# Executive Summary

In 1989, the U.S. Army Space and Strategic Defense Command (then known as the Strategic Defense Command) completed an environmental impact statement (EIS) for proposed actions at the U.S. Army Kwajalein Atoll (USAKA) that encompassed new and continuing research and development and operational missions, including planned Strategic Defense Initiative (SDI) activities. This Supplemental EIS (SEIS) responds to two related needs that require new environmental analyses.

The first need is for increased levels of ground and flight testing, facilities, and support activities to meet the goals of the Missile Defense Act (MDA) of 1991, as amended, within the framework of current Department of Defense (DoD) policy and guidance. The goals of the MDA are to develop a highly effective defense of the United States against limited attacks of ballistic missiles and highly effective theater missile defenses to protect U.S. armed forces deployed abroad and our allies and friends against the threat of missile attack. Current DoD direction in implementing the goals of the MDA gives first priority to the development and deployment of theater missile defense systems and second priority to national missile defense. Increased testing at USAKA is required to meet both theater and national missile defense needs.

The second need is to adopt and implement environmental standards and procedures that are appropriate for the particular environment and special circumstances at USAKA, replacing the U.S.-based standards that are currently in place.

The Compact of Free Association between the Republic of the Marshall Islands (RMI) and the United States declares that it is the policy of the two nations to "promote efforts to prevent or eliminate damage to the environment and biosphere and to enrich understanding of the natural resources of the Marshall Islands..." (Title One, Article VI, Section 161). Section 161 delineates a framework for development of environmental standards and procedures for U.S. actions at USAKA that reflects the particular environment of Kwajalein and the "special governmental relationship" between the two nations cited by the Compact.

In consultation with the natural resources and environmental protection agencies of the RMI and the United States, the U.S. government has developed a set of proposed USAKA Environmental Standards and Procedures (the Standards) to replace the existing statutes and regulations that govern U.S. actions at USAKA. The proposed Standards are similar to existing regulations in their standards for the protection of health and safety and the environment, but they simplify many of the procedural aspects of existing regulations as appropriate for the particular environment of USAKA and the special relationship between the two governments.

This SEIS, then, examines two categories of proposed actions. The first is an increased level of testing and related support activities that would occur at USAKA in response to the MDA. Four alternatives are considered in evaluating the first proposed action: No-Action, and Low, Intermediate, and High Levels of Activity. The second proposed action is adoption of new environmental standards and procedures for U.S. activities at USAKA.

The alternative levels of test activities compared in this SEIS encompass increased numbers of launches and levels of range support and base operations activities that could have impacts on the environment of the 11 USAKA islands. For the purposes of analysis in this SEIS, the rockets launched at USAKA are grouped into three categories. Meteorological rockets are single-stage, solid fuel rockets that are launched from Kwajalein, Omelek, and Roi-Namur. Sounding rockets are single- or multistage missiles that are used to test sensors. These rockets are currently launched from Roi-Namur, the Kauai Test Facility (KTF) in Hawaii, and Vandenberg Air Force Base (VAFB) in California. Strategic Launch Vehicles (SLVs) are larger, generally multistage missiles used at USAKA to launch payloads or to intercept payloads launched from KTF or VAFB. They include ballistic missiles using solid propellant fuel in the first and second stages and solid or liquid fuel in the third stage. For the purposes of analysis in this SEIS, SLVs include missiles used for testing theater missile defense components.

Existing conditions at USAKA were described in the 1989 EIS. Since that EIS was issued, the drinking water system has been upgraded at Kwajalein and a new power plant to support the increased level of activities evaluated in the EIS is on line. A number of environmental mitigation measures have been implemented at USAKA, in accordance with the 1989 EIS and Record of Decision.

In the No-Action Alternative, existing test programs and the technical and logistical activities that support them would continue, along with the activities that made up the proposed action of the 1989 EIS.

