2/94 (904) 537-8741

Name Date Phone Number



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MF-0029

DM088

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

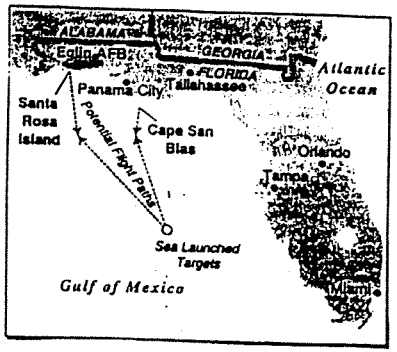
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

Myra Lynn Becker 3/4/94 682-9786
Name Date Phone Number



MF-0030

DM089

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

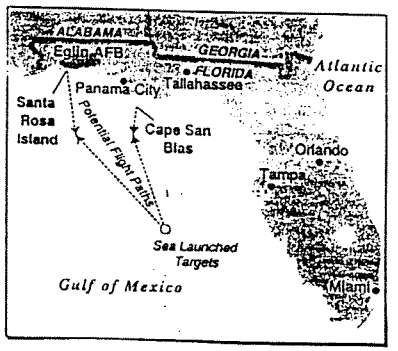
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

Janice W. Braxton 3-3-94 904-682-7118
Name Date Phone Number



Return to Contents

Dm090

MF-0031

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

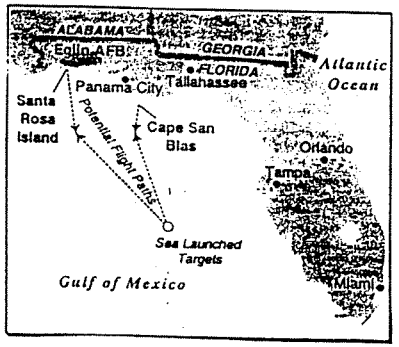
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

Harry F. Wickliffe Sr., 2/02/94 (904)651-1673
Name Date Phone Number



Dm091

MF-0032

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

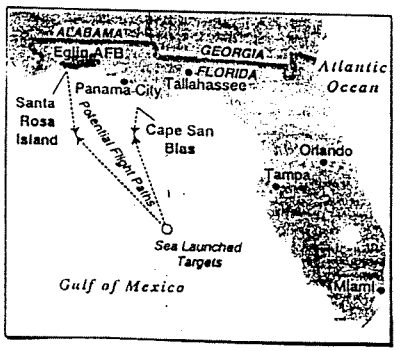
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

Linda C. Pate 3/2/94 (904)835-4995
Name Date Phone Number



Return to Contents

DM092

MF-0033

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

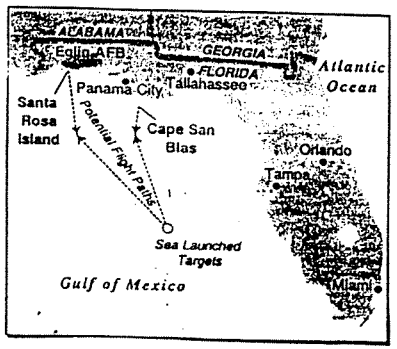
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

William H Darley (904) 862-1774
Name Date Phone Number



DM093

MF-0034

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

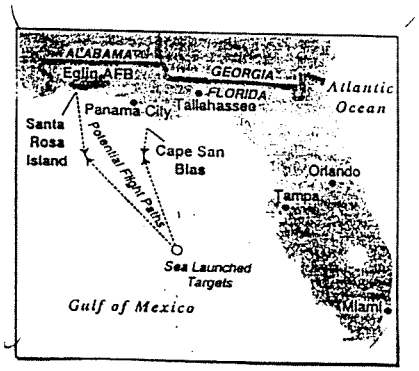
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

Robert E. Patterson 2 Mar 94 651 4530
Name Date Phone Number



Return to Contents

DM094

MF-0035

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

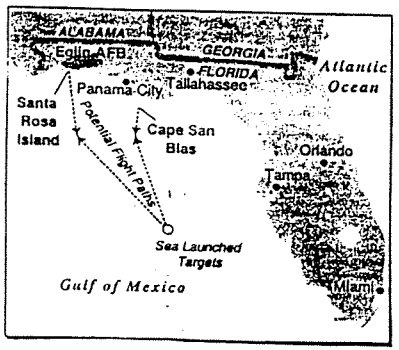
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

Name Date Phone Number



DM095

MF-0036

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

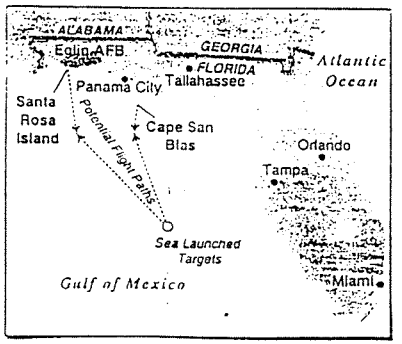
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

Name Date Phone Number



Return to Contents

DM096

MF-0037

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

Dear Sir,

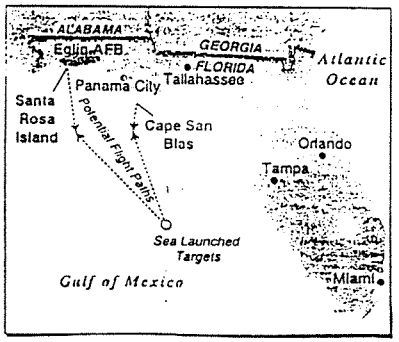
Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

C Hartley Scissor 3/4/94 904 [illegible] 4126

Name Date Phone Number



DM097

MF-0038

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

Dear Sir,

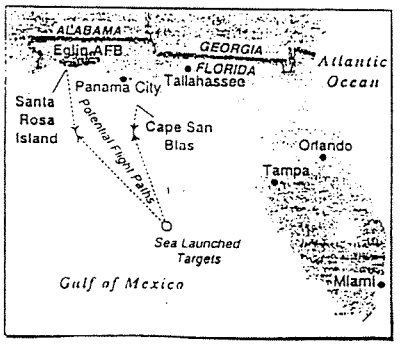
Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

E.F. Spear 4/[illegible]/94 652 6[illegible]

Name Date Phone Number



Return to Contents

DM098

MF-0039

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

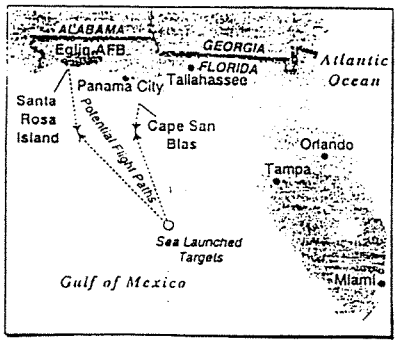
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

R. C. Dellert 3-4-94 904-623-3590
Name Date Phone Number



DM099

MF-0040

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

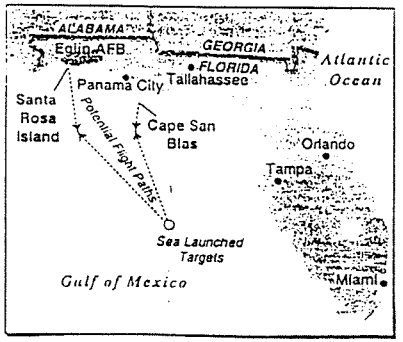
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

Steven L. King 3/2/94 8374445
Name Date Phone Number



DM100

MF-0041

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

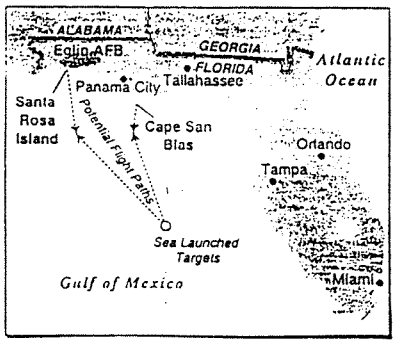
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

Name: [signature] Date: 2Mar94 Phone Number: 882-4995



DM101

MF-0042

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

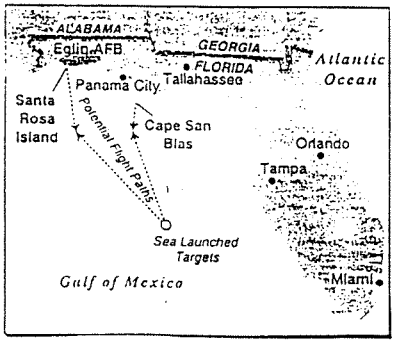
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

Name: Donald C Hawkins Date: 3-2-94 Phone Number: 882-4995



Return to Contents

DM102

MF-0043

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

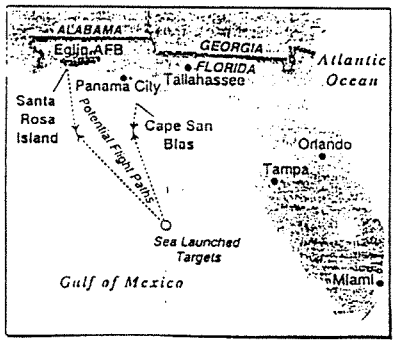
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

[illegible] 3/2/94 [illegible]
Name Date Phone Number



DM103

MF-0044

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

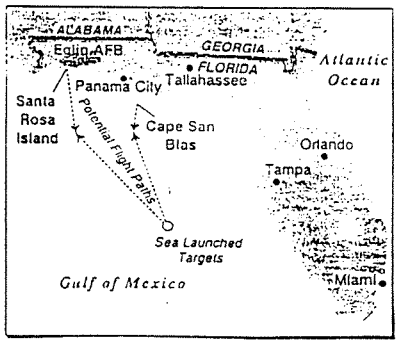
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

Jim Capstick 3-2-94 882-4995
Name Date Phone Number



Return to Contents

DM104

MF-0045

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

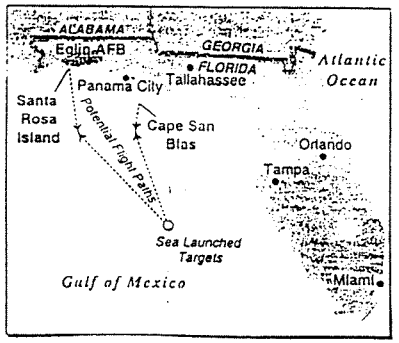
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

[signature] 3-2-94 2-4995
Name Date Phone Number



DM105

MF-0046

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

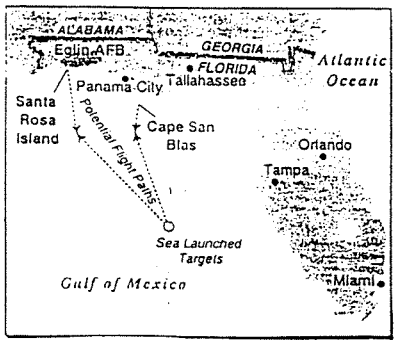
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

[signature] 3-2-94 904-862-6803
Name Date Phone Number



Return to Contents

DM106

MF-0047

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

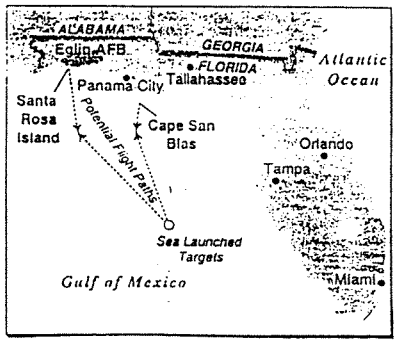
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

[signature] 3/2/94 (904) 623-1831
Name Date Phone Number



DM107

MF-0048

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

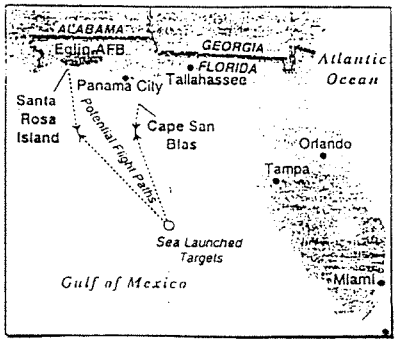
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

James P Manning 3-2-94 862-2464
Name Date Phone Number



Return to Contents

MF-0049

Dm108

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

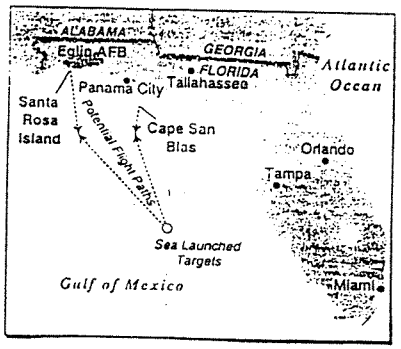
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

[signature] 3/2/94 682-4343
Name Date Phone Number



MF-0050

Dm109

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

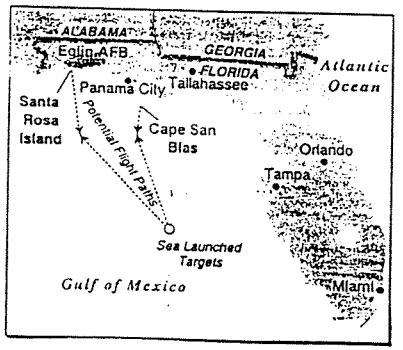
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

[signature] 3/2/94 882-4555
Name Date Phone Number



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DM110

MF-0051

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

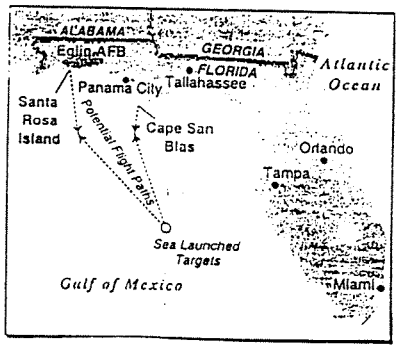
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

Jesse E. Medley 3-03-94 682-4997
Name Date Phone Number



DM111

MF-0052

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

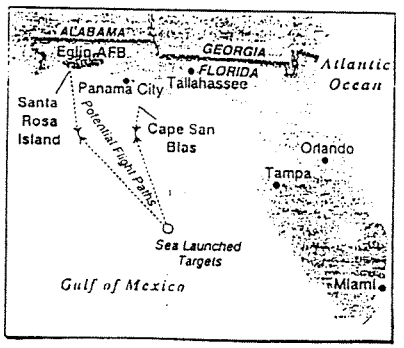
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

Robert Dias 2 Mar 94 682-4995
Name Date Phone Number



Return to Contents

MF-0053

DM112

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

Dear Sir,

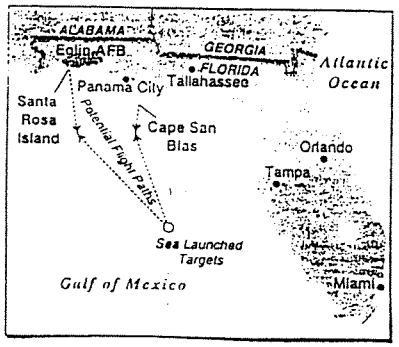
Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

