

## ***EG4 CUMULATIVE EFFECTS, IRREVERSIBLE, AND IRRETRIEVABLE COMMITMENT OF RESOURCES***

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### ***Cumulative Effects***

CEQ regulations stipulate that the cumulative effects analysis within an EIS should consider the potential environmental impacts resulting from “the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions” (40 CFR 1508.7). Recent CEQ guidance in *Considering Cumulative Effects* affirms this requirement, stating that the first steps in assessing cumulative effects involve defining the scope of the other actions and their interrelationship with the proposed action. The scope must consider other projects that coincide with the location and timetable of this alternative. It must also evaluate the nature of interactions among these actions.

In this section, an effort has been made to identify past and present actions associated with Eglin AFB, plus those that are in the planning phase at this time. Only those foreseeable actions with the potential to interact with the Eglin AFB alternative are addressed in this cumulative analysis. Although the level of available detail regarding such proposals varies, this approach provides the decisionmakers with the most current information to evaluate the environmental consequences of the proposal to beddown the F-22 aircraft at Eglin AFB and conduct training operations in associated airspace.

As an active military installation, Eglin AFB undergoes changes in mission and training requirements in response to defense policies, current threats, and tactical and technological advances. Like any other major institution (e.g., university, industrial complex), Eglin AFB requires new construction, facility improvements, infrastructure upgrades, and maintenance and repairs on an ongoing basis. These actions would continue during and after the F-22 beddown. All of these would receive appropriate environmental analysis.

### ***Past and Present Actions Relevant to the Eglin AFB Alternative***

Eglin AFB is a large, complex military installation with test ranges and numerous tenant organizations including the 33<sup>rd</sup> FW and the 53<sup>rd</sup> Wing. Past actions relevant to assessment of the proposed F-22 beddown start in 1992.

In 1992, the number of F-15C aircraft at Eglin AFB was reduced by one squadron (from three 18 aircraft squadrons to two 24 aircraft squadrons) from 54 to 48 aircraft. The reduction of 6 aircraft resulted in a drop of approximately 270 flights per month and a reduction of 201 personnel. The airspace affected by this action primarily included the offshore Warning Areas W-151 and W-470 and the Rosehill and Tyndall MOAs. Reduction in aircraft also translated into reductions in sortie-operations in these airspace units.

During this timeframe, aircraft from the 33<sup>rd</sup> FW at Eglin AFB were deployed to meet overseas contingencies on a temporary but consistent basis. Corresponding reductions in airfield operations and sortie-operations in training airspace ensued. The AEF concept provides a schedule of deployments that applies to baseline conditions and will apply to the proposed F-22 beddown.

Eglin AFB shares use of much of its airspace with Tyndall AFB, located roughly 50 miles to the east. In 2000, the Air Force decided to base two squadrons (60 aircraft) of F-22s for advanced fighter pilot training at Tyndall AFB. These two squadrons are intended to replace two squadrons of F-15Cs. One existing F-15C squadron was retained at the base for F-15C pilot training. These training aircraft perform sortie-operations in many of the same Warning Areas and MOAs as proposed for use by the Initial F-22 Operational Wing (Air Force 2000). Sortie-operations by these training aircraft form part of baseline operations against which the Air Force evaluated the proposed Initial F-22 Operational Wing beddown.

The Air Force recently completed an evaluation of the environmental consequences of expanding the boundaries of Warning Area W-470. The expansion encompassed the existing NOVA 1 and NOVA 2 areas to the east. Both NOVA areas consist of ATCAAs with floors starting at 18,000 feet MSL. This expansion provides additional airspace for effective testing and training operations and no significant environmental consequences were identified (Air Force 1999d).

### ***Incremental Impacts of the Eglin AFB Alternative with Reasonably Foreseeable Actions***

The United States Navy is introducing the new F/A-18E/F fighter aircraft to the Atlantic Fleet. The Navy has started an EIS to evaluate various alternatives for siting the aircraft. Four bases are currently being considered as possible home bases for the new aircraft: Naval Air Station (NAS), Meridian, Mississippi; Marine Corps Air Station (MCAS) Beaufort, South Carolina; MCAS Cherry Point, North Carolina; and NAS Oceana, Virginia. The Navy is planning to transition in 60 F/A-18E, 70 F/A-18F, and 34 F/A-18E/F FRS for a total of 164 aircraft over a 6-year period starting in 2004. Total personnel associated with the aircraft are 523 officers and 2,808 enlisted. These aircraft would replace older F/A-18 and F-14 aircraft. NAS, Meridian, would be the closest site to the Eglin AFB. The process to evaluate this set of actions has just begun, so details of the alternatives and how they may interact with the basing of F-22s at Eglin AFB remain unknown.

Plans are underway to relocate the existing Panama City-Bay County International Airport to a new location near the town of Ebro (east of Eglin AFB). A site north of Bay County Highway 388 and east of State Highway 79 has been selected. Construction costs are estimated to be \$227 million.

The Air Force is evaluating the beddown of the CV-22 Osprey at Hurlburt Field, Florida. Hurlburt Field lies west of the Eglin AFB main complex. The CV-22 replaces MH-53 and MH-60 helicopters that are currently or were previously based at Hurlburt Field. The CV-22 would begin operations in FY 2004 with all 28 aircraft in place by 2013. There would be no increase in personnel, and aircraft would operate in the airspace currently used by the MH-53s and previously by the MH-60s. Generally, fighter aircraft and helicopters do not fly at the same altitudes or in the same airspace. It is estimated that the CV-22 aircraft would fly approximately 1,250 flights per year over the Eglin AFB ranges as was the case with the MH-53 and MH-60 helicopters.