In the Low Level-of-Activity Alternative, the number of single-flight launches would increase to some extent, requiring the construction of a new launch complex on Meck Island to facilitate simple System Integration Tests (SITs). A major new sensor, the Ground-Based Radar Test (GBR-T) would be installed at Kwajalein. Some port improvements and shoreline protection would be added on other USAKA islands in connection with base operation construction projects. The nonindigenous population of USAKA would increase by approximately 575 compared with the No-Action Alternative.

In the Intermediate Level-of-Activity Alternative, which is the Proposed Action, the number of launches would be further increased, allowing more complex SITs. Complex SITs would involve multiple, near-concurrent launches of interceptors and sensors. Launches could be made from Meck, Omelek, and Illeginni islands. Other improvements with possible environmental impacts would be made, as described in

Chapter 2. This alternative would involve a significant increase in range support and base activities at USAKA, requiring quarrying and dredging for shoreline protection and new facilities at several islands. Meck Island would be expanded by approximately 15 acres to accommodate new launch activities. Illeginni launch facilities would be reconstructed. Some existing silos on Meck and Illeginni might be destroyed. Nonindigenous USAKA population would increase by an estimated 1,675 persons (or 52 percent) over that of the No-Action Alternative. This is comparable with the population levels in the early 1970s during the Safeguard testing program at USAKA.

The High Level-of-Activity Alternative bounds the maximum activity foreseen at USAKA. The frequency of launches would make full use of the capacity of each launch facility. Several of the islands that now have few facilities would be the sites of major new installations. New launch facilities and a new power plant would be built at Omelek. New sensors would be installed at Legan at a site not currently developed. A six-silo launch hill would be built on Eniwetak, requiring the clearing of forest that covers much of the island. Gellinam would be the site of sounding rocket launches. Gagan would be extensively developed with new sensing and tracking equipment. Shoreline protection and new construction would require more quarrying and dredging near the construction sites.

Since the release of the Draft SEIS, additional changes in the overall Missile Defense Program, coupled with changing budget priorities, have resulted in a planned Missile Defense Program that does not clearly match, element for element, the level-of-activity alternatives described above. However, it is still appropriate to continue to evaluate the environmental impacts of each level-of-activity alternative described in this SEIS and to define the proposed action as the Intermediate Level of Activity. In the Record of Decision, the decisionmaker, after reviewing current program needs, budget constraints, and the environmental impacts identified here, may select another level-of-activity alternative, or may select elements from more than one alternative. The environmental impacts of the elements composing the decision documented in the Record of Decision would still closely approximate those of the levels of activity defined in the Final SEIS.

In the second category of proposed actions, two alternatives are analyzed: the continued use of U.S. standards, which is the No-Action Alternative, and the adoption of new environmental standards and procedures, which is the Proposed Action.

The proposed Standards address seven areas of environmental concern: air, water quality and reef protection, drinking water, wildlife (including endangered species), ocean dumping, material and waste management, and cultural resources. The new procedures for administration stress simplification and uniformity, replacing the multiple different permitting requirements now in effect under U.S. regulations with a Document of Environmental Protection (DEP) process for compliance and conflict resolution.

How the proposed Standards derive from the U.S. environmental laws is described in Chapter 2 of this SEIS, Alternatives Considered.

## Level-of-Activity Alternatives—Summary of Environmental Impacts and Mitigations

Figure ES-1 summarizes the significant impacts associated with implementing the level-of-activity alternatives. These impacts and their associated mitigations are discussed below. Because level-of-activity alternatives are cumulative, identified significant impacts are generally carried through the High Level-of-Activity Alternative.

**Land and Sea Resources.** The No-Action Alternative is not expected to have significant impacts on land and sea resource areas.

In the area of freshwater and marine water resources, the only significant impact that is likely to occur could result from an increased risk of untreated sewage discharges from the Kwajalein wastewater treatment plant. The capacity of this plant would be exceeded in the Intermediate and High Level-of-Activity alternatives, but the addition of a clarifier and operational changes could eliminate this risk. Addition of a wastewater treatment plant at Roi-Namur in the Low Level-of-Activity Alternative would have a significant beneficial effect.