[signature] [illegible] 862-1765

Name Date Phone Number



MF-0054

DM113

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

Dear Sir,

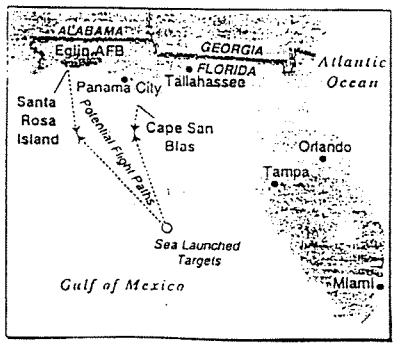
Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

[signature] 3/2/94 862 6692

Name Date Phone Number



Return to Contents

MF-0055

DM114

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

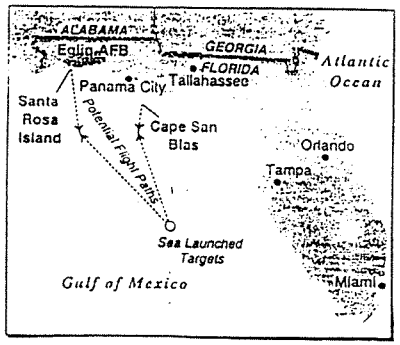
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

Name Date Phone Number



MF-0056

DM115

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

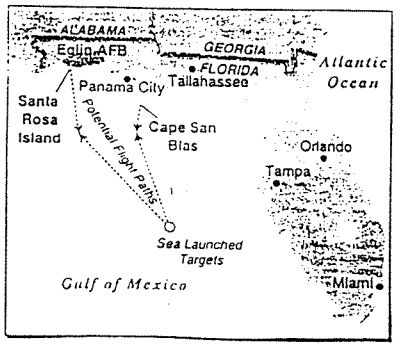
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

2MAR94 882-4995
Name Date Phone Number



Return to Contents

DM116

MF-0057

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

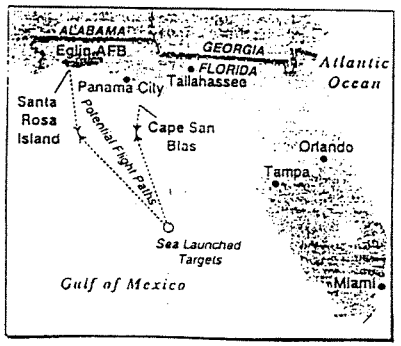
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

Jack Barfield 3/2/94 678-5333
Name Date Phone Number



DM117

MF-0058

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

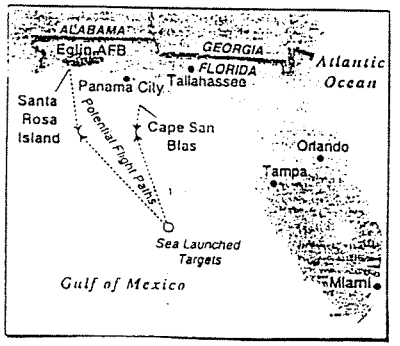
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

[redacted] 3/2/94 [redacted]
Name Date Phone Number



Return to Contents

DM118

MF-0059

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

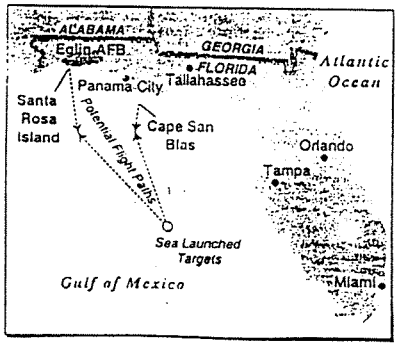
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

Charles J. McLendon March 2, 1994 704-678-6380
Name Date Phone Number



DM122

MF-0060

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

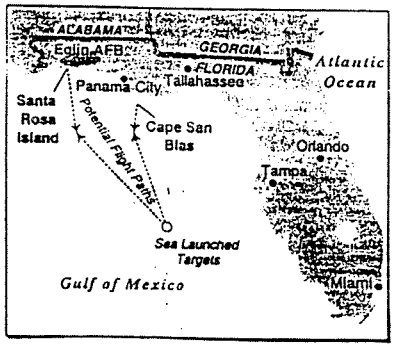
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

Margaret H Perry 3/1/94 804-852-9201
Name Date Phone Number



Return to Contents

DM123

MF-0061

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

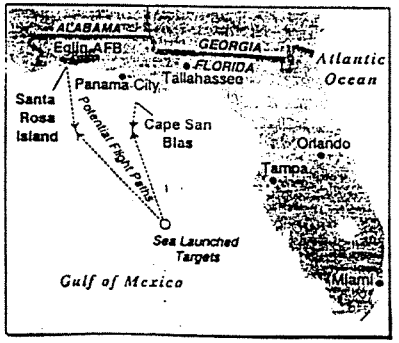
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

Richard B. Hallgarten 7 MAR 94 882-9304
Name Date Phone Number



DM124

MF-0062

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

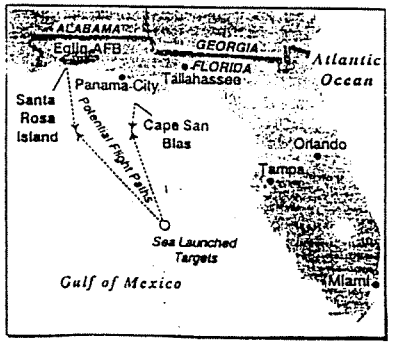
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

Charles Livingston 3/2/94
Name Date Phone Number
678-7875
882-3200



Return to Contents

MF-0063

DM125

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

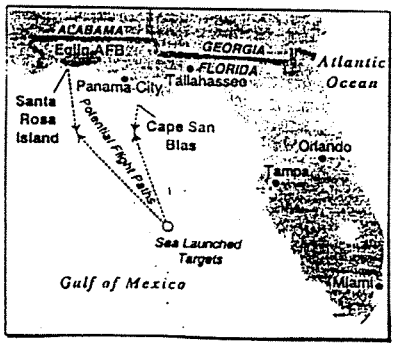
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

Peter Ford 3/2/94 904-882-9201/9202
Name Date Phone Number 904-939-3757



MF-0064

DM134

Written Comment Sheet

Theater Missile Defense Extended Test Range Environmental Impact Statement Public Hearing

Thank you for attending this Public Hearing. Please use this sheet to give us your written comments on the development of the Theater Missile Defense Extended Test Range Draft Environmental Impact Statement.

Mr. Hasley

I am a employee at TEST SITE D-3 at VORO Cape San Blas, Fla.
(I am for the TESTING 100%.)
I believe it would not hurt the environment at all. (I've read the work) PLEASE COME SEE US. Also I would like some books on it.

THANKS

Don Ray

1

Your Name Don Ray

Address 111 Duval St. Port St. Joe, Fla. 32456
Street City / State / Zip Code

Please hand this form in or mail to:
David Hasley
U.S. Army Space and Strategic Defense Command
ATTN: CSSD-EN-V
P.O. Box 1500
Huntsville, AL 35807-3801
Comments must be received by March 28, 1994

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Dm 135

MF-0065

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

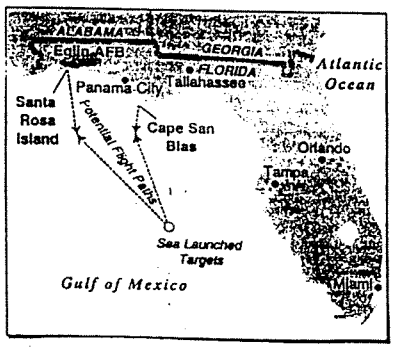
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin AFB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

Gail F Mitchell 3-7-93 (904)653-8584
Name Date Phone Number



Dm 137

MF-0066

March 5, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
Attn: CSSD-EN-V
P.O. Box 1500
Huntsville, AL 35807-3801

Dear Mr. Hasley:

I attended the THD public hearing at Port St. Joe on March 2, 1994. I have some comments and questions that I believe should be addressed in your final EIS:

1. If a missile fired from Cape San Blas starts immediately to go awry and must be aborted when it is only a few hundred feet up above the launch site, how far will the debris from the exploded missile be spread across the adjacent area? This is not addressed in your preliminary EIS; it was a written question submitted during the public hearing by another member of the audience, but was not addressed by your representatives at the hearing. 1

2. With single road access into and out of the St. Joseph Peninsula the road closures present a serious problem. Most of the permanent residents are older citizens. If a medical emergency arises how will a person get through a road closure to get to the hospital in Port St. Joe? If an official ambulance is answering such a call it seems clear that whoever is at the road block will recognize it and may have orders to let such vehicles through. If, however, (and the more likely case) the vehicle is a private car driven by a relative and carrying a person with an emergency medical condition (heart attack, *etc.*) how will the vehicle be allowed to go through with no delay? It is probable that a road block will be manned by individuals with no authority to make decisions, who will then have to be cleared by some higher authority to allow such a vehicle through. How will such individuals decide if there really is a medical emergency or simply someone saying there is one in order to exit the Peninsula without having to wait an hour or two or four? The preliminary EIS does not address this kind of problem. 2

3. Another question relates to the single road onto the Peninsula. The Peninsula is serviced by a volunteer fire department. The fire equipment is located at the base of the Peninsula. In the event of a fire out on the Peninsula the trucks will have to go through without delay. I imagine that should be an easy decision for whomever is at the road block, however, some of the volunteer firemen live out on the Peninsula. In the event of a call for a fire in the other direction along C-30, how will volunteers be able to get through to the fire house without delay. Again it is a question of how decisions will be made, and how quickly, at the road blocks. 3

I trust these issues will be covered in your final EIS.

Yours very truly,

Edward J. Olsen

Edward J. Olsen
P.O. Box 492
Port St. Joe, FL 32456

Return to Contents

MF-0067

DM144

Destin
Chamber of Commerce
1021 HIGHWAY 98 EAST, SUITE A
P.O. BOX 8
DESTIN, FLORIDA 32540
(904) 837-6241

March 2, 1994

David Hasley
U.S. Army Space and Strategic Defense Command
Attn.: C SSD-EN-V
Post Office Box 1500
Huntsville, AL 35807-3801

Dear Mr. Hasley:

The Board of Directors of the Destin, Florida Chamber of Commerce, upon review and due consideration, would like to go on record in support of locating the TMD Extended Test Range test site at Eglin Air Force Base, Florida. 1

In their unanimous decision, the directors felt their would be no significant environmental impact on the area and the economic impact would be very positive.

We appreciate the opportunity to comment in support of the project.

Respectfully,

Ray Navitsky
Executive Director

MF-0068

DM146

Written Comment Sheet

Theater Missile Defense Extended Test Range
Environmental Impact Statement
Public Hearing

Thank you for attending this Public Hearing. Please use this sheet to give us your written comments on the development of the Theater Missile Defense Extended Test Range Draft Environmental Impact Statement.

I FULLY SUPPORT THE TMD PROPOSALS. I WORK FOR VITRO SERVICES AT TEST SITE D-3, LOCATED AT CAPE SAN BLAS, FLA. I JUST HOPE IT WILL BE ABLE TO USE OUR FACILITIES IN TRACKING THE TARGET & INTERCEPTOR MISSILE. 1

THERE WAS COMMENTS MADE BY A Ms LUNDUNA (REALESTATE AGENT) AND A MR. McGHEE (CAPE SAN BLAS TAXPAYERS ASSN.) THAT THE AREA WOULD BE ENVIRONMENTALLY HARMED BY THE MISSILE LAUNCHES. I WONDER IF THEY WERE WORRIED WHEN THE BULLDOZERS & CATERPILLARS (EARTH MOVING EQUIP) DESTROYED BEAUTIFUL SAND DUNES, PLANT LIFE, AND THE HABITATS (FOR BIRDS, BEACH MOUSES, FOXES & DEER) TO MAKE ROOM FOR CONDOS AND BEACH HOMES! 2

I DON'T THINK THERE WILL BE TRAFFIC DELAYS FOR EXTENDED PERIODS. ONCE A TAKE OFF TIME IS ESTABLISHED FOR THE INTERCEPTOR MISSILE, TRAFFIC COULD BE STOPPED FOR 5 MINUTES PRIOR T.O.

IF THE LAUNCHES WERE ANNOUNCED FAR ENOUGH IN ADVANCE, I BELIEVE PEOPLE WOULD GATHER ON THE BEACHES TO WATCH THE MISSILE SHOTS.

Your Name NORMAN E. BIXLER

Address 2003 CYPRESS AVE (Street) PORT ST. JOE, FL 32456 (City / State / Zip Code)

Please hand this form in or mail to:
David Hasley
U.S. Army Space and Strategic Defense Command
ATTN: CSSD-EN-V
P.O. Box 1500
Huntsville, AL 35807-3801
Comments must be received by March 28, 1994

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MF-0069

DM154

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

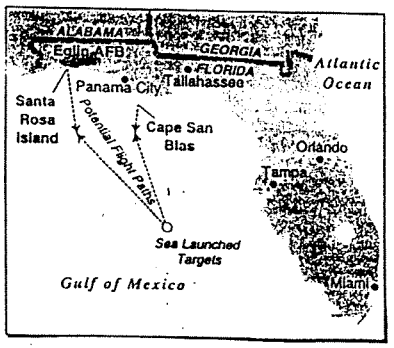
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

PAUL S. VANDAMME 6-MAR-94 904-882-9451
Name Date Phone Number



MF-0070

DM162

Written Comment Sheet

Theater Missile Defense Extended Test Range Environmental Impact Statement Public Hearing

Thank you for attending this Public Hearing. Please use this sheet to give us your written comments on the development of the Theater Missile Defense Extended Test Range Draft Environmental Impact Statement.

1

Having reviewed the information provided and listening to many interested parties discuss the issues --including the hearing held 3/1/94 in Fort Walton Beach -- I have concluded the environmental impact of the TMD Extended Test Range is positive, if any, for Eglin Air Force Base in Florida. I heartily approve of the concept as necessary for improving our defense. As a citizen of Northwest Florida, I can tell you we strongly support military installations in our area and are proud to host military activities.

