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PURPOSE AND NEED

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1.1 INTRODUCTION

The National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality regulations implementing NEPA, Department of Defense (DoD) Instruction 4715.9, and the applicable service environmental regulations that implement these laws and regulations direct DoD officials to consider environmental consequences when authorizing and approving Federal actions. Accordingly, this environmental assessment (EA) examines the potential for impacts to the environment as a result of proposed Ground-Based Midcourse Defense (GMD) Validation of Operational Concept (VOC) activities.

1.2 BACKGROUND

Within the DoD, the Missile Defense Agency (MDA) (formerly the Ballistic Missile Defense Organization) is responsible for developing and testing the Ballistic Missile Defense System. There are three segments of this system currently under development: Boost Phase Defense, Midcourse Defense, and Terminal Defense. An element of the Midcourse Defense Segment is the GMD, formerly known as the National Missile Defense (NMD). The GMD Joint Program Office, within MDA, is responsible for the GMD, which is designed to intercept long-range ballistic missiles during the midcourse (ballistic) phase of their flight, before their reentry into the earth's atmosphere. The MDA completed the NMD Deployment Environmental Impact Statement (EIS) in July 2000 to support a future deployment decision.

The deployment concept analyzed in the NMD Deployment EIS was a fixed, land-based, non-nuclear missile defense system with a land- and space-based detection system capable of responding to limited strategic ballistic missile threats to the United States. The proposed deployed system would consist of five components: Battle Management, Command, Control, and Communications (BMC3), which includes the Battle Management, Command and Control (BMC2) Node, the GMD communication network (GCN), and the In-Flight Interceptor Communication System Data Terminal (IDT) as sub-components; Ground-Based Interceptor (GBI); X-Band Radar (XBR); Upgraded Early Warning Radar (UEWR); and a space-based detection system. Depending on the capability available if or when a deployment decision is made, the space-based detection capability would be the existing Defense Support Program early-warning satellites and/or Space-Based Infrared System satellites, currently being developed by MDA.

The NMD Deployment EIS analyzed several deployment location alternatives for the GBI, BMC3, and XBR. The primary location for the majority of the deployment elements and support facilities that maximized NMD performance was Alaska. North Dakota was also considered as a potential deployment location. The IDTs and communication network were not specifically analyzed in the NMD Deployment EIS because of undefined operational

requirements and specific locations. However, the NMD Deployment EIS included a general programmatic description of the types of impacts that could be expected from deploying these elements. The IDT regions studied included Alaska and North Dakota. The NMD Deployment EIS indicated that once the specific locations and requirements of the IDTs and communication network were identified, supplemental site-specific analysis would be performed based on the initial programmatic analysis in the EIS.

Following reviews directed by the Bush Administration, the MDA re-focused the GMD from near-term deployment to an effort that would provide operationally realistic testing. Fort Greely is a potential location in Alaska for GBI silos, BMC3 facilities, and other supporting facilities if there were a decision to deploy GMD, and thus Fort Greely is a suitable test location to validate the GMD operational concept. The DoD determined that it was prudent planning to proceed with site preparation activities at Fort Greely to preserve the near-term option to develop a GMD VOC test site. The MDA issued a Record of Decision based on analysis in the NMD Deployment EIS to conduct initial site preparation activities for the Fort Greely portion of a GMD test site.

The initial test site preparation activities in the Record of Decision included site layout, clearing of vegetation, initial earthwork related to site and road grading, and preparation for facility construction activities at Fort Greely involving disturbance to approximately 54 hectares (134 acres). Specific actions included installing and developing two water wells and site preparation work for test bed buildings, the main access road up to the Alaska Oil Pipeline crossing, and a single missile field. This decision did not include construction and operation of a GMD VOC test site at Fort Greely. These initial site preparation activities were considered not to be of sufficient magnitude to limit any later selection of the alternatives analyzed in the NMD Deployment EIS.