Quarrying for material to enlarge Meck, and for shoreline protection at Kwajalein, Illeginni, and Ennugarret under the Intermediate Level-of-Activity Alternative, and Gellinam, Omelek, Legan, and Eniwetak under the High Level-of-Activity Alternative, could result in a significant impact by affecting the integrity of the islands and shoreline configurations if protective measures are not followed for sizing and siting quarries. Criteria for siting and sizing quarries to protect land forms are provided.

**Air Quality.** No significant air quality impacts were identified under any of the level-of-activity alternatives.

**Noise.** The proposed Explosive Ordnance Disposal (EOD) pit at Ennugarret under the Intermediate and High Level-of-Activity alternatives would have a significant impact on the hearing of Marshallese people who might be on the island. Because USAKA does not control the entire island, it is possible that Marshallese citizens could be on the island during an explosion. USAKA should consider obtaining control of the entire island by lease or restrictive easement if it proposes to use this island for EOD.

**Biological Resources.** The native flora and fauna at USAKA have been extensively altered by people. Nonetheless, some relatively undisturbed areas remain and there is a variety of plant and animal life. At Legan, extensive clearing of the island for sensors and the EOD pit under the Intermediate Level-of-Activity Alternative would

| ENVIRONMENTAL RESOURCE | LEVEL OF ACTIVITY ALTERNATIVES | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | NO ACTION | | LOW LEVEL | | INTERMEDIATE LEVEL | | HIGH LEVEL | |
| | Basis for Evaluation | | Basis for Evaluation | | Basis for Evaluation | | Basis for Evaluation | |
| | ES [1] | USAKA [2] | ES [1] | USAKA [2] | ES [1] | USAKA [2] | ES [1] | USAKA [2] |
| **Land and Reefs** | | | | | | | | |
| Kwajalein, Meck, Illeginni, Ennugarret | | N/A | | N/A | ● | N/A | ● | N/A |
| Omelek, Legan, Gellinam, Eniwetak | | N/A | | N/A | | N/A | ● | N/A |
| **Water Resources** | | | | | | | | |
| Kwajalein | | | ● | ● | ● | ● | ● | ● |
| Roi-Namur | | | ○ | ○ | ○ | ○ | ○ | ○ |
| **Air Quality** | | | | | | | | |
| **Noise** | | | | | | | | |
| Ennugarret | | N/A | | N/A | ● | N/A | ● | N/A |
| **Island Plants and Animals** | | | | | | | | |
| Legan | | | | | ● | ● | ● | ● |
| Eniwetak | | | | | | | ● | ● |
| **Marine Biological Resources** | | | | | | | | |
| Roi-Namur | | | ○ | ○ | ○ | ○ | ○ | ○ |
| Meck | | | | | ● | ● | ● | ● |
| Gellinam | | | | | | | ● | ● |
| **Rare, Threatened and Endangered Species** | | | | | | | | |
| Broad Ocean Area | | | ● | ● | ● | ● | ● | ● |
| Illeginni | | | | | ● | ● | ● | ● |
| **Cultural Resources** | | | | | | | | |
| Kwajalein | ● | ● | ● | ● | ● | ● | ● | ● |
| Roi-Namur | ● | ● | ● | ● | ● | ● | ● | ● |
| Meck | ● | ● | ● | ● | ● | ● | ● | ● |
| Legan | | | | | ● | ● | ● | ● |
| Illeginni | | | | | ● | ● | ● | ● |
| Ennugarret | | | | | ● | ● | ● | ● |
| Omelek | | | | | | | ● | ● |
| Eniwetak | | | | | | | ● | ● |
| | | | | | | | | |

**LEGEND**

○ Significant beneficial impact

● Significant adverse impact

Blank No or nonsignificant impact

N/A No USAKA Standard directly applicable

[1] **ES** = Significance of impacts determined from Existing Statutes and Regulations

[2] **USAKA** = Significance of impacts determined from Proposed USAKA Environmental Standards and Procedures

Note:
Entry in Resource row means impact is USAKA-wide.