Your Name J. Louie Yilling J Louie Yilling 3/9/94

Address 8203 Calle Mio Street Navarre, FL 32566
Street City / State / Zip Code

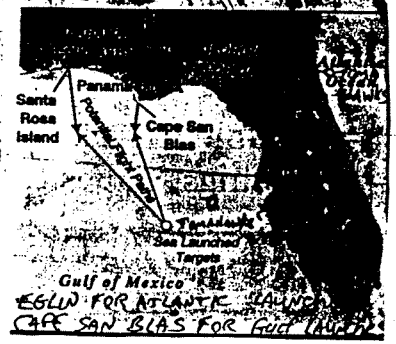
Please hand this form in or mail to:
David Hasley
U.S. Army Space and Strategic Defense Command
ATTN: CSSD-EN-V
P.O. Box 1500
Huntsville, AL 35807-3801
Comments must be received by March 28, 1994

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MF-0071

DM163 TWIMC/ 9MAR94

Proposed Missile Launches



EGLN FOR ATLANTIC LAUNCH
CAPE SAN BLAS FOR GULF LAUNCH

MR D. HASLEY
AM IN RECEIPT OF
TMD - ETR VOL I & II
THANK YOU VERY MUCH
AM PLEASED TO SEE
EGLIN AFB WITH LEAD
ENVIRONMENTAL CONSEQ.!
UTILIZING EGLIN & CSBLAS
WILL PROVIDE PAN HANDLE
DEFENSE AGAINST ATLANTIC
& GULF LAUNCHES OF NAVY
TOMAHAWK MISSILES.!
THANK AGAIN FOR EIS
& KEEPING FLA PAN HANDLE
SAFE FOR DEMOCRACY
[illegible] M.S.
MSGT USAF (RET)

1

Ron D. Cox
6521 Swansea
Panama City, FL 32404

BAY COUNTY FL 325
PM
11 MAR
1994

USA 19¢

Mr. David Hasley
U.S. Army Space and Strat
Defense Command
CSSD-EN-V
P.O. Box 1500
Huntsville, AL 35807-3801

© USPS 1991

MF-0072

DM173

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

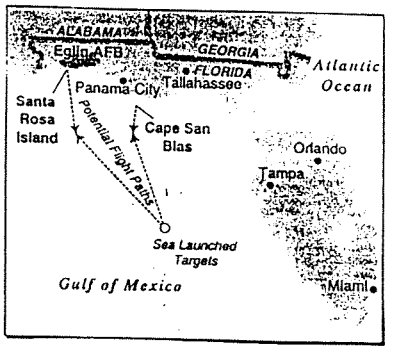
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

L. Ann Harrison 02-28-94 (904)863-3118
Name Date Phone Number



Return to Contents

MF-0073

DM174

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

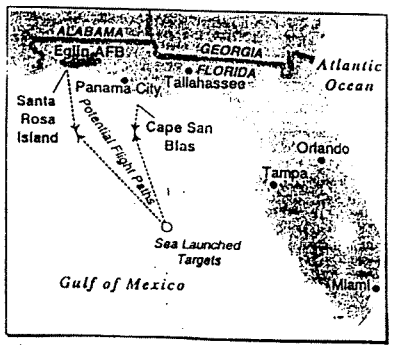
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

[signature] Feb 27, 94 863-3115
Name Date Phone Number



MF-0074

DM180

Written Comment Sheet

Theater Missile Defense Extended Test Range Environmental Impact Statement Public Hearing

Thank you for attending this Public Hearing. Please use this sheet to give us your written comments on the development of the Theater Missile Defense Extended Test Range Draft Environmental Impact Statement.

After attending this meeting, That if the only environmental impact would be to close C-3b E for no more than one hour, I have no Problem with this. Providing prior notice is given. The economical Clearly outweighs the environmental impact. So as a resident and business owner I support this operation. 1 2

Your Name Jack Summers (Cap'n Jack's)

Address HC1 Box 210 Port St Joe, FL 32456
Street (Cape San Blas) City / State / Zip Code

Please hand this form in or mail to:
David Hasley
U.S. Army Space and Strategic Defense Command
ATTN: CSSD-EN-V
P.O. Box 1500
Huntsville, AL 35807-3801
Comments must be received by March 28, 1994

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MF-0075

DM307

Florida House of Representatives

James P. Kerrigan
Representative, 4th District

Committees
Agriculture & Consumer Services
Community Affairs
Criminal Justice
Employee & Management Services

February 9, 1994

Col. John M. Harnisch
Chief of Staff
Department of the Army
US Army Space & Strategic Defense Command
P. O. Box 15280
Arlington, Virginia 22215-0280

Subject: Theater Missile Defense Extended Test Range

Dear Col. Harnisch:

I would like to take this opportunity to express my support in having Eglin Air Force Base, Florida as the site for the Theater Missile Defense Program. 1

Last year, I was informed by the U.S. Army Space and Strategic Defense Command of their intention to possibly locate this valuable program in my district. I know that Eglin is the ideal location for such a program based on the fact that Eglin has recently been designated the best Air Force Base in the U.S., having received the Air Force's installation Excellence Award indicating its commitment to providing high quality products and protection of the environment. 2

Other aspects of my support include the fact that Eglin has a previous history of successful missile launches from Santa Rosa Island, and a minimal amount of ship and commercial air traffic in this district. Therefore, you have my full support in this project. I have enclosed copies of several resolutions in support of the Eglin Air Force Base location for the Theater Missile Defense Extended Test Range. 3

If I or my staff can be of assistance, do not hesitate to contact my district office.

With Warm Regards,

James P. Kerrigan
State Representative
District 4

Encl.

cc: Basil L. Bethea, Jr.

Reply to:
☐ Suite 404
151 Mary Esther Boulevard
Mary Esther, FL 32569
(904) 833-9320
SUNCOM 674-9320
FAX (904) 833-9329

☐ 400 House Office Building
Tallahassee, FL
32399-1300
(904) 488-1170

Printed on Recycled Paper

MF-0075

Member
NWHANDLE LEAGUE OF CITIES

Okaloosa County League of Cities

Member
FLORIDA LEAGUE OF CITIES

RESOLUTION 93-06

A RESOLUTION OF THE OKALOOSA COUNTY LEAGUE OF CITIES URGING THE DEPARTMENT OF DEFENSE TO SUPPORT THE DESIGNATION OF EGLIN AIR FORCE BASE AS A SITE FOR THE THEATER MISSILE DEFENSE PROGRAM; AND PROVIDING THE EFFECTIVE DATE HEREOF.

WHEREAS, the United States Congress passed the Missile Defense Act directing the Secretary of Defense to develop a Theater Missile Defense system by mid to late 1990's; and

WHEREAS, the Army is considering several potential sites to test up to six different anti-missile systems being developed under the Theater Missile Defense program; and

WHEREAS, Eglin Air Force Base is one of the locations under consideration by the Army to conduct the TMD flight tests.

NOW, THEREFORE, BE IT RESOLVED BY THE OKALOOSA COUNTY LEAGUE OF CITIES:

SECTION I. That the Okaloosa County League of Cities urges the Department of Defense to support the designation of Eglin Air Force Base as the site for the Theater Missile Defense Program.

SECTION II. That the President of the Okaloosa County League of Cities is hereby authorized to send copies of this Resolution to the Governor of Florida, Congressman Hutto, Senators, Commander of Eglin Air Force Base, Legislators, State and Federal delegations and other persons as directed by the membership.

SECTION III. This Resolution shall take effect immediately upon approval of the general membership and the signature of the President of the Okaloosa County League of Cities.

ATTEST:

Secretary

ADOPTED: December 16, 1993

OKALOOSA COUNTY LEAGUE OF CITIES
Bill Lamb, President

Cinco Bayou	244-2712	Fort Walton Beach	243-3141	Niceville	678-452
Crestview	682-6134	Laurel Hill	652-4441	Shalimar	651-572
Destin	837-4242	Mary Esther	243-3566	Valparaiso	678-291

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MF-0075

NAVARRE AREA CHAMBER OF COMMERCE
MILITARY AFFAIRS COUNCIL
P.O. BOX 5241
NAVARRE, FLORIDA 32566

RECEIVED
JAN 19 1994

RESOLUTION

A RESOLUTION OF THE NAVARRE BEACH AREA CHAMBER OF COMMERCE MILITARY AFFAIRS COUNCIL URGING THE DEPARTMENT OF DEFENSE TO SUPPORT THE DESIGNATION OF EGLIN AIR FORCE BASE AS A SITE FOR THE THEATER MISSILE DEFENSE PROGRAM; AND PROVIDING THE EFFECTIVE DATE HEREOF.

WHEREAS. the United States Congress passed the Missile Defense Act directing the Secretary of Defense to develop a Theater Missile Defense system by the mid to late 1990s.

WHEREAS. the Army is considering several potential sites to test up to six different anti-missile systems being developed under the Theater Missile Defense program.

WHEREAS. Eglin Air Force Base is one of the locations under consideration by the Army to conduct the TMD flight tests.

NOW, THEREFORE, BE IT RESOLVED BY THE MILITARY AFFAIRS COUNCIL OF THE NAVARRE BEACH AREA CHAMBER OF COMMERCE, NAVARRE, FLORIDA:

SECTION I. That the Military Affairs Council of Navarre urges the Department of Defense to support the designation of Eglin Air Force Base as the site for the Theater Missile Defense Program.

SECTION II. That the Chairperson is hereby authorized to send copies of this Resolution to the Governor of Florida, Representative Hutto, Senators, Commander of Eglin Air Force Base, Legislators, State and Federal delegations and other persons as directed by the Military Affairs Council.

SECTION III. This resolution shall take effect immediately upon approval by the Council and signature of the Chairperson.

ADOPTED: 1-5-94

CHAIRPERSON: Asa Taylor

ATTEST: Joyce K. Morin
SECRETARY

MF-0075

City of Fort Walton Beach
America's Most Beautiful Beaches

Resolution 93-28

A RESOLUTION OF THE CITY OF FORT WALTON BEACH URGING THE DEPARTMENT OF DEFENSE TO SUPPORT THE DESIGNATION OF EGLIN AIR FORCE BASE AS A SITE FOR THE THEATER MISSILE DEFENSE PROGRAM; AND PROVIDING THE EFFECTIVE DATE HEREOF.

WHEREAS, the United States Congress passed the Missile Defense Act directing the Secretary of Defense to develop a Theater Missile Defense system by the mid to late 1990s,

WHEREAS, the Army is considering several potential sites to test up to six different anti-missile systems being developed under the Theater Missile Defense program.

WHEREAS, Eglin Air Force Base is one of the locations under consideration by the Army to conduct the TMD flight tests.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF FORT WALTON BEACH, FLORIDA:

SECTION I. That the City of Fort Walton Beach urges the Department of Defense to support the designation of Eglin Air Force Base as the site for the Theater Missile Defense Program.

SECTION II. That the City Manager is hereby authorized to forward copies of this Resolution to the Governor of Florida, all State and Federal Legislators, the Okaloosa County League of Cities, all Okaloosa County municipalities, the County Commissioners, the Commanders of Eglin Air Force Base and Hurlburt Field, and other interested citizens as directed by the City Council.

SECTION III. This resolution shall take effect immediately upon approval by Council and signature of the Mayor.

ADOPTED December 14, 1993

MAYOR: Larry Jessamy

ATTEST:
DEPUTY CITY CLERK

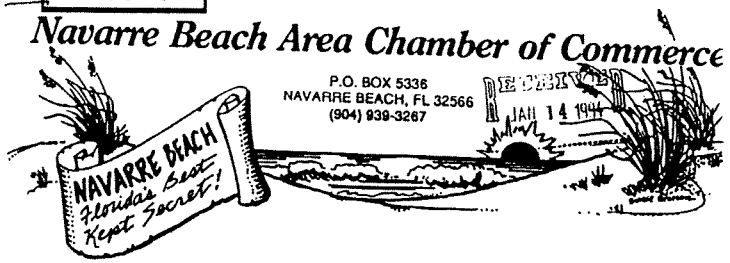
The form and legal sufficiency of the foregoing has been reviewed and approved by the City Attorney.

CITY ATTORNEY

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MF-0075

Navarre Beach Area Chamber of Commerce



P.O. BOX 5336
NAVARRE BEACH, FL 32566
(904) 939-3267

RECEIVED JAN 14 1994

RESOLUTION

A RESOLUTION OF THE NAVARRE BEACH AREA CHAMBER OF COMMERCE URGING THE DEPARTMENT OF DEFENSE TO SUPPORT THE DESIGNATION OF EGLIN AIR FORCE BASE AS A SITE FOR THE THEATER MISSILE DEFENSE PROGRAM; AND PROVIDING THE EFFECTIVE DATE HEREOF.

WHEREAS, the United States Congress passed the Missile Defense Act directing the Secretary of Defense to develop a Theater Missile Defense system by the mid to late 1990s.

WHEREAS, the Army is considering several potential sites to test up to six different anti-missile systems being developed under the Theater Missile Defense program.

WHEREAS, Eglin Air Force Base is one of the locations under consideration by the Army to conduct the Theater Missile Defense flight tests.

NOW, THEREFORE, BE IT RESOLVED BY THE NAVARRE BEACH AREA CHAMBER OF COMMERCE, FLORIDA:

SECTION I. That the Navarre Beach Area Chamber of Commerce urges the Department of Defense to support the designation of Eglin Air Force Base as the site for the Theater Missile Defense Program.

SECTION II. That the Chamber President is hereby authorized to send copies of this resolution the Governor of Florida, Representative Hutto, Senators, Commander of Eglin Air Force Base, Legislators, State and Federal delegations and other persons as directed by the Chamber.

SECTION III. This resolution shall take effect immediately upon approval by the Board of Directors and signature of the President.

ADOPTED: 12/22/93

PRESIDENT:

ATTEST:

Christina LaMoin
EXECUTIVE SECRETARY

-1994 12:51 FROM TO 8339329 P.06

MF-0075

RESOLUTION 93- 112

A RESOLUTION OF THE OKALOOSA COUNTY BOARD OF COMMISSIONERS URGING THE DEPARTMENT OF DEFENSE TO SUPPORT THE DESIGNATION OF EGLIN AIR FORCE BASE AS A SITE FOR THE THEATER MISSILE DEFENSE PROGRAM.

WHEREAS, the United States Congress passed the Missile Defense Act directing the Secretary of Defense to develop a Theater Missile Defense system by the mid to late 1990's; and

WHEREAS, the Army is considering several potential sites to test up to six different anti-missile systems being developed under the Theater Missile Defense Program; and

WHEREAS, Eglin Air Force Base is one of the locations under consideration by the Army to conduct the TMD flight tests.

NOW, THEREFORE, BE IT RESOLVED by the Board of County Commissioners of Okaloosa County, Florida:

SECTION I. That the Okaloosa County Board of Commissioners urges the Department of Defense to support the designation of Eglin Air Force Base as the site for the Theater Missile Defense Program.

SECTION II. That the Chairman of the Okaloosa County Board of Commissioners is authorized to send copies of this Resolution to the Governor of Florida, Representative Earl Hutto, Florida Senators, Eglin Air Force Base Commander, Legislators, State and Federal delegations, and other persons as directed by the Board of Commissioners.