The facilities and operations to validate the GMD operational concept and the facilities and operations to improve the realism of GMD interceptor testing are each a part of the Ballistic Missile Defense System Test Bed. Each part of the test bed, however, serves a different test function and has independent utility, purpose, and need. The independent parts of the test bed also have different implementation schedules. Consequently, the independent parts of the test bed are being evaluated in separate NEPA analyses. The GMD testing would be of two types. The first, validation of the operational concept analyzed in this EA, is designed to validate potential activities associated with the GMD operational concept by testing the interoperability of the GMD components in a realistic environment. Activities that will assist in the validation of the GMD operational concept include construction techniques, operational procedures, installation, checkout, assembly, and maintenance. These activities would produce significantly enhanced realistic BMC3 tests conducted from existing facilities. They would also provide vital validation of the operational concept through distributed integrated ground tests using GMD components located in operationally representative locations and environments even if the more robust integrated flight testing along more realistic and multiple trajectories never occur.

The second type of GMD testing, not analyzed in this EA, would involve increasingly robust interceptor flight tests in as realistic a mode as possible. The more robust interceptor testing will be analyzed in a GMD Extended Test Range EIS that is in the initial

stages of preparation. Because the GMD Extended Test Range EIS scope and alternatives are still being refined, these proposed flight tests may include the following, among other possible tests, as a second independent part of the Ballistic Missile Defense System Test Bed:

- Interceptor and target launches from Kodiak, Alaska
- Existing ship-borne sensors
- Interceptor launches from the Ronald Reagan Ballistic Missile Defense Test Site at Kwajalein Atoll, Republic of the Marshall Islands
- Mobile target launches over the Pacific Ocean
- Interceptor and target launches from Vandenberg Air Force Base (AFB), California
- Land-based radars in southern Alaska
- IDT and commercial satellite communications facilities in the mid-Pacific, and at Kodiak Launch Complex or Vandenberg AFB

The extension of the test range would improve the realism of the GMD interception testing by allowing test and evaluation of GMD element components in a geographically dispersed operational environment and testing of multiple engagements from a variety of trajectories and distances at increased speeds. This would reduce the artificialities in the present GMD test process. The extended test range would meaningfully contribute to the development of an effective GMD, even if the initial validation of the GMD operational concept phase of the test bed were never constructed.

In addition, MDA may determine that more robust, operationally realistic GMD testing requires a test XBR located somewhere in the Pacific. A new test XBR could allow the discontinuation of the use of a C-band transmitter beacon on targets tracked by the C-band radar located at Kaena Point, Oahu, Hawaii. The use of the C-band has been identified as one of the artificialities of the present GMD testing program. MDA is still determining what requirements a test XBR should be required to perform, whether it should be located on land or on a mobile sea based platform, and the priority of funding a test XBR. Because of these uncertainties, and the preliminary stages of analysis, a test XBR is not yet ready for NEPA analysis. If MDA determines a new test XBR in the Pacific is a test priority and determines a preferred alternative for a test XBR, it will perform a separate NEPA analysis. The more robust operationally representative integrated flight testing to be performed and evaluated in the GMD Extended Test Range EIS has independent utility and will meaningfully contribute to MDA testing, even if a test XBR is never constructed. Conversely, a test XBR would have independent utility and would meaningfully contribute to the operational realism of MDA testing, even if the GMD test range were not expanded for increased interceptor and target launches.

Independent, installation specific NEPA analysis is also planned for potential silo refurbishment on Meck Island in the mid Pacific and Vandenberg AFB, California. This

planned work would support the present GMD testing program, and would be of significant utility, even if the GMD test range were not expanded for increased interceptor and target launches. The silo refurbishment analyses will be incorporated into the GMD Extended Test Range EIS as part of the cumulative impacts discussion because the proposed actions are at or near the same geographic locations.

The Preferred Alternative analyzed in this GMD VOC EA includes construction and operation of six GBI silos and supporting facilities at Fort Greely, Alaska; IDTs and Defense Satellite Communication System (DSCS) earth terminals at Fort Greely and Eareckson Air Station (AS), Alaska; and a Missile Transfer Facility at Eielson AFB, Alaska. The Preferred Alternative also includes use of the existing COBRA DANE Radar, with upgraded hardware and software, at Eareckson AS; the Early Warning Radar (EWR) to be upgraded at Beale AFB, California; and communications among all facilities analyzed. Clear Air Force Station (AFS), Alaska, is being considered as an alternative location to Fort Greely for GBI silos, associated BMC3, and support facilities. Several locations are being considered for BMC2 Nodes. These locations include Peterson AFB, Shriever AFB, and Cheyenne Mountain Complex, Colorado, the Boeing Facilities in California and Alabama, Beale AFB, and Eareckson AS. A BMC2 Node would also be located at the selected GBI VOC test site.