**U.S. ARMY KWAJALEIN ATOLL**
SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

## Comparison of Impacts – Level-of-Activity Alternatives

| ENVIRONMENTAL RESOURCE | LEVEL OF ACTIVITY ALTERNATIVES | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | NO ACTION | | LOW LEVEL | | INTERMEDIATE LEVEL | | HIGH LEVEL | |
| | Basis for Evaluation | | Basis for Evaluation | | Basis for Evaluation | | Basis for Evaluation | |
| | ES [1] | USAKA [2] | ES [1] | USAKA [2] | ES [1] | USAKA [2] | ES [1] | USAKA [2] |
| **Housing** | | | | | | | | |
| Kwajalein | ● | N/A | ● | N/A | ● | N/A | ● | N/A |
| Roi-Namur | ● | N/A | ● | N/A | ● | N/A | ● | N/A |
| **Land Use** | | | | | | | | |
| Kwajalein | | N/A | | N/A | ● | N/A | ● | N/A |
| Illeginni | | N/A | | N/A | ● | N/A | ● | N/A |
| Ennugarret | | N/A | | N/A | | N/A | ● | N/A |
| Omelek | | N/A | | N/A | | N/A | ● | N/A |
| Legan | | N/A | | N/A | | N/A | ● | N/A |
| Gellinam | | N/A | | N/A | | N/A | ● | N/A |
| Eniwetak | | | | | | | | |
| **Income and Fiscal Conditions** | ○ | N/A | ○ | N/A | ○ | N/A | ○ | N/A |
| **Recreation, Education and Public Health** | | | | | | | | |
| Kwajalein | | N/A | ● | N/A | ● | N/A | ● | N/A |
| Roi-Namur | | N/A | ● | N/A | ● | N/A | ● | N/A |
| **Transportation** | | N/A | | N/A | | N/A | | N/A |
| **Water Supply** | | | | | | | | |
| **Wastewater** | | | | | | | | |
| Kwajalein | | | | | ● | ● | ● | ● |
| Roi-Namur | | | ○ | ○ | ○ | ○ | ○ | ○ |
| **Solid Waste** | ● | | | | ● | ● | ● | ● |
| **Hazardous Materials** | | ● | | ● | | ● | | ● |
| **Hazardous Waste** | | | | | | | | |
| **Energy and Fuels** | | N/A | | N/A | | N/A | | N/A |
| **Aesthetics** | | | | | | | | |
| Kwajalein | | N/A | ● | N/A | ● | N/A | ● | N/A |
| Ennugarret | | N/A | | N/A | ● | N/A | ● | N/A |
| **Range Safety** | | | | | | | | |
| Ennugarret | | N/A | | N/A | ● | N/A | ● | N/A |
| **Electromagnetic Radiation** | | N/A | | N/A | | N/A | | N/A |

**LEGEND**

| | |
|---|---|
| ○ | Significant beneficial impact |
| ● | Significant adverse impact |
| Blank | No or nonsignificant impact |
| N/A | No USAKA Standard directly applicable |

[1] **ES** = Significance of impacts determined from Existing Statutes and Regulations

[2] **USAKA** = Significance of impacts determined from Proposed USAKA Environmental Standards and Procedures

Note:
Entry in Resource row means impact is USAKA-wide.

**U.S. ARMY KWAJALEIN ATOLL**
SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

## Comparison of Impacts – Level-of-Activity Alternatives

result in a significant impact by removing a small area of habitat identified as valuable for seabird nesting and coconut crabs. Consideration should be given to moving the planned EOD pit on Legan to another previously disturbed area to avoid a significant impact. At Eniwetak, under the High Level of Activity, removal of *Pisonia* trees that are used by nesting seabirds would have a significant, unmitigable impact.