DULY PASSED AND ADOPTED in regular session this the 28th day of December, 1993.

BOARD OF COUNTY COMMISSIONERS
OKALOOSA COUNTY, FLORIDA

Ray Sansom
RAY SANSOM
CHAIRMAN

ATTEST:
NEWMAN C. BRACKIN
CLERK OF CIRCUIT COURT

Return to Contents

MF-0075

678-6755 FAX

THE ECONOMIC DEVELOPMENT COUNCIL
Okaloosa County • Florida
P.O. BOX 4087 • FORT WALTON BEACH, FLORIDA 32549 • (904) 651-7374 • FAX (904) 651-7378

April 16, 1993

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
Attention: CSSD-EN-V
P.O. Box 1500
Huntsville, AL 35807-3801

Subject: Theater Missile Defense Extended Test Range

Dear Mr. Hasley:

The Okaloosa County Economic Development Council (EDC) welcomes the opportunity to have the Theater Missile Defense Program located at Eglin Air Force Base. There are several aspects of this program that excite us:

- The Theater Missile Defense Program will bring an additional mission to Eglin's existing extended test range. This Program will increase the utilization of Eglin's assets and make Eglin even more valuable to our national defense.

- Firing missiles is not new to Eglin. Eglin has a history of successful missile programs. As recently as 1985, BOMARC missiles were being launched from Santa Rosa Island culminating a program of 200 launches. Eglin currently conducts Hellfire missile verification testing in support of the Army's Program Office at Huntsville.

- Location of the Theater Missile Defense (TMD) testing at Eglin greatly enhances logistics and communications through the close proximity of the Program Office in Huntsville.

- Location of testing at Eglin is also important from the aspect that TMD's can be launched from the coast over the Gulf of Mexico without overflying any public land.

- There is a very minimal amount of ship traffic and commercial air traffic within the proposed test range. This is a definite advantage from a safety

Located on the Okaloosa-Walton Community College/University of West Florida/Fort Walton Beach Campus
1170 Martin Luther King, Jr. Boulevard • Building 7 • Room 719 • Fort Walton Beach, Florida 32547

MF-0075

perspective, and will reduce risk of conflict or interference with the tests on this controlled range.

Eglin AFB has just been designated the best Air Force Base in the U.S. (Air Force's Installation Excellence Award), indicating its commitment to providing the highest quality products and services including protection of the environment.

Eglin has demonstrated its concern for our environment in many ways, but the most significant was the work done last year with the fuel transfer test from a tanker offshore to holding facilities on the beach. Many hours of planning and coordination were expended to protect everything from sea oats to turtles. I visited the test site after the restoration, and the beach dunes were in better condition after the test than before. I'm confident the same dedication will be the standard when Eglin is chosen as a site for the Theater Missile Defense Program.

We know that Eglin has been diligent in fulfilling its technical and environmental responsibilities, and possesses the ability to conduct a very successful Theater Missile Defense Program. Location of the TMD testing at Eglin will combine the resources of the U.S. Army and the U.S. Air Force to better utilize the assets dedicated to defense. Such a selection would complement the Army's Theater Missile Defense capability at White Sands Missile Range. We at the EDC welcome this program and encourage you to select Eglin as a site.

Sincerely,

G.A. Mallini

G.A. Mallini
President

cc: Congressman Earl Hutto

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MF-0076

DM185

107 Azalea Circle
Valparaiso, Florida
March 17, 1994

Commander
U.S. Army Space and Strategic Defense Command
Attn: CSSD-EN-V (David C. Hasley
Post Office Box 1500
Huntsville, Alabama 35807-3801

Dear Sir:

I have reviewed your Draft Environmental Impact Statement as requested, and wish to commend the authors for an effort seemingly well done, especially that portion of the DEIS relative to Eglin Air Force Base and its neighboring environs. The report appears to be accurate and comprehensive in all of its descriptions relating to Eglin AFB and its overland and overwater ranges. For this reason, as one knowledgeable individual concerning Eglin's capabilities and limitations, I recommend the selection of Eglin AFB as a participant in your TMD Extended Test Range future operations. 1

Sincerely,

Pete Delaune

H.L.(Pete) Delaune
Colonel, U.S. Air Force
Retired

MF-0077

DM186

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

Dear Sir,

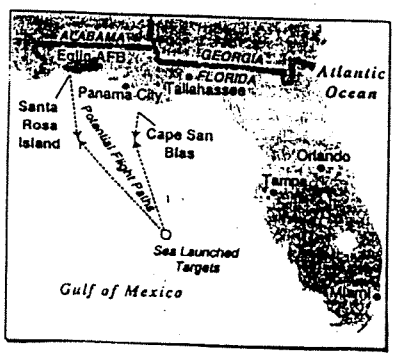
Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

Mary Ellen Kilburn 7293/08

Name Date Phone Number



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DM 187

MF-0078

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

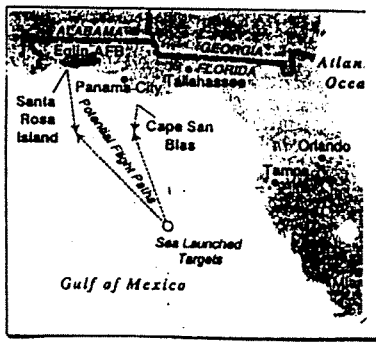
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

Name Date Phone Number



DM 324

MF-0079

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

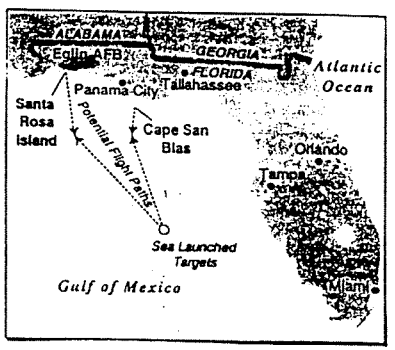
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

Glen C Marler 3/25/94 837-6626
Name Date Phone Number



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DM 325

MF-0080

February 14, 1994

Mr. David Hasley
U.S. Army Space and Strategic Defense Command
CSSD-EN-V, P.O. Box 1500,
Huntsville, AL 35807-3801

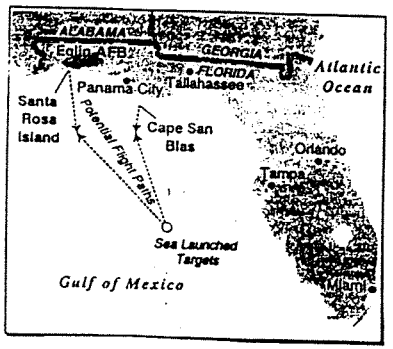
Dear Sir,

Please count me among those that are in full support and in total agreement with the test launch of defensive missiles from Eglin ARB on Santa Rosa Island and at Cape San Blas, for flights and intercepts of sea-launch targets over the Gulf of Mexico as shown in the map below. 1

I would welcome that mission to this area. I am confident that safety will be a primary consideration. 2

Thank you,

Name: Grace B Washington Date: 3/25/94 Phone Number: 897-7441



APPENDIX A—CUMULATIVE IMPACT ANALYSIS

1.0 INTRODUCTION

This appendix has been prepared to address key issues associated with potential cumulative impacts resulting from proposed TMD testing activities on extended test ranges. Since this EIS has taken a broad, programmatic approach to identifying and addressing potential environmental impacts, the identification and analysis of cumulative impacts is also, of necessity, broad and programmatic in nature.

1.1 NATIONAL ENVIRONMENTAL POLICY ACT REGULATIONS

The Council on Environmental Quality (CEQ) regulations that implement the National Environmental Policy Act (NEPA) specifically state that "cumulative impact" is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. (Code of Federal Regulations [CFR] §1508.7)

The purpose of a cumulative impact analysis is to ensure that activities that may have individually minor impacts are recognized for their potential to produce collectively significant effects on the environment. Further, impacts to be considered include those from past, present, and reasonably foreseeable future actions. Reasonably foreseeable actions are not limited to planned or scheduled activities that have a high degree of certainty. To qualify as reasonably foreseeable, it is sufficient that an action have some probability of occurring.

1.2 APPROACH

The approach for analyzing potential cumulative impacts resulting from the proposed TMD missile testing activities consists primarily of identifying all past, existing, and foreseeable activities for the areas around launch and test facilities and other areas involving test activities at the four candidate test areas. This inventory of activities will provide a baseline against which TMD missile testing activities as specified in the proposed action in the Environmental Impact Statement (EIS) can be measured.

One approach for classifying cumulative impacts defines four categories of cumulative effects as follows.

1. Nibbling – Similar, small incremental effects.

2. Time-crowded perturbations – Closely time-spaced activities.

3. Space-crowded perturbations – Closely geographically spaced activities.

4. Indirect effects – Space- and/or time-crowded indirect effects.

The use of these four categories provides a framework for the resource specialist to determine if a not significant impact could potentially become a significant impact when analyzed in a cumulative context. This analytical approach also provides a basis for evaluating and selecting appropriate mitigation measures for any significant cumulative impacts identified.

The key to evaluating cumulative impacts is to follow a two-step process. First, the agency must determine whether the proposed action will have any impact on a given resource. If there is no expected impact on a resource, then there is no need to analyze cumulative impact. Second, if the agency determines that there is some impact from the proposed action, then a cumulative impact analysis should be performed. In this case, the key evaluation to be made is whether the incremental impact of the proposed action, when added to other past, present, and reasonably foreseeable future actions, would result in a significant impact on a given resource.

1.3 PROPOSED ACTION

The proposed action consists of missile tests not to exceed four tests per month at any single location with a maximum of 100 flight test events from 1995 to approximately 2000 in one or more off-range locations and potentially at more than one test range. The proposed action when combined with past, existing, and future activities scheduled at the four candidate test areas will provide the basis for assessing cumulative impacts.

A summary of potential cumulative impacts for the four range alternatives by type of TMD activity is presented in table A-1. A cumulative impact analysis for each range is discussed in the following sections.

2.0 WHITE SANDS MISSILE RANGE CANDIDATE TEST AREA

The White Sands Missile Range (WSMR) Candidate Test Area includes target launches from either the Green River Launch Complex (GRLC) or Fort Wingate Depot Activity (FWDA) and defensive missile launches from WSMR, Fort Bliss McGregor Range, or FWDA with intercepts over WSMR. The WSMR Candidate Test Area will also require target booster impact areas and new airspace restrictions.

Although four tests per month will be used as the maximum level of testing activity expected at any launch location, current plans for overland testing at the WSMR Candidate Test Area do not anticipate or plan for a total of more than six to ten launches per year from the two overland launch sites.

The WSMR Candidate Test Area discussed in the following sections includes WSMR and Fort Bliss McGregor Range (Section 2.1), the GRLC (Section 2.2), FWDA (Section 2.3), and the WSMR Flight Corridor (2.4).

2.1 WHITE SANDS MISSILE RANGE AND FORT BLISS MCGREGOR RANGE

Extended Test Range activities at WSMR or Fort Bliss McGregor Range would consist of shipping components for defensive missile systems and associated sensor systems by truck from contractor facilities to be off-loaded into magazines at the south end of the range. Launch preparation activities would include the storage, assembly, integration, and testing of flight vehicles. Flight preparation

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Table A -1: Cumulative Impact Analysis

Environmental Resource / Candidate Test Areas	Air Quality	Air-space	Biological Resources	Cultural Resources	Geology/ Soils	Hazardous Mat/Waste	Health & Safety	Land Use	Noise	Socio-economics	Infrastructure/ Transportation	Water Resources
WSMR Candidate test area												
WSMR/Fort Bliss												
Defensive missile launch and target/ defensive missile intercept			○	○	○	○	○	○		○		○
Green River Launch Complex (GRLC)												
Target missile Launch												
Fort Wingate Depot Activity (FWDA)												
Target missile launch and surface-to-surface missile test		○						○				
Flight Corridor- Target Booster Drop Zone (BDZ)												
GRLC												
BDZ A		○	○	○				○				
BDZ B		○	○	○				○				
BDZ C1		○	○	○				○				
BDZ C2		○	○	○				○				
FWDA												
BDZ A		○	○	○				○				
BDZ B		○	○	○				○				
BDZ C		○	○	○				○				

□ No Impact ○ Not Significant Impact ● Significant Impact ▨ TMD Activity

gr/Range/772.msg-10/19/94

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Table A -1: Cumulative Impact Analysis (Continued)

Candidate Test Areas \ Environmental Resource	Air Quality	Air-space	Biological Resources	Cultural Resources	Geology/ Soils	Hazardous Mat/Waste	Health & Safety	Land Use	Noise	Socio-economics	Infrastructure/ Transportation	Water Resources
Eglin AFB Candidate Test Area												
Santa Rosa Island Defensive missile launch	○		○									
Cape San Blas Defense missile launch	○		○					○				
Flight Corridor Booster Drop Zone and Target/defensive missile intercept			○									
Western Range												
San Nicolas Island Defensive missile launch	○		○					○				
Vandenberg AFB Defense missile launch	○		○					○				
San Clemente Island Defensive missile launch and surface to surface missile test	○		○					○				
Sea Launch Target Launch												
Flight Corridor Booster drop zones and target/defensive missile intercepts			○									

□ No Impact ○ Not Significant Impact ● Significant Impact ▨ TMD Activity

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Table A-1: Cumulative Impact Analysis (Continued)

Candidate Test Areas / Environmental Resource	Air Quality	Air-space	Biological Resources	Cultural Resources	Geology/ Soils	Hazardous Mat/Waste	Health & Safety	Land Use	Noise	Socio-economics	Infrastructure/ Transportation	Water Resources
Kwajalein Missile Range												
USAKA												
Target and defensive missile launches	○		○	○						○		
Wake Island												
Target and defensive missile launches	○		○									
Sea Launch												
Booster Drop Zone and target/defensive missile intercept			○									

□ No Impact ○ Not Significant Impact ● Significant Impact ▨ TMD Activity

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and testing would require up to 140 temporary contractor and military personnel for each defensive missile launch for up to 2 weeks.

During the testing period from approximately 1995 to 2000 there is a potential for up to 100 flight tests with target/defensive missile intercepts over WSMR requiring debris recovery. This amount of test activity is used for analysis purposes while actual test flights are expected to total six to ten per year. As described in the proposed action, TMD Extended Test Range activities at WSMR would not require new facility construction.

2.1.1 PAST AND PRESENT ACTIVITIES

Over the past 40 years WSMR has provided facilities for advanced weapon systems testing, National Aeronautics and Space Administration (NASA) experiments, and other Federal and commercial testing activities. Missions have included range instrumentation research and development; development tests of U.S. Army, U.S. Navy, and U.S. Air Force air-to-air/surface, surface-to-air, and surface-to-surface missile systems; dispenser and bomb drop programs; target systems; meteorological and upper-atmospheric probes; NASA and space program support; equipment, component, and subsystem programs; high-energy laser programs; and special tasks.