Although MDA is considering conducting one or two checkout flights at a GBI test site at some future time, this possibility is still at a rudimentary stage of consideration and too speculative to be meaningfully analyzed at this time. The checkout flights would validate the proper operation of the silo configuration and the command, control, and communication network of the GMD. The U.S. Government does not customarily conduct missile tests over populated areas, due to the safety risks to the public. For example, the United States did not conduct checkout flights of the Minuteman missiles deployed in North Dakota and the Midwest during the 1960s. If potential trajectory analysis, population surveys, and possible acquisition of easements determine that a missile checkout from the GBI VOC test site would be safe, reasonable, and of value to the Ballistic Missile Defense System, then an analysis would be conducted pursuant to NEPA. MDA is still in the preliminary stages of considering the feasibility and value of a checkout flight from the GBI VOC test site. The GBI VOC test site and supporting structures would meaningfully contribute to the operational realism of GMD testing, even if no checkout flights were ever conducted.

1.3 PURPOSE AND NEED

The proliferation of weapons of mass destruction and technology of long-range missiles is increasing the threat to our national security. The purpose of the GMD is to defend all 50 states of the United States against limited ballistic missile attack. The Bush Administration has not yet made a decision to deploy the GMD. However, the Secretary of Defense has identified the need to gain a higher level of confidence in GMD's capabilities through tests under realistic operational conditions. Validating the operational concept through ground testing at locations at which the GMD could reasonably be expected to be deployed, if such a limited defense were deployed, is a vital part of this realistic testing.

The purpose of this EA is to evaluate the potential environmental impacts of activities designed to validate the operational concept of a GMD that could effectively protect all 50 states from a limited ballistic missile attack. This EA analyzes potential GBI VOC test sites in Alaska that were identified as reasonable alternatives for maximizing NMD performance in the NMD Deployment EIS and which remain reasonable GMD alternatives. Testing the GMD in one of the preferred deployment locations would provide the decisionmaker with realistic information on which to assess a future deployment decision.

1.4 DECISION(S) TO BE MADE

The decision to be made is whether to construct and operate the GMD test facilities, infrastructure, and communication links that would enable MDA to validate the GMD operational concept. This analysis could also support U.S. Army and U.S. Air Force decisions concerning implementation of the Proposed Action.

1.5 SCOPE OF THE ENVIRONMENTAL ASSESSMENT

This analysis is tiered from the *Ballistic Missile Defense Final Programmatic Environmental Impact Statement* (Ballistic Missile Defense Organization, 1994), which evaluated NMD, now GMD, programmatic activities, such as research and development, testing, production, and the general operational concept. A Finding of No Significant Impact will be prepared and attached to the Final GMD VOC EA, or a Notice of Intent to produce an EIS will be published.

Many of the locations for the infrastructure and facilities proposed for use as a test bed to validate the GMD operational concept were analyzed in the NMD Deployment EIS and are, in general, smaller scale, or closely related versions of actions at locations identified in the EIS. Validation of the GMD operational concept through operationally realistic testing of selected components is integral to accomplishing future deployment of the GMD. This EA will incorporate by reference much of the analysis in the NMD Deployment EIS. Those activities not addressed in the EIS, or that are significantly different than those analyzed in the EIS, will be analyzed in detail in this EA. The EA analyzes the potential environmental impacts of construction and operation activities associated with validation of the GMD operational concept.

The NMD Deployment EIS analyzed Fort Greely, Clear AFS, and the Yukon Training area as reasonable alternatives for a deployed GBI in Alaska. According to the NMD Deployment EIS, the Yukon training area is incompatible with the NMD, now GMD, action due to mission conflicts. Consequently, only Fort Greely and Clear AFS remain reasonable alternatives for a deployed GMD that could effectively defend all 50 states from a limited ballistic missile attack.

Proposed BMC2 activities at Peterson AFB, Shriever AFB, and Cheyenne Mountain Complex, Colorado, the Boeing Facilities in California and Alabama, Beale AFB, and Eareckson AS would consist of placing computer and communication equipment within an existing room, which may require minor interior modifications; therefore, no affected environment is presented. Appropriate health and safety and hazardous materials and waste management regulations would be followed during any modifications; therefore, no impacts are anticipated. The locations are listed below for completeness, but are not addressed further. The Execution Level BMC2 Node at