Two projects that would improve the environmental conditions under the Low Level-of-Activity Alternative are the construction of a wastewater treatment plant with an extension of an existing outfall to deeper water, and the conversion of an existing power plant cooling system to freshwater—both at Roi-Namur. Treated effluent from the treatment plant on Roi-Namur would be discharged deeper in the ocean than at present, and the freshwater conversion would reduce the potential for entrainment and impingement of marine species.

The extension of Meck Island under the Intermediate Level-of-Activity Alternative and a similar extension at Gellinam under the High Level-of-Activity Alternative would have a significant adverse effect on coral, fish, and invertebrates by covering some and destroying the habitat of others. Although the loss of habitat and individuals of some species cannot be avoided, the filling and island extension activities will be designed to allow lagoon flushing and promote coral growth.

An endangered species, the hawksbill turtle, could be harmed under the Intermediate and High Level-of-Activity alternatives if revetment covers a sandy beach at Illeginni. Although the hawksbill turtle has not been observed on Illeginni, comprehensive surveys have not been conducted. The sandy beach appears to be a likely nesting area for the opportunistic hawksbill turtles. If the facilities that need protection cannot be relocated, then USAKA should design alternatives to revetment protection so the beach is not covered.

In the Low Level-of-Activity Alternative, parachutes used to slow the descent of the GSTS payload could entangle protected marine mammals or sea turtles in the Broad Ocean Area as the parachutes sink slowly through upper layers of the ocean. Although the probability of this occurring is remote, the loss of any protected marine mammal or turtle would be a significant impact.

**Cultural Resources.** Cold War era resources at USAKA (e.g., Sprint and Spartan silos) have not been evaluated to determine if any would be eligible for National Historic Register listing. Construction projects proposed on Roi-Namur and Meck in the No-Action Alternative, and at Illeginni in the Intermediate Level-of-Activity Alternative could affect sites that date from the Cold War. These sites should be evaluated for their historic value. Historic World War II resources on Kwajalein, Roi-Namur, and possibly other islands, are deteriorating as a result of Kwajalein's harsh climate. Under the Low Level of Activity, construction would take place in areas on Kwajalein and Roi-Namur having the potential to contain subsurface cultural resources. Shoreline protection and other construction at Kwajalein and Roi-Namur in the Low Level-of-Activity Alternative and access road construction at Legan in the

Intermediate Level-of-Activity Alternative could affect both historic and prehistoric sites. Construction of the EOD pit on Ennugarret could result in a significant impact to a buried prehistoric site. Shoreline protection and construction of facilities for increased testing could affect historic and prehistoric sites at Legan, Omelek, and Eniwetak under the High Level-of-Activity Alternative. All the cultural impacts can be mitigated by determining if the site is of cultural importance through surveys and field testing. If culturally important sites cannot then be avoided, further investigation and data recovery should be initiated.

**Income and Fiscal Conditions.** Increased taxes on contractor personnel income paid to the RMI that would result from implementation of the Low through High Level-of-Activity alternatives would yield a significant beneficial impact.

**Socioeconomic Conditions.** Under the No-Action Alternative, there would be a deficit at Kwajalein of 14 units of family housing and 401 units of unaccompanied housing. At Roi-Namur, there would be a deficit of 49 units of unaccompanied housing. These deficits are considered significant impacts and would increase substantially with the increasing levels of activity. The impacts of the increased population on housing could be alleviated by building more housing using high-rise buildings, subject to height limitations for protection from electromagnetic radiation. USAKA could limit the number of workers with families, but this could adversely affect recruiting. The trailers at Kwajalein could be replaced with high-density apartments, saving valuable land space. Temporary housing such as hotel ships, open barracks, or tents could be used during peak mission periods. Additional recreation facilities may need to be constructed under the Low, Intermediate, and High Level-of-Activity alternatives to serve the larger USAKA population.

**Land Use.** The siting of a GEP communications facility on Kwajalein in the vicinity of Facility No. 845 could restrict beach use and is considered a significant impact. Consideration should be given to selecting one of the other two Kwajalein sites identified for this facility to avoid this impact.