Not all of the activities identified as follows have the potential to adversely affect the environment. Many test and evaluation activities involve modeling and simulation, measurement testing, system integration testing, hardware-in-the-loop testing, and installed system testing before actual range or open-air testing.

There are three categories of activities at WSMR that potentially affect area environmental resources including construction-related activity, special task missions, and testing programs. Table A-2 summarizes typical past and ongoing WSMR activities that have occurred annually over the past 5 years between 1989 and 1993.

Current annual activities at WSMR include small-scale construction projects, between 2,000 to 2,500 special task missions, and 3,000 to 3,500 testing missions. Of the 700 surface-to-air WSMR testing missions, it was estimated that there are approximately 300 annual missile tests that are comparable to the defensive missile intercept test described in the proposed action for the TMD Extended Test Range program. The TMD program would add approximately 3 percent to the surface-to-air program.

Existing programs at WSMR include a number of specific projects that can be grouped into broad categories. Most future projects are likely to fall into these categories, with the exception of radical new technologies, the nature of which cannot be anticipated. During the 5-year period from 1989 to 1993, WSMR completed an average of 4,366 scheduled missions per year. Future numbers may be lower or higher depending on demand for the services provided by the facility. (White Sands Missile Range, 1994)

On average, there have been 200 air-to-air/surface missions conducted per year from 1989 to 1993. Air-to-air/surface missile programs include projects that test missiles launched from aircraft against targets in the air and on the ground. Examples of launch and impact sites for these programs include the northern, southern, and middle portion of the range; 50-mile Area, AFSWC, NECI, TS-513, and SALT sites. Examples of projects included in this category include the Advanced Medium Range Air-to-Air Missile (AMRAAM) and the Brilliant Anti-Armor Submunition (BAT). (White Sands Missile Range, 1994)

Table A-2: Past and Ongoing Activities at White Sands Missile Range

WSMR Activity	Ongoing and Proposed Programs
1. Small-scale Construction Projects	
Infrastructure	Ongoing
Laboratories/Testing Facilities	Ongoing
	Annual Missions
2. Special Task Missions	
Small-scale Training	–
Off-road Vehicle Travel	–
Explosive Ordnance Disposal	–
Other	–
Total	2,190
3. Testing Programs	
Air-to-air/surface	200
Surface-to-air	(300) 700*
Surface-to-surface	250
Dispenser and Bomb Drop	900
Target System	400
Atmospheric Probe	15
NASA and Space Program	400
Equipment, Components, or Subsytems	300
Research and Development	100
Total	3,265

Source: White Sands Missile Range, 1994.

*A significant number of the 700 surface-to-air missions are simulated non-launch missions. It was estimated that there are only approximately 300 actual surface-to-air launches annually at WSMR.

On the average, there have been 700 surface-to-air missile missions conducted per year from 1989 to 1993. Examples of launch and impact sites for these programs include Orogrande Range Complex, McGregor, Launch Complex (LC) 32, LC 34, LC 35, LC 37, LC 50, RAS site, NOP, WC 50, FAADS Valley, Pony site, Sulf site, and southern and middle portions of the range. Examples of projects included in this category include the Extended Range Intercept Technology (ERINT), Forward Area Air Defense System (FAADS) and the Phased-array Tracking to Intercept of Target (PATRIOT) project. (White Sands Missile Range, 1994)

On the average, there have been 250 surface-to-surface missile missions conducted per year from 1989 to 1993. Examples of launch and impact sites for these programs include LC 33, Deer Horn, McGregor Range, Brillo, Tula, Gate, Chili, Dead Horse, Dust, Rhodes Warhead Impact Target (WIT), Denver WIT, Stallion WIT, ABC-1, 649, G-10, G-16, G-20, G-25, and PUP. Examples of projects included in this category are Army Tactical Missile System (ATACMS), Line of Sight Anti-Tank (LOSAT), and Navy Gun. (White Sands Missile Range, 1994)

On the average, there have been 900 aircraft dispenser and bomb drop programs conducted per year from 1989 to 1993. Examples of launch and impact sites for these programs include Holloman Air Force Base (AFB), Oscura and Red Rio ranges, and other environmentally accepted areas. Aircraft involved include F-117s, F-4s, T38s, and pilot trainers. (White Sands Missile Range, 1994)

On the average, there have been 400 target system missions conducted per year from 1998 to 1993. Examples of launch and impact sites for these programs include LC 32, LC 36, ROWL, GAM83, Army 5, Pony site, Ron site, and Sulf site. Target systems include full-scale aircraft (e.g.,

QF-100, QF-U, QF-86), ground vehicles, and subscale aircraft (e.g., MQM-107, AQM-37). (White Sands Missile Range, 1994)

On the average, there have been 15 meteorological and upper-atmospheric probe missions conducted per year from 1989 to 1993. Examples of launch and impact sites for these programs include Holloman AFB, Northrup Strip, and off-range sites. Typical missions include small rockets and balloons carrying a variety of instruments designed to collect data on atmospheric physics, chemistry, and meteorology. (White Sands Missile Range, 1994)

On the average, there have been 400 NASA and space program support missions conducted per year from 1989 to 1993. The launch site for these programs is White Sands Space Harbor (WSSH). Three major NASA missions at WSMR are the Space Shuttle program, the shuttle training aircraft, and the Single Stage Rocket Test (SSRT) program. (White Sands Missile Range, 1994)

On the average, there have been 300 equipment, component, or subsystem program missions conducted per year from 1989 to 1994. Examples of launch and impact sites for these programs include Brillo site, Kirtland AFB, Holloman AFB, 50-mile Area, and midrange areas of WSMR. This testing includes standard communications, air frames, counter measures, and telemetry. (White Sands Missile Range, 1994)

On the average, there have been 100 research and development programs conducted per year from 1989 to 1993. These programs occur in various locations on WSMR. These locations are examined in advance for any potential impacts of the proposed program. Examples of research and development programs include Nuclear Effects Directorate (NED) testing, Defense Nuclear Agency activities, and the Research Rockets program. (White Sands Missile Range, 1994)

On the average, there have been 2,190 special task missions conducted per year from 1989 to 1993. These programs occur in various locations on WSMR. These locations are examined in advance for any potential impacts of the proposed program. These programs consist of small-scale training exercises, indoor testing, recovery, and Explosive Ordnance Disposal. (White Sands Missile Range, 1994)

2.1.2 REASONABLE FORESEEABLE FUTURE ACTIONS

The future level of construction, special tasks, and testing mission activity at WSMR are anticipated to remain similar to the last 5-year period. Other military activities that are planned to occur within the area include the Roving Sands joint training exercises which occur on WSMR, Fort Bliss McGregor Range, and the Firing in Extension (FIX) area north of WSMR, potential launches of target missiles from a launch site being established in the FIX area with intercepts by defensive missiles launched from WSMR, helicopter training exercises from Holloman AFB over the FIX area and McGregor Range, and surface-to-surface missiles launched from WSMR and impacting on private land in the FIX area.

2.1.3 POTENTIAL CUMULATIVE IMPACTS

There are no baseline data on which to perform a complete cumulative impact analysis. WSMR has begun gathering information to be entered into a Geographic Information System (GIS) to allow analysis of varied parameters, but this will not be complete until 1995. Future projects will use the GIS to assist in planning projects so as to minimize environmental impacts and to identify any additional required mitigation measures. (White Sands Missile Range, 1994)

Potential significant cumulative impacts were identified in the Draft WSMR Range-Wide EIS (White Sands Missile Range, 1994) in the areas of biological resources, cultural resources, and hydrological/water resources. The cumulative impacts on biological and cultural resources are particularly, but not exclusively, associated with debris- and booster-recovery operations. Water resource cumulative impacts were related to additional water demand resulting from future activities proposed at WSMR.

The potential for cumulative impacts of the Extended Test Range program, when combined with the proposed TMD HERA launches from the FIX area, is expected to be not significant. Extended-range activities have no planned impacts in the FIX area; however, evacuation of the FIX area may be required. Conformance with existing evacuation agreements would ensure no cumulative impacts.

The potential for cumulative impacts of the Extended Test Range program, when combined with the Roving Sands exercises, is also expected to be not significant. Although some launch locations and impact areas could be used by both programs, the activities will not be conducted simultaneously. In addition, any impacts in those areas from the proposed action are expected to be temporary.

Air Quality

The air quality impacts depend on a number of variables, such as missile size and weather conditions. Although a higher concentration of exhaust emissions occurs near the launch point because of initial missile acceleration, the combustion products are emitted along the flight path of the missile. A missile trajectory is completed with a few minutes, if not seconds, and at high altitudes, so only a part of the exhaust products emitted during a normal flight will have any effect on ground-level air quality. Analyses of missile launch scenarios associated with missile programs conclude that short-term air quality effects near a launch location can be expected. Exposure of human, animal, and plant receptors to high levels of pollutants could occur under certain circumstances, such as proximity to a launch site, very low wind conditions, or missile failure on a launch pad. The program activities are discrete events characterized by a short duration (on the order of seconds) and separated in time (usually on the order of days or weeks) and space (in scales of miles). Atmospheric conditions at WSMR promote the dispersion of pollutants. The public is excluded from the test area until WSMR staff determine that conditions are safe. So, any air quality impacts are localized and do not last. (White Sands Missile Range, 1994)

To date, no cumulative air quality impacts have been identified. Such impacts may exist or may develop, but WSMR is large enough to accommodate these activities without long-term or localized cumulative impacts on air quality. Numerous permanent launch complexes and other facilities allow tests to be scheduled and spaced so air pollutants would not accumulate for any appreciable time beyond the test activity. (White Sands Missile Range, 1994)

Biological Resources

The Draft WSMR Range-Wide EIS (White Sands Missile Range, 1994) lists potential cumulative impacts on biological resources from missile test programs. These potential impacts, such as ground disturbance and noise from helicopters and off-road vehicles, are primarily associated with booster- and debris-recovery operations.

Low-altitude helicopter flights are known to cause panicky reactions in various wildlife species (U.S. Army Strategic Defense Command, 1991). Sensitive species that would be affected by the helicopter flights are generally restricted to areas that are not available for debris impact. Once

specific debris impact areas are identified they will be compared to the sensitive species habitat locations. If there is a potential for impacts on the species then the WSMR Environmental Services Division and the U.S. Fish and Wildlife Service would be contacted for coordination.

Off-road vehicle recovery operations would be undertaken only if absolutely necessary and in coordination with the WSMR Environmental Services Division and other applicable agencies. Recovery by vehicle would be limited to two off-road vehicles per operation with a minimum of disturbance (White Sands Missile Range, 1994). A biologist would accompany the debris-recovery team if determined necessary by the WSMR Environmental Services Division.

Beginning with but not limited to GIS database review, monitoring and survey programs will be implemented at the earliest possible planning stage of all proposed projects, including but not limited to infrastructure (road construction) and research projects. Proponents will use GIS databases to assist in selecting preferred and alternative operations sites that minimize adverse consequences to sensitive resources. (White Sands Missile Range, 1994). Although a complete inventory of threatened and endangered species does not exist for WSMR and Fort Bliss, as inventory efforts proceed and threatened and endangered (including state-listed) species are located, consultation with appropriate state and Federal agencies will be initiated.

One of the situations presenting the greatest likelihood of significant adverse consequences to biological resources was determined to arise during recovery actions requiring entry to previously unsurveyed areas. Because recovery procedures are highly foreseeable and in order to meet minimum environmental protection requirements under the NEPA and the Endangered Species Act during any recovery action in an unsurveyed area, proposed entry routes and project-related disturbance areas will be reviewed through the GIS database and will be surveyed in advance, if required. In the event that overriding project or other environmental requirements prohibit an adequate survey, a biologist or other qualified representative of the WSMR Environmental Services Division will accompany the recovery team, if required. This individual will assist in the selection of an entry path that will minimize the potential for adverse impacts. In addition, this individual will identify any activity with potential impacts on sensitive resources and assist in avoiding or otherwise record such activity. (White Sands Missile Range, 1994)

The WSMR Environmental Services Division may require project proponents to implement additional mitigation measures beyond those stated in the project NEPA document if additional significant impacts are identified. All data generated in the course of these efforts shall be entered into the GIS databases. Once an initial route has been established into a recovery area, the same route will be used for subsequent entries, to the extent possible, to minimize the damage throughout the area and to minimize the need for repeated environmental surveys for entry routes into the same locale. (White Sands Missile Range, 1994)

If the potential for unforeseen significant cumulative impact on biological resources is identified during debris recovery, activities would be temporarily halted. Before resumption, the WSMR Environmental Services Division and the U.S. Fish and Wildlife Service would be contacted and consulted. A more detailed description of the proposed debris-recovery methodology to be followed for all TMD programs is included in the *Theater Missile Defense Extended Test Range Supplement to the Draft Environmental Impact Statement* (U.S. Army Space and Strategic Defense Command, 1994b) as Appendix D.

Concerns have arisen regarding loss of pupfish habitat caused by feral horses and oryx on WSMR. The TMD Extended Test Range activities will attempt to avoid those habitat areas and not cause any cumulative impacts to pupfish habitat (White Sands Missile Range, 1994). Once specific debris

impact areas are identified they will be compared to the sensitive habitat locations. If there is a potential for impacts, WSMR Environmental Services and the U.S. Fish and Wildlife Service would be contacted for coordination.

Due to the proposed mitigations of pre-entry surveys as required, avoidance of sensitive habitat, and continued agency coordination, the potential additive or incremental impact of booster- and debris-recovery activities is expected to be not significant.