The Air Force, in conjunction with the Federal Aviation Administration (FAA), is proposing to develop two commercial jet routes and expand the special use airspace over the Gulf of Mexico. To enhance civilian aviation efficiency, the FAA proposes two new routes, which better distribute the current and growing amount of commercial traffic that is currently handled by a single route (J-58/56). The Air Force proposes expanding the ATCAAs over W-155, W-151, W-470 and W-453

to the south by 5 to 12 miles and reducing the northern and eastern boundaries of W-168 to accommodate commercial traffic headed to Miami, Florida. An adjustment would be made to the southern and western boundaries of W-168 to compensate for the noted reductions.

### *Analysis of Cumulative Effects*

The following analysis examines how the impacts of these other actions might be affected by those resulting from the F-22 beddown at Eglin AFB, and whether such a relationship would result in potentially significant impacts not identified when this basing alternative is considered alone.

As analyzed in previous environmental assessments, implementation of force structure change at Eglin AFB and the airspace realignment of W-470 did not result in any significant environmental consequences (Air Force 1992, 1999d). Past implementation of these actions, as well as the conversion of advanced fighter pilot training F-15Cs to F-22s at Tyndall AFB, are reflected in baseline and no-action alternative. For example, the sortie-operations resulting from the F-15C to F-22 conversion in the airspace proposed for use by the Initial F-22 Operational Wing are captured and analyzed under the affected environment, then integrated into the proposed F-22 beddown. This approach applied to all relevant resource categories, so analysis of impacts presented in section EG3 also includes the cumulative effects of these past and present actions.

The planning and development of a new airport for Panama City-Bay County is being conducted in close coordination with the FAA and the airspace managers from Eglin and Tyndall AFBs. No current air traffic control conflicts exist between the existing airport and Eglin AFB; coordination with the FAA would ensure none result from relocating the airport.

The tentative construction schedule for the new airport indicates that it would start in 2004 and continue through 2007. If this schedule is sequential to F-22 facilities construction, more construction workers and service-related employees are likely to permanently relocate. This could increase long-term demand of housing and services.

With a decision regarding basing the Navy's F/A-18E/F aircraft more than two years away, precise evaluation of this action's impacts or their cumulative effects is not achievable. If the Navy decides to base them at NAS, Meridian, interaction with the proposed F-22 beddown would occur in the training airspace. Navy sortie-operations in these Warning Areas could increase in direct correlation to the increase in aircraft. Not much overall change to conditions would likely occur, particularly with regard to noise. Assuming similar operational patterns as the F/A-18s, the additional F/A-18E/F sortie-operations would probably yield an increase in noise of 1 dB or less. Even combined with the proposed F-22 activity, noise levels in these Warning Areas would likely remain near or below 45 DNL.

If the Navy decides to base the F/A-18E/Fs at one of the other three alternative locations, sortie-operations in the shared Warning Areas could decrease. Cumulative noise levels and other related effects could, in response, be reduced.

With the decision to beddown the CV-22 three years away, it would be premature to anticipate any impacts to the implementation of this alternative. Based on the current airspace use of the MH-53 helicopters from Hurlburt Field and the planned sorties of the F-22, it appears that both systems will be able to complete their training without affecting the other's mission.

The expansion of Warning Areas over the Gulf of Mexico and the other airspace adjustments would provide additional training space to accommodate additional training sorties and long-range weapons systems setups. While no environmental analysis of this proposal has been completed, it is anticipated that environmental conditions in the expanded airspace would be similar to those currently experienced in the offshore Warning Areas. With the implementation of the Initial F-22 Operational Wing at this alternative location, conditions in the expanded airspace would be very similar to those forecast for the existing Warning Areas under this alternative, though they would occur over a larger area.

### *Irreversible and Irretrievable Commitment of Resources*

Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects that the uses of these resources have on future generations. Irreversible effects primarily result from the use or destruction of a specific resource (e.g., energy and minerals) that cannot be replaced within a reasonable time frame. Irretrievable resource commitments involve the loss in value of an affected resource that cannot be restored as a result of the action.

For this alternative, most resource commitments are neither irreversible nor irretrievable. Most impacts are short-term and temporary, such as air emissions from construction or longer lasting, but negligible (e.g., noise increases). Those limited resources that may involve a possible irreversible or irretrievable commitment are discussed below.

If Eglin AFB was the chosen alternative, construction and renovation of base facilities would disturb about 10 acres. It would also require the consumption of limited amounts of material typically associated with interior renovations (wiring, insulation, windows, drywall) and exterior construction (concrete, steel, sand, brick). An undetermined amount of energy to conduct renovation, construction, and operation of these facilities would be expended and irreversibly lost.

Training operations would continue and involve consumption of nonrenewable resources, such as gasoline used in vehicles, and jet fuel used in aircraft. Use of training ordnance would involve commitment of chaff and flares. None of these activities would be expected to significantly decrease the availability of minerals or petroleum resources. Personal vehicle use by the personnel continuing to support the existing missions would consume fuel, oil, and lubricants. The amount of these materials used would increase slightly; however, their use is not expected to significantly decrease the availability of the resources.