The proposed fire station in the Intermediate Level-of-Activity Alternative at Illeginni is inconsistent with the use of the adjacent area as a reentry vehicle (RV) land impact zone and is considered a significant impact. Mitigation should include comprehensive analysis to optimize island utilization and to minimize impacts to existing and potential land uses, human activity, and the natural environment.

The existing EOD pit is incompatible with the increased mission activity at Illeginni under this alternative. One option under the Intermediate Level-of-Activity Alternative is to move the EOD activities to Ennugarret, which is also considered a significant impact. That island is only partially controlled by USAKA and has other associated problems with safety and noise that lessen its viability as an EOD site. Legan is also proposed as another option for EOD activities; however, the current use of Legan for sensors and other telemetry-gathering instruments makes it a poor candidate for EOD activities. If Ennugarret must be used, consideration should be given

to expanding the area of control to encompass the entire island. If Legan is selected for EOD activities, then the sensor and telemetry facilities must be separated from the EOD pit.

Substantial increases in mission activities would occur under the High Level-of-Activity Alternative at Omelek, Gellinam, Eniwetak, and Legan, which would result in significant impacts. Saturating these islands with mission activities could cause a significant impact on the future uses of the land, especially given the scarcity of land surface available. Comprehensive evaluation of the optimal development of Illeginni, Ennugarret, Omelek, Gellinam, and Eniwetak should be accomplished as a mitigation under these alternatives.

**Transportation and Utilities.** The wastewater treatment plant at Kwajalein could exceed effluent limits because of increased loads under the Intermediate and High Level-of-Activity alternatives. These impacts could be avoided by adding an additional clarifier and/or an additional blend tank, using facilities aboard ships, or constructing a package wastewater treatment plant. At the High Level-of-Activity Alternative, USAKA should add a blend tank as an aeration basin to increase plant capacity to 1.0 million gallons (3.8 million liters) per day.

Currently, municipal solid waste is open-burned and/or open-dumped at Roi-Namur and Meck. None of these practices meet existing standards for management of solid waste. The practices will cease when the proposed solid waste incinerators are installed under the Low Level-of-Activity Alternative. Incinerators were installed on Kwajalein in October 1993.

Under the Intermediate and High Level-of-Activity alternatives, the management of construction and operations solid waste could become a problem because storing the excess wastes in these categories will occupy limited solid waste landfill space on Kwajalein. Mitigations for the impacts from construction and operations waste include continued waste minimization efforts, and finding alternative uses for scrap metal and used tires. USAKA could ship its solid waste to the mainland United States as a costly alternative.

If the proposed Standards are adopted, the current management of hazardous materials under the level-of-activity alternatives would be assessed as a significant negative impact because the existing hazardous material storage facilities would not meet the more stringent facility and other management controls that would be applied under the proposed Standards.

The current volumes of hazardous waste generated would increase substantially under the Intermediate and High Level-of-Activity Alternatives, but impacts are not predicted to be significant.

**Aesthetics.** Construction of family housing at Kwajalein under the Low Level-of-Activity Alternative would block the view of the ocean from residential areas to the

west. USAKA should consider orienting the houses so a partial view is retained or adding landscaping to provide a new visual amenity. Extensive construction in forested areas at Ennugarret under the Intermediate Level-of-Activity Alternative would degrade the natural environment now enjoyed by Marshallese. The only mitigation for this action would be to site the facilities elsewhere.

**Range Safety and Electromagnetic Radiation.** Use of Ennugarret for EOD activities under the Low Level-of-Activity Alternative has the potential to affect human safety because USAKA controls only 6 of the 24 acres on the island. If the site of EOD activities cannot be changed, USAKA should obtain sufficient control over the island to preclude risk to Marshallese who may be visiting. There are no unmitigable impacts from electromagnetic radiation (EMR) predicted under any of the alternatives.

## Proposed USAKA Standards–Summary of Environmental Impacts and Mitigation

Figure ES-2 summarizes the potential impacts associated with adopting the proposed Standards compared to the No-Action Alternative of retaining existing statutes and regulations for protection of human health and safety and the environment at USAKA. Discussion of these impacts and associated USAKA Environmental Standards and Procedures are described below by resource area.

**Procedures.** A single set of procedures applies to all sections of the Standards. The procedures establish a single mechanism (the Document of Environmental Protection) to replace the multitude of different permit processes under existing statutes and regulations. The procedures provide a framework for participation by appropriate U.S. agencies and the RMI Environmental Protection Authority (RMIEPA) in review of proposed USAKA activities that have the potential for significant effects on the environment. The procedures also provide oversight and conflict resolution processes involving the appropriate U.S. agencies and the RMIEPA.

**Air Quality.** The proposed Standards do not automatically require technology controls for emissions; instead, they limit increased emissions to the lower of 80 percent of the ambient air quality standard of a pollutant or 25 percent of the standard added to baseline conditions. By setting a lower limit on allowable concentrations of air pollutants than would be the case under existing statutes and regulations, the proposed Standards would provide a higher level of air quality protection in the long term.

**Water Quality.** Overall, the proposed Standards provide a higher level of protection of water quality because they incorporate the more stringent requirements of U.S. Trust Territory of the Pacific Islands and RMI regulations.

**Endangered Species and Wildlife Resources.** The proposed Standards are more protective of wildlife resources because more species are reviewed for potential

| ENVIRONMENTAL RESOURCE | STANDARDS ALTERNATIVES | |
|---|---|---|
| | NO ACTION: EXISTING STATUTES AND REGULATIONS | PROPOSED ACTION: USAKA ENVIRONMENTAL STANDARDS AND PROCEDURES |
| Land and Reef [1] | | |
| Water Resources | No Impact | • Overall more protection |
| Air Quality | No Impact | • Short-term increase in pollutants possible<br>• Long-term better protection because incremental increase is limited |
| Noise [1] | | |
| Island Plants and Animals | No Impact | • More species are protected |
| Marine Biological Resources | No Impact | • More species are protected |
| Rare, Threatened and Endangered Species | No Impact | • DEP process establishes framework of consultation and coordination<br>• Candidate species are protected |
| Cultural Resources | No Impact | • Similar |
| Land Use [1] | | |
| Socioeconomic [1] | | |
| Transportation [1] | | |
| Water Supply | No Impact | • Overall more protection |
| Wastewater | No Impact | • Similar |
| Solid Waste | No Impact | • Overall more protection |
| Hazardous Materials | No Impact | • Overall more protection |
| Hazardous Waste | No Impact | • Overall more protection |
| Energy and Fuels [1] | | |
| Aesthetics [1] | | |
| Range Safety [1] | | |
| Electromagnetic Radiation [1] | | |

[1] No USAKA Environmental Standard specifically addresses these resources; associated impacts are addressed by other sections of USAKA standards.

**U.S. ARMY KWAJALEIN ATOLL**
SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT

**Comparison of Alternatives – USAKA Environmental Standards And Procedures**

FIGURE ES-2

impacts and RMI species are included. In addition to listed species, candidate species under the Endangered Species Act are afforded full protection under the Standards. The Standards provide for coordination with appropriate U.S. agencies and the RMIEPA for a number of other valuable species and habitats.

**Cultural Resources.** The cultural resources provisions of the proposed Standards are similar to existing requirements, and differences between the two sets of standards are all procedural.

**Drinking Water Quality.** The drinking water requirements contained in the proposed Standards provide better protection than those under existing standards because the type and frequency of monitoring is based on a population of 10,000 (as opposed to USAKA's population of approximately 3,000, which would require less frequent monitoring under existing U.S. statutes and regulations). In addition, requirements for protection of the lens well system are enhanced under the Materials and Waste Management chapter of the proposed Standards.

**Ocean Dumping.** The proposed Standards regulate ocean dumping in a manner similar to existing statutes and regulations.

**Materials and Waste Management.** Overall, the proposed Standards provide a higher level of protectiveness than existing statutes and regulations because more materials are managed and better protection of soil and water can be expected from the proposed Standards.