Cultural Resources

Once an initial route has been established into a recovery area, the same route will be use for subsequent entries, to the extent possible, to minimize the damage throughout the area and to minimize the need for repeated environmental surveys for entry routes into the same locale. During any recovery action in an unsurveyed area, proposed entry routes and project-related disturbance areas will be reviewed through the WSMR GIS database and surveyed in advance, if required. In the event that overriding project or other environmental requirements prohibit an adequate survey, an archaeologist or other qualified representative of the WSMR Environmental Services Division will accompany the recovery team, if required. (White Sands Missile Range, 1994)

Cumulative impacts on cultural resources may occur as a result of helicopter and other aircraft vibrations damaging standing cultural resources; compaction and surface pressure damaging subsurface archaeological resources such as pottery and architecture; and vandalism resulting in the removal, defacement, or destruction of artifacts and properties. Cumulative impacts on cultural resources also may occur in secured training ranges, which are subject to repeated impacts of ordnance. Cumulative impacts to heavy-use areas should be reviewed periodically by the WMSR archaeologist, or designated substitute, to ensure that disturbances to archaeological sites are not occurring. Comparison of target locations against archaeological surveys could mitigate these impacts by establishing target locations away from sensitive sites. (White Sands Missile Range, 1994)

GIS technology is creating a new and more cost-effective management potential for large tracts of land such as WSMR by making available important environmental parameters such as the presence of cultural resources. Based on previously compiled archaeological and environmental relationship data, it will be possible to estimate the probability of cultural site density in a given region. This will allow selection of possible alternate activity sites, based on potential environmental impact and cost estimation of proposed mitigations. The model also will assist in identifying potential costs or delays associated with legal status such as National Historic Landmarks and Districts designation. (White Sands Missile Range, 1994)

The model provides a tool for land management and project administration within WSMR. It may be used to judge the cost-effectiveness of test-site selection, theoretically being able to identify the area least costly to survey and mitigate for cultural resources based on expectations of site density. As more data become available from archaeological survey work within WSMR, the information can be added to the model database. This will result in an evolving analytical tool as the database increases. Expectations for landscape use should be different from north to south across WSMR, reflecting the long history of land use in the region, as well as the variation in cultural traditions from east to west and from north to south. (White Sands Missile Range, 1994)

Geology and Soils

Repairing areas damaged by missile impacts could cause soil compaction and devegetation when accessing the site and repairing the impact disturbance. The amount of soil disturbed by missile impacts depends on the angle of impact, the relationship of the size of the depressions to impact

energy, the compressibility of the impact area material, and the effect of water on impact area material. Secondary impact depressions may be produced when surface materials, such as sand, have little cohesion. The area disturbed by impact is generally very small, requiring only minor raking of the area to mitigate the potential for increased erosion. Since there is little chance of the same spot being affected twice, cumulative impacts from TMD Extended Test Range activities will be not significant. Once an initial route has been established into a recovery area, the same route will be use for subsequent entries, to the extent possible, to minimize the damage throughout the area and to minimize the need for repeated environmental surveys for entry routes into the same locale. (White Sands Missile Range, 1994)

Hazardous Materials and Waste

The wastes that are generated at WSMR can be managed using the existing satellite accumulation sites, 90-day waste accumulation sites, and the hazardous waste storage facility. Small increases would occur related to all types of missile/aircraft testing and maintenance, laboratory research activities, and vehicle maintenance. Cumulative impacts from TMD Extended Test Range activities will be not significant. (White Sands Missile Range, 1994)

Health and Safety

All WSMR operations require thorough health and safety planning at the earliest stages of facility planning and operational design. These health and safety requirements are implemented during all phases of operation, from initial construction through life of the facility to final disposition. Through this approach, the vast majority of potential health and safety hazards are avoided entirely or reduced to extremely low probabilities. Despite these successful range-wide risk minimization efforts, the possibilities for unforeseen or improbable emergencies are not discounted. Emergency response planning and implementation also are given the highest priority at WSMR. Truly responsive emergency management is not a process limited to on-site operations at WSMR; regional cooperation with a range of Federal, state, and community law enforcement and emergency agencies is fundamental to achieving the necessary level of coordination, communication, and emergency services delivery in the sparsely populated areas in the integrated interagency regional emergency response capability in south central New Mexico. Cumulative impacts from TMD Extended Test Range activities will be not significant. (White Sands Missile Range, 1994)

Land Use

Regardless of the decision on extended-range testing, WSMR would continue to support existing and future research, development, and test and evaluation missions. Its facilities and equipment would be used, and the potential for new projects is high. The land areas used for future missions at WSMR include all existing facilities and use areas, as well as potential new development in currently unused areas. Areas included are south range launch complex and support areas, central range land use areas, north range land use areas, and WSMR-controlled extension and buffer areas. Extension and buffer areas including FIX, Aerobee, ABRES 4A, and ABRES 4AX are adjacent to the north and west boundaries of WSMR. Private lands within these buffer extension areas are covered by evacuation agreements with 40 to 50 individual landowners. Evacuation agreements are likely to continue as a means of preserving flexibility in scheduling projects that require these areas. Memorandums of Understanding are in place with the Bureau of Land Management and other Federal agencies for limited use of extension area lands. Cumulative impacts to land use from TMD Extended Test Range activities will be not significant. (White Sands Missile Range, 1994)

Noise

The public will continue to be excluded from areas where they could be exposed to potentially harmful noise levels. WSMR personnel are required to use hearing protection devices in any environment where they may be expose to harmful noise levels. Warning signs are posted in areas where high noise levels may occur. Test personnel are administered periodic hearing tests in compliance with U.S. Army hearing conservation programs. (White Sands Missile Range, 1994)

WSMR programs generally are not conducted close to off-range population centers, with the occasional exception of aircraft and target vehicles flying over Albuquerque, New Mexico. On-range operations are conducted in remote areas to the extent possible. Areas where sensitive wildlife exists will be avoided by maintaining aircraft at least 610 m (2,000 ft) above ground level. No cumulative noise impacts are anticipated because of the standard practices employed at WSMR and the limitations of range scheduling which prevent major increases in the number of noise sources at WSMR. (White Sands Missile Range, 1994)

Socioeconomics

Changes to project programs, site use, and services may lead to a substantial alteration in the level of employment and expenditures at WSMR and could therefore result in socioeconomic impacts on adjacent communities. Any substantial program changes that lead to a large increase or decrease in WSMR-related employment and a concomitant in-migration or out-migration of population could impact local support communities like Las Cruces. If these program changes occur within a short time frame that does not allow communities to adequately plan ahead, these changes could impact socioeconomic conditions in the region. Cumulative impacts from TMD Extended Test Range activities will be not significant because the 140 personnel involved will be on temporary duty at WSMR and therefore occupy temporary lodging. (White Sands Missile Range, 1994)

Infrastructure and Transportation

Regardless of a decision on TMD extended-range testing, it is expected that WSMR would continue its present testing and training activities using current range capabilities to support existing programs. It is also foreseeable that WSMR would also expand its mission capabilities beyond its present level in order to test future missile systems. No potentially significant cumulative impacts are expected. (White Sands Missile Range, 1994)

Water Resources

At launch sites, solid fuel rockets may impact nearby surface water resources. Any fuel spills would require quick response from WSMR personnel through implementation of Installation Spill Contingency Plan. This plan is designed to minimize impacts on both surface water and groundwater resources of an area impacted by a spill. Because rocket motor exhaust typically would disperse hydrogen chloride, carbon monoxide, and particulates, these substances may affect the nearby land surface and associated vegetation. Depending upon the occurrence of precipitation events, runoff or water percolating through underlying soils might be affected locally. However, the dispersion of particulates and buffering capability of the soil would result in not significant accumulations of exhaust products, and therefore no cumulative impacts are expected. Inasmuch as surface water bodies are rare in the region, if a larger number of launches were to occur from launch sites in the vicinity of surface water bodies, then localized monitoring of such effects could be needed. It is judged that water-related impacts of these substances would not adversely affect regional groundwater resources over the long term. (White Sands Missile Range, 1994)

Studies for a simulated missile intercept at Holloman AFB suggest that approximately 80 percent of the chemical simulant triethyl phosphate in a target payload would be destroyed at intercept. It is expected that the remaining 20 percent would be quickly dispersed into the atmosphere, with a not significant amount reaching the ground. In addition, due to the small amount of triethyl phosphate which would be used and its chemical characteristics, any impact from accidental release of this compound would be temporary and not significant. (U.S. Army Space and Strategic Defense Command, 1994a)

All necessary equipment, personnel, and training will be maintained as necessary to ensure compliance with the Spill Contingency Plan, to be activated in the event of any spills of hazardous substances, to minimize impacts on surface and groundwater. Engineering and planning programs will continue to anticipate future water and wastewater system improvement, utility upgrades, and expansion of waste management capacities. All requirements for permitting of wastewater treatment and discharge facilities will be met and maintained in accordance with EPA and New Mexico State requirements under sections 401 and 402 of the Clean Water Act. Cumulative impacts from TMD Extended Test Range activities will be not significant. (White Sands Missile Range, 1994)

Mitigation Measures

The primary mitigation measure used to minimize cumulative impacts would be the avoidance of sensitive resources. GIS technology can be used to plan the location of WSMR test activities to avoid sensitive biological and cultural resources and to disperse the testing activity to prevent cumulative impacts occurring from time- and space-crowded missile testing activity.

2.2 GREEN RIVER LAUNCH COMPLEX

Target missile system components would be shipped by truck from contractor facilities at Hill AFB, Utah, and off-loaded into a missile assembly building (MAB). Some paved roads would need to be upgraded. Launch preparation activities at the GRLC would include the storage, assembly, integration, and testing of flight vehicles. To support TMD missions, a launch stool with an environmental shelter and launch rails, berms in front of the MAB, and a guard house would need to be constructed. The GRLC facility is presented in figure 2.2-5 of the TMD Extended Test Range Draft EIS. Flight preparation and testing would require up to 70 temporary contractor and military personnel for each target launch for up to 2 weeks.

2.2.1 PAST AND PRESENT ACTIVITIES

The GRLC was used for launching missiles into WSMR prior to 1974 but is not currently operating as a missile launch facility. There are no other testing activities in the area.

2.2.2 REASONABLY FORESEEABLE FUTURE ACTIONS

With the exception of the potential TMD target missile launches, there are no other testing activities planned for the GRLC facility.

2.2.3 POTENTIAL CUMULATIVE IMPACTS

No cumulative impacts associated with the use of the GRLC facility have been identified.

2.3 FORT WINGATE DEPOT ACTIVITY

Target or defensive missile system components would be shipped by truck from contractor facilities at Hill AFB and off-loaded into a MAB. Some paved roads, igloos, and the MAB would need to be upgraded. Launch preparation activities at FWDA would include the storage, assembly, integration, and testing of flight vehicles. To support TMD missions, up to two new launch pads with environmental shelters would need to be constructed. The FWDA test facility is presented in figure 2.2-6 of the TMD Extended Test Range Draft EIS. Flight preparation and testing would require up to 70 temporary contractor and military personnel for each target launch or up to 140 personnel for each defensive missile launch for up to 2 weeks.

2.3.1 PAST AND PRESENT ACTIVITIES

In the past, FWDA has been used occasionally as a launch site for missiles launched into WSMR (Wolff, 1993). The last missile launch occurred in 1963. The depot function at Fort Wingate, however, was closed in January 1993, and it is currently in caretaker status. The only facilities currently operational at FWDA include two warehouses in the administration area which are used as a food distribution center for the Navajo and several igloos used for storage.

2.3.2 REASONABLY FORESEEABLE FUTURE ACTIONS

With the exception of the potential TMD missile launches, there are no other testing activities planned at FWDA. A radioactive storage facility has been proposed for FWDA; however, plans and commitments have not been made for this project. A Federal Facilities Agreement has been developed to allow a private contractor to conduct operations for recycling conventional ammunition beginning in January 1995. Reuse plans by other entities have not been finalized but would probably involve the cantonment area of FWDA which is not under consideration for proposed testing purposes.

2.3.3 POTENTIAL CUMULATIVE IMPACTS

No cumulative impacts are anticipated for the area surrounding FWDA as a result of the actual missile launches. The construction of missile testing facilities, however, may result in cumulative impacts depending on the amount of construction that may be generated from the reuse of the remaining portion of FWDA. Potential conflicts with other proposed uses of FWDA, currently closed and in caretaker status, would be resolved through the Army's Base Realignment and Closure process. As part of this process, the BMDO has identified a potential use for sufficient property to conduct launch activities, establish safety zones, and ensure access. Lands not needed for missile testing activities would be returned to the public domain since the lands comprising FWDA were originally public domain lands.

2.4 WSMR FLIGHT CORRIDOR

TMD Extended Test Range activities in the WSMR flight corridor would include the impact of target boosters in booster impact areas, booster recovery, airspace restrictions, and increased restriction on the use of public and private land during evacuation procedures.

2.4.1 PAST AND PRESENT ACTIVITIES

GRLC Booster Drop Zones

Current activities in GRLC booster drop zones include recreation/tourism, hiking, cattle grazing, and aerial scenic overflights of the area.

FWDA Booster Drop Zones

The booster drop zones required for FWDA target launches include areas used for cattle grazing and recreation/tourism and American Indian land. The El Malpais National Monument is particularly important as a designated recreation area.

Airspace Use

The airspace over the WSMR flight corridor includes both high-altitude jet routes and low-altitude airways. The use of airspace over the corridor is restricted in certain areas for existing military operations testing, particularly in the WSMR/Fort Bliss/Holloman AFB area.

Restricted Use of Public Land

Historically military testing activities within the WSMR flight corridor have required the restricted use of public lands. For example, during a period of 1964 through 1973, Athena missile launches were conducted from Green River, Utah, into WSMR. The second-stage Athena impacted in an area 15 by 23 kilometers (km) (9 by 14 miles [mi]) that was leased by WSMR from the state, Bureau of Land Management (BLM), and private land owners for evacuation purposes. The following list identifies other areas adjacent to WSMR and in the WSMR flight corridor that currently restrict access to public lands for various DOD testing and training operations.

Northern Extension Area – Over the period 1989 to 1993, public access to BLM and private land has been restricted and certain areas evacuated for missile testing less than ten times per year. A Memorandum of Understanding between the Department of the Army and the Department of the Interior concerning use of this area has been in effect since 1960. Tourism/recreational use of this area is minimal.

Western Extension Areas – These areas have been evacuated an average of 10 to 15 times per year over the past 5 years and include both BLM and private land. Tourism/recreational use of this area is minimal.

White Sands National Monument – Tourist access to the national monument has been restricted several times per month for 1 to 2 hours in the morning. Typically the restricted access results in opening the monument to the public at 9:00 a.m. versus the normal opening at 8:00 a.m.

San Andres National Wildlife Refuge – This area is a wildlife refuge and is not a designated recreation area for tourists. Restricted access to this area for testing purposes would have limited impacts on the availability of public land for public use.

Fort Bliss McGregor Range – There are areas in the McGregor Range that are jointly managed by the BLM and Department of Defense (DOD), where access is restricted to the public during DOD testing and training activities. All TMD Extended Test Range activities will occur in the southwest part of the McGregor Range, well away from the primary joint-use area. The Pershing launch site, proposed for TMD use, is also utilized during the Roving Sands exercises (U.S. Army Corps of Engineers, 1994). The cumulative use is not expected to result in any incremental environmental impacts.

2.4.2 REASONABLY FORESEEABLE FUTURE ACTIONS

Future activities and uses of the WSMR flight corridor are expected to remain the same as described in past and current conditions with one exception. Recreational use of areas identified in the GRLC and FWDA booster drop zones is expected to increase in the future.

2.4.3 POTENTIAL CUMULATIVE IMPACTS

Within the flight corridor there is a potential for cumulative impacts on biological, cultural, airspace, and land use resources; however, these impacts are expected to be not significant.

Biological and Cultural

Evacuation and booster-recovery activities would increase the potential for impact on sensitive biological and cultural resources in flight corridor booster drop zone areas.

Airspace

There would be additional airspace restrictions required in the flight corridor which already has a number of airspace restrictions associated with military testing activity.

Land Use

Evacuation of booster impact areas that include public land would increase the level of restrictions on the public to public land access in the flight corridor. Restricted access in the flight corridor could affect BLM land, the El Malpais National Monument, Forest Service Lands, and private lands, depending on which booster drop zones are selected for missile testing purposes.

3.0 EGLIN AIR FORCE BASE CANDIDATE TEST AREA

The Eglin AFB Candidate Test Area includes target launches from a sea launch site in the Gulf of Mexico and defensive missile launches from Eglin AFB at either a Santa Rosa Island or Cape San Blas site. Eglin AFB is located in northwest Florida, adjacent to the city of Fort Walton Beach and 72.4 km (45 mi) east of Pensacola.

The proposed defensive missile land launch sites are the A-15 site on Santa Rosa Island near the Eglin AFB main base complex and the D-3A site at Cape San Blas. Cape San Blas is located about

81 km (50 mi) southeast of Panama City, Florida. The candidate test area discussed in the following sections includes Santa Rosa Island (Section 3.1) and Cape San Blas (Section 3.2).

3.1 SANTA ROSA ISLAND

Defensive missile systems for launch from Santa Rosa Island would be transported to Eglin AFB via either military cargo aircraft or truck. Fully assembled flight vehicles would be stored at either Eglin AFB or Santa Rosa Island. Transportation of flight vehicles to the launch site at Santa Rosa Island would be by truck. One or more TMD ground-based radars (TMD-GBRs) would be located on Santa Rosa Island on hard-packed parking areas near A-15. Flight preparation and testing would require up to 110 temporary military and contractor personnel for each launch. Thirty personnel would also be required to support the TMD-GBR if an off-base site is identified. These personnel would be present at the site for up to 2 weeks.

3.1.1 PAST AND PRESENT ACTIVITIES

Launches from Santa Rosa Island's Site A-15 have been conducted since 1944 (Howard, 1994). No missile launches have occurred at A-15 since 1986. Approximately eight Aegis cruiser and Tomahawk surface-to-air missile tests/launches are conducted yearly in Eglin's restricted airspace. In addition, 18,557 aircraft sorties were flown in 1993.

Programs currently operating at or near A-15 are special operations training, Project Beachcomber (inert mines), and electromagnetic gun testing.

3.1.2 REASONABLY FORESEEABLE FUTURE ACTIONS

The level of military test activity at Eglin AFB over the next 5-year period is anticipated to be similar to the last 5-year period.

3.1.3 POTENTIAL CUMULATIVE IMPACTS

Potential TMD Extended Test Range activities at Santa Rosa Island would have not significant cumulative impacts. Overall testing activity at Eglin AFB and the over-water test range area would be increased as a result of TMD Extended Test Range testing but not to a level that any particular resource would be significantly impacted. The TMD Extended Test Range missile launches would not require additional airspace restrictions.

3.2 CAPE SAN BLAS

For the Cape San Blas flight test option, transportation, personnel, and on-base facility requirements would be the same as for the Santa Rosa Island option. The 210-hectare (520-acre) site would require an off-site location for the TMD-GBR. Support facility requirements would be met by additional temporary portable structures and minor permanent construction.

3.2.1 PAST AND PRESENT ACTIVITIES

Missile launches from Site D-3A at Cape San Blas have occurred since 1967. The Florida Spaceport Authority currently launches an average of two space sounding rockets from D-3A per year. In addition, 16,073 overflights of Cape San Blas were flown from nearby Tyndall AFB in 1993.

3.2.2 REASONABLY FORESEEABLE FUTURE ACTIONS

The level of military test activity at Cape San Blas over the next 5-year period is anticipated to be similar to the last 5-year period.

3.2.3 POTENTIAL CUMULATIVE IMPACTS

TMD Extended Test Range missile launches from Cape San Blas could result in small incremental impacts on air quality, biological, and land use resources. The cumulative effect of the increased number of launches on the surrounding environment would be not significant.

3.3 SEA LAUNCH AND FLIGHT CORRIDOR

The Gulf of Mexico is being considered as a site for TMD target launches from a missile launch ship (MLS) or a fixed sea platform. Launch control and communications may be accomplished from one or more additional ships. The target launch sites may be within the boundaries of the Eglin AFB over-water test ranges or may be to the west of these ranges. All target launch sites in the Gulf of Mexico would be within 500 km (311 mi) of the intended target impact point in order to comply with current treaty restrictions. Sea launch of a target would require approximately 30 on-board personnel. The MLS would remain at sea for about 10 days to support a single mission.

3.3.1 PAST AND PRESENT ACTIVITIES

Eglin AFB currently uses the Gulf of Mexico over-water test range area for a variety of military testing.

3.3.2 REASONABLY FORESEEABLE FUTURE ACTIONS

The level of usage for the Eglin AFB over-water test range area is uncertain at this time but is assumed to follow past usage trends.

3.3.3 POTENTIAL CUMULATIVE IMPACTS

Cumulative impacts from TMD Extended Test Range activities in the over-water test range are expected to be not significant.

4.0 WESTERN RANGE CANDIDATE TEST AREA

Extended-range program activities at the Western Range Candidate Test Area would consist of site preparation, flight preparation, and flight testing. Site preparation activities would consist of any necessary facility/infrastructure modifications or construction. Flight preparation activities would include assembly, integration, and testing of target and defensive missiles followed by intercept flights involving target and defensive missiles. This alternative also includes surface-to-surface missile launches from southern Vandenberg AFB with impacts in the existing impact area on San Clemente Island. The Western Range Candidate Test Area discussed in the following sections includes San Nicolas Island (Section 4.1), Vandenberg AFB (Section 4.2), San Clemente Island (Section 4.3), and Sea Launch (Section 4.4).

4.1 SAN NICOLAS ISLAND

4.1.1 PAST AND PRESENT ACTIVITIES

The ordnance and launch facilities on San Nicolas Island provide a launching capability for a variety of missiles and targets.

4.1.2 REASONABLY FORESEEABLE FUTURE ACTIONS

Current plans call for the continual operation of San Nicolas Island as an ordnance and launch test facility.

4.1.3 POTENTIAL CUMULATIVE IMPACTS

TMD Extended Test Range activities could have cumulative impacts on air quality, biological, and land use resources; however, these impacts are expected to be not significant.

4.2 VANDENBERG AIR FORCE BASE

4.2.1 PAST AND PRESENT ACTIVITIES

Vandenberg AFB has been used as a test range for missile systems since 1958. Missile tests reached their peak in terms of frequency in the 5-year period from 1963 to 1967 when an average of 114 missile tests were conducted annually. In the 1980s, however, the number of launches annually never exceeded 30, and in the last 5 years (through 1993), the annual rate of launches has been 13. The year 1992 is typical of recent years, with launches of two Minuteman I missiles, four Minuteman IIIs, three Peacekeepers, two Scouts, a Titan II, and a Titan IV.

4.2.2 REASONABLY FORESEEABLE FUTURE ACTIONS

The number of military-sponsored missile tests at Vandenberg AFB over the next 5-year period is anticipated to be similar to the last 5-year period. Vandenberg AFB can reasonably anticipate an increase in launch activities from commercially sponsored missile launches. The number of

commercial launches is more difficult to predict, but the Vandenberg AFB program planning department considers and annual rate of six commercial launches over the next 5 years to be reasonably foreseeable.

4.2.3 POTENTIAL CUMULATIVE IMPACTS

Cumulative impacts from TMD Extended Test Range activities are expected to be not significant based on existing information. Resource areas of concern include air quality, biological resources, and land use issues related to California Coastal Commission responsibilities.

4.3 SAN CLEMENTE ISLAND

4.3.1 PAST AND PRESENT ACTIVITIES

San Clemente Island has been used as a test range for missile systems, although few of these tests have involved launches from the island itself. Most missile launches have been from offshore or have used the established target areas on the island for a missile impact zone. The Shore Bombardment Area (SHOBA) on San Clemente Island is used 10 to 18 days per month or about 150 days per year.

4.3.2 REASONABLY FORESEEABLE FUTURE ACTIONS

The number of missile tests at San Clemente Island over the next 5-year period is anticipated to be similar to recent years. In addition, San Clemente Island is being considered for its potential use as an impact site for the Army Tactical Missile System testing in which the payload would land on the SHOBA, an area already designated for surface bombardment. Activities at San Clemente Island over the next 5-year period are anticipated to be similar to recent years, with the exception of the proposed TMD extended-range tests.

4.3.3 POTENTIAL CUMULATIVE IMPACTS

Cumulative impacts from TMD Extended Test Range activities are expected to be not significant. Resource areas of concern include air quality, biological resources, and land use issues related to California Coastal Commission responsibilities.

4.4 SEA LAUNCH

4.4.1 PAST AND PRESENT ACTIVITIES

There are currently DOD over-water tests along the California Coast. These tests are initiated from various facilities including San Nicolas Island, Vandenberg AFB, and San Clemente Island areas.

4.4.2 REASONABLY FORESEEABLE FUTURE ACTIONS

Future test activities over the next 5 years are expected to be comparable to recent 5-year trends.

4.4.3 POTENTIAL CUMULATIVE IMPACTS

Cumulative impacts are expected to be not significant for TMD Extended Test Range sea launch activities.

5.0 KWAJALEIN MISSILE RANGE CANDIDATE TEST AREA

The Kwajalein Missile Range Candidate Test Area includes target launches from Wake Island and/or the open sea areas north and southwest of the USAKA. Defensive missiles would be launched from Wake Island and/or the USAKA. Wake Island is located approximately 3,219 km (2,100 mi) southwest of Hawaii. The USAKA, in the Republic of the Marshall Islands, is located approximately 1,126 km (700 mi) south of Wake Island.

The Kwajalein Missile Range Candidate Test Area includes the USAKA (Section 5.1) and Wake Island (Section 5.2).

5.1 U.S. ARMY KWAJALEIN ATOLL

The USAKA locations proposed as alternatives for defensive missile launches are Illeginni, Omelek, and Meck islands. Target missiles may also be launched from Meck island. Associated TMD-GBRs would also be located at or near missile launch sites. Launch preparation activities at the USAKA would include the storage, assembly, integration, and testing of flight vehicles. Facility requirements on Illeginni Island would require renovation or new construction. Flight preparation and testing would require up to 140 personnel for up to 2 weeks for each defensive missile launch.

5.1.1 PAST AND PRESENT ACTIVITIES

Military facilities providing missile launch, sensing and tracking, and range support capabilities are maintained on 11 islands in the USAKA. Approximately 84 missile launches per year are currently conducted from launch facilities on four of the islands. ERIS missiles are launched from Meck Island, meteorological rockets from Kwajalein, Omelek, and Roi-Namur, and sounding rockets from Roi-Namur. (U.S. Army Space and Strategic Defense Command, 1993)

5.1.2 REASONABLE FORESEEABLE FUTURE ACTIONS

The level of military test activity at the USAKA over the next 5-year period was the subject of an extensive study (U.S. Army Space and Strategic Defense Command, 1993) in which three levels of increased activity were considered. TMD activities are now considered within the low level of activity, which would include up to 104 launches annually. (U.S. Army Space and Strategic Defense Command, 1993)

5.1.3 POTENTIAL CUMULATIVE IMPACTS

The USAKA Final Supplemental EIS (U.S. Army Space and Strategic Defense Command, 1993) identified potential cumulative impacts from proposed increased testing at the USAKA for both TMD and National Missile Defense (NMD) needs.

Significant cultural resource impacts are not expected; however, they could occur because of increases in personnel at the USAKA, resulting in vandalism of cultural resource sites. To assist in mitigating concerns regarding vandalism to cultural resource sites, all flight preparation personnel would receive an orientation involving a definition of cultural resources and the protective Federal regulations. Other means of protecting sites are through fencing or data recovery (i.e., site excavation, analysis, and documentation). Adherence to these mitigation measures reduces any potential impact to a level of not significant.

A shortage of Unaccompanied Personnel Housing (UPH) units on Kwajalein Island could result from a large increase in nonindigenous mission and support personnel from multiple programs. Additional housing units are currently scheduled to be built. Other mitigations include housing more personnel in UPH than the preferred standard of one person per unit during peak periods. These mitigation measures will keep the socioeconomic impact to a not significant level.

5.2 WAKE ISLAND

The proposed action includes the option of launching both target vehicles and defensive missiles from Wake Island. Transportation of the systems to the island would be by ship or military aircraft. Launch preparation activities at Wake Island would include the storage, assembly, integration, and testing of flight vehicles. To support TMD missions, two launchers, a fiber optic cable system, a MAB, a Missile Storage Building, and an additional incinerator would need to be constructed. Flight preparation and testing would require up to 70 additional temporary military and contractor personnel for each target launch for up to two weeks.

5.2.1 PAST AND PRESENT ACTIVITIES

Wake Island currently supports trans-Pacific military operations and Western Pacific military contingency operations, serves as an in-flight emergency airfield, and provides transient military/civilian aircraft servicing and emergency sealift capability (U.S. Department of the Air Force, 1992). In addition, two missile launches have been conducted at Wake Island for the Theater Missile Defense Countermeasures Mitigation Program and up to four per year are planned.

5.2.2 REASONABLY FORESEEABLE FUTURE ACTIONS

It is anticipated that the U.S. Army Space and Strategic Defense Command will assume operational management responsibility of Wake Island from the U.S. Air Force in 1995. Co-management of the island's environmental resources by the U.S. Fish and Wildlife Service and the U.S. Army is also being considered. In either case, the current Air Force mission would no longer be conducted, and the island infrastructure would be operated at a reduced level by fewer support staff than current operations. Missile firing in support of Army programs would continue under U.S. Army Management of Wake Island, and the airfield might continue to be used for in-flight emergencies.

5.2.3 POTENTIAL CUMULATIVE IMPACTS

Cumulative impacts from TMD Extended Test Range activities are expected to be not significant. The baseline of flight and other activity on Wake Island is also decreasing as the U.S. Air Force discontinues operations on the island.

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APPENDIX B—HEALTH AND SAFETY

The following information is a revision of Appendix I from the Theater Missile Defense Extended Test Range Draft Environmental Impact Statement (EIS) (January 1994).

Introduction

Proposed target missile launches from the Green River Launch Complex (GRLC) and Fort Wingate Depot Activity (FWDA) into White Sands Missile Range (WSMR) would require overflight of populated areas. Since it is not feasible to evacuate the entire flight corridor, a computer modeling analysis to determine the risk to population and impact probability from a missile malfunction was performed. This appendix discusses the general overflight, results of the analysis, and the methodology and significant assumptions.

The conclusion of the analysis for the flight corridor is that flights from both the GRLC and FWDA may be safely performed. The risk thresholds which are considered safe were established by the WSMR Safety Office. The risk threshold is such that the risk to the public will not significantly exceed the cumulative risk the public would be exposed to during the conduct of their daily activities, e.g., driving to town to shop, painting the house, mowing the lawn, etc. Based on a maximum of 10 expected test flights per year, the maximum risk to unsheltered/unprotected individuals for 1 year of testing from the GRLC is predicted to be less than off-range risk thresholds used by the WSMR Safety Office for a single test event. Based on a maximum of 12 expected test flights per year, the maximum risk to unsheltered/unprotected individuals for 1 year of testing from the FWDA is predicted to be less than off-range risk thresholds used by the WSMR Safety Office for a single test event. These predictions are based on average risk throughout the entire boost phase of flight.

General Overflight Scenario

A target missile launch from the GRLC or FWDA into WSMR would require overflight of populated areas. A target malfunction during the boost portion of flight could cause the target vehicle to exceed its flight safety parameters, and the Range Safety Officer (RSO) would then terminate the vehicle's flight. The planned target vehicle has two boost stages.

The first-stage booster contains a flight termination system (FTS) which uses a linear explosive charge to rupture the booster case along its length upon activation by the RSO. This system will thus render the booster nonpropulsive, effectively stopping the continued thrust of the vehicle. The rupture of the highly pressurized booster case will create fragmentation of the booster hardware and remaining solid propellant. This debris will then fall to the ground, creating a hazard in an area under the target flight path. The debris fragments resulting from flight termination vary in number, size, and imparted velocity. The fragments in the computer model consisted of various pieces of vehicle hardware such as nozzles, batteries, fins, aft and forward domes, plate covers, cables, and other assemblies. Fragmented propellant and booster casing are also considered in the fragment catalog.

The second-stage booster contains a similar linear explosive charge which is the only means to rupture the second-stage booster case during the first few seconds of second-stage burn. The second-stage booster also contains a thrust-termination system which cannot be activated until approximately 9 seconds into the second-stage burn. At that time the linear explosive charge is

deactivated. The thrust-termination system does not rupture the booster case and thus does not create large amounts of booster debris. The system uses small explosive charges to open port holes in the booster case. The port covers are tethered and thus remain attached to the booster. Activation of the thrust-termination system rapidly depressurizes the booster and thus renders the booster nonpropulsive, effectively stopping the continued thrust of the vehicle. There is no fragmentation of the booster expected from system activation. The intact booster would then fall to the ground, creating a hazard in an area under the target flight path.

For a first-stage termination, the second stage may explode upon impact, creating secondary fragmentation. The second stage would contain a full load of unburned propellant under this scenario. For a second-stage flight termination action, after separation from the first stage, the propellant will have been ignited and will continue to burn, even though the stage is rendered nonpropulsive. Insufficient propellant will remain at ground impact to cause secondary fragmentation due to propellant explosion.

RSO Training

The Flight Safety Office at WSMR spends considerable time training its RSOs in the skills and art of flight safety management. Training includes the requirement to overfly the intended corridors in a helicopter, first observing the general lay of the land, visually noting and identifying sensitive areas and those identified by land owners, e.g., the Bureau of Land Management, U.S. Forest Service, state land agencies, and U.S. Fish and Wildlife Service. Afterwards, the RSO is required to drive back and forth across the corridor from the launch point to the target impact location at WSMR, as much as roadways will permit. All known sensitive areas are digitized on maps that the RSO will display during target flight. The target trajectory will be plotted on these same maps so that in the event of a malfunctioning target, the RSO has the ability to select the point of destruction in order to avoid populated or sensitive areas.

In the months prior to the conduct of the tests, the RSO and an alternate will participate in simulation training, observing randomly selected off-course flight anomalies and simulate sending a flight termination signal to the missile, observing the end results, i.e., where the debris pattern would impact the ground if destruct were set at the chosen time. The RSO and an alternate must participate in hundreds of these simulations all along the flight path to best determine where and when a destruct action should be taken to protect the public and sensitive cultural areas.

Safety Control of Test

Each individual test is supported with a variety of test instruments (radar, optical, telemetry, computer, etc.) to ensure that the status of the system under test can be continually evaluated in real time and corrective action taken in the event the missile or target does not perform properly. The multiple data sources are fed into a high-speed computer system that can analyze, process, and display real-time performance information to be used by the RSO. One commonly used data item is called an Instantaneous Impact Predictor (IIP) which not only tells the RSO where the missile/target is in space at any instant but also where the missile/target debris will impact if the flight is terminated at any point during its flight. Population centers and environmentally sensitive areas are premarked on the RSO display (map) and are avoided when possible. It should be noted that personnel safety is of the utmost concern and is given priority over other factors; nonetheless, all sensitive areas are given careful consideration in the event a flight termination action must be initiated. In the event of a flight termination action, the RSO will attempt to terminate the missile/target in the launch hazard area or in the evacuated first-stage booster impact zone. For failures occurring beyond these times, every effort will be made to let the missile/target continue to fly onto WSMR even though it may be off course. However, the missile/target will not be permitted

to fly beyond the defined corridor since all analyses involving risk to the public, aircraft, and the environment (excluding socioeconomic factors) are based on the target remaining within the corridor. In the event that a failure occurs and/or a flight termination should be initiated, subsequent flights are suspended until corrective action is taken that will prevent similar occurrences.

Risk Analysis Summary

Evaluations were performed for seven scenarios four launched from the GRLC and three launched from FWDA.

The effect of wind on the debris dispersion has been considered in the computer analysis. Since the wind direction and speed can significantly affect the missile flight path, the full spectrum of wind conditions was considered in the evaluations.

On the day of test, wind measurements within the corridor will be obtained by balloon and incorporated into first-stage, second-stage, and debris impact predictions. It should be noted that for planning purposes the likelihood was included that winds could blow at nearly maximum speeds (97.5-percent level), so it is unlikely that significant adjustments will have to be made on the day of test. However, in the event that wind speeds exceed the 97.5-percent level, the test will not be conducted as planned but rescheduled for another day.

The risk values for all four GRLC scenarios were generally equivalent, although the peak risk (worst-case wind condition) was lowest for the GRLC Booster Drop Zone C, 173-kilometer scenario. In general, the maximum individual risk of launch for any one scenario can be controlled to be approximately equal to the risk of non-occupant airline fatality. The effect of winds on the risk value was significant. Certain wind conditions can change the risk by two orders of magnitude. Careful launch-day evaluation of wind conditions by safety personnel will allow control of these risks. Maximum risk to population for launch of any one scenario can be controlled to be less than off-range risk thresholds established by WSMR.

The risk values for all three FWDA scenarios were also generally equivalent. In general, the risks for FWDA launches were higher than those for the GRLC; however, the risks are still very low. The maximum individual risk for launch of any one scenario can be controlled to be only one order of magnitude greater than the risk of non-occupant airline fatality. The effect of winds on the risk value was again significant. Certain wind conditions can change the risk by two orders of magnitude. Careful launch-day evaluation of wind conditions by safety personnel will allow control of these risks. The FWDA Booster Drop Zone C, Aimpoint 4 scenario showed the least sensitivity to wind effects. The total risk to population for the Booster Drop Zone A trajectory was, in general, higher than the other two FWDA scenarios. Total risk to population for launch of any one scenario can be controlled to be less than off-range risk thresholds established by WSMR. Some wind conditions may drive the maximum expected casualty above established thresholds, in which case the launch would be rescheduled. Launch-day evaluation of winds will be performed to ensure safety.

Debris Analysis

The analysis approach for determining flight termination debris hazards is to simulate vehicle malfunctions at various flight times, simulate a command destruct based on violation of safety parameters, and then determine the resulting debris dispersion. This hazard analysis produces a fragment database. The fragment database is used to generate a fragment density distribution. The distribution is integrated over the entire flight corridor and overlain on a grid in the affected

geographic area. The population centers of the area are analyzed with the fragment database to estimate the expected casualty for the mission. Impact probability per square measurement unit is also computed based on the integrated fragment distributions.

Risk Analysis

Impact densities and expected casualties were computed for a fragment lethality threshold based on a kinetic energy at impact of 58 foot-pounds (ft-lb). It has been shown in previous analyses that consideration of a fragment lethality threshold based on a kinetic energy at impact of 11 ft-lb does not significantly change the expected casualty or probability of impact for this type of target system. The 11 ft-lb of kinetic energy represent the critical threshold of personal injury, and 58 ft-lb represent the 50 percentile points between injury and death. The risk analysis performed assumed that the entire affected population was unprotected (outside in light clothing) and that a fragment with a kinetic energy at impact greater than 58 ft-lb was always fatal.

This analysis used population data from the 1990 U.S. Census. Each person was assumed to occupy an area of 1 square meter with an impact cross-section of 1 square meter. The probability of a missile malfunction which would require flight termination was assumed to be 4.0 percent for this analysis. There was no test data available for the target configuration being flown which could be used to establish a failure probability. Unpublished casualty expectation thresholds of less than 10^{-5} (one in one hundred thousand) on range and less than 10^{-6} (one in one million) off range are used within the WSMR Safety Office.

Hazard Analysis

The target configuration analyzed consisted of an SR-19 booster for the first stage, a M57 booster for the second stage, and a payload. Vehicle malfunctions were simulated for the target vehicle at various times after vehicle lift-off. These times represented a malfunction every 5 seconds of flight with several intermediate times to evaluate more accurately certain flight regimes, such as vehicle staging or stage burnout. Each trajectory analyzed activated the second-stage thrust-termination system at a certain time of flight to render the booster nonpropulsive and control the final impact point of the vehicle.

For this analysis the vehicle was assumed to fly along its predicted nominal path until one of the selected malfunction times. At the malfunction time the vehicle was assumed to begin a trim or tumble turn depending on the aerodynamic stability characteristics of the vehicle. The vehicle flight during the turn was simulated using a six-degree-of-freedom missile simulation developed for this type of analysis. Detailed vehicle characteristic data were required in order to model the vehicle kinematics of flight. This data was obtained from the contractor performing target systems analysis and included aerodynamic data, thrust and mass properties, and trajectory data.

The vehicle analyzed has a FTS on both propulsive motor stages. The first-stage FTS uses a linear shaped charge running the length of the motor case to split the case. This results in a rapid venting of the motor pressure, thus terminating vehicle thrust. The second-stage FTS uses a simple thrust-termination port design. Activation of this system results in port holes being opened in the motor case, thus venting motor pressure and terminating vehicle thrust. This system is not expected to fragment the second stage. The second stage should survive intact until ground impact. This system does not become functional until several seconds into the second-stage burn.

One hundred simulation runs were performed for each malfunction which resulted in activation of the first-stage case-splitting FTS. This resulted in a statistically significant number of fragment impacts. Five hundred simulations were performed for all malfunctions which resulted in activation of the

thrust-termination port FTS for the second stage. Because the flight termination of the second stage does not fragment the vehicle, a greater number of simulation runs were required in order to have a statistically significant number of fragment impacts. Variations considered for malfunction turns are shown in table B-1.

A flight termination debris catalog was developed for the target vehicle. The catalog was developed based on input and information from various sources. The fragmentation and prediction of flight termination-induced (or destruct) velocities is considered to be state of the art and was compared to actual test data from similar systems.

The debris catalog was developed over a period of several months. A preliminary catalog was developed using limited information on the SR-19 booster, engineering judgement, and a comparison with similar systems, especially from historical data on the M56/M57 booster. Preliminary analyses were performed with this debris catalog. An estimated flight termination debris catalog was then provided by the U.S. Army Space and Strategic Defense Command Targets Contractor (TC). This TC catalog was compared in detail to the preliminary catalog used in the EIS evaluations. Discrepancies were resolved, and a finalized debris catalog was developed for the Final EIS analysis.

Development of a missile flight termination debris catalog is a subjective process. Establishment of missile hardware pieces, weights, and ballistic coefficients is a fairly straightforward and predictable part of the process. However, prediction of destruct velocities for fragments and prediction of propellant/motor-case fragmentation are two of the most uncertain areas in developing debris catalogs. Independent evaluation of actual test data was used as a guide in development of the destruct velocities and propellant/motor-case fragmentation used in the target flight termination debris catalog. The flight termination debris catalog is credible, accurate, and in concert with the latest safety community research.

Variations on fragment characteristics were used in the analysis. The variations considered are shown in table B-2. The mean number of fragments created by a first-stage flight termination was estimated to be 540. Although the fragment number remains constant throughout the flight, the size of the propellant fragments goes down as the booster burns. The number of fragments which exceed the kinetic energy threshold of 58 ft-lb is 550 for an early first-stage flight termination and 365 for a late first-stage flight termination. The fragments consisted of vehicle hardware such as nozzles, batteries, fins, aft and forward domes, plate covers, cables, and other assemblies. Fragmented propellant and booster casing are also considered in the catalog. A single piece was assumed for thrust termination during second-stage flight.

A 5.0-second total flight termination delay was assumed in the analysis. This is the time allotted for the RSO to recognize that a vehicle malfunction has occurred and take action to terminate the vehicle flight. This delay time includes the RSO recognition/response time, delays in processing of safety data, and delays in activating the FTS.

Flight termination debris was propagated to ground impact using a second-order, two-pass Runga Kutta integration technique. It was assumed that all debris produced from the FTS survived intact until impact. A standard WSMR atmospheric model was used. Wind data used in the analysis were from *White Sands Missile Range, New Mexico, Range Reference Atmosphere, 0-70 KM*, dated August 1983, Range Commanders Council document #365-83.

Table B-1: Simulation Variables for Malfunctioning Flight

Simulation Variable	Description
Yaw	Uniform variation between 0.0 and 360.0 degrees
Pitch	Uniform variation between -90.0 and 90.00 degrees
First-stage Nozzle	Malfunction 50% of failures are nozzle to the null position 25% of failures are nozzle hard-over 25% of failures are nozzle randomly distributed between null and hard over
Second-stage Nozzle	Malfunction 50% of failures are 2 nozzles to the null position 25% of failures are 1 nozzle hard-over 25% of failures are 2 nozzles hard-over
Thrust Misalignment	Normal variation with mean of 0.0 and standard deviation of 0.5 degrees.

Table B-2: Simulation Variables for Destruct Debris Fragments

Simulation Variable	Description
Number of Fragments	Normal distribution with a specified mean and coefficent of variation
Ballistic Coefficient	Normal distribution about mean, one sigma variation of 25%
Destruct Velocity	Normal distribution about mean, one sigma variation of 25%
Scatter Pitch Angle	Uniform or normal distribution with a specified mean and coefficient of variation
Scatter Roll Angle	Uniform distibution with a specified mean and coeffient of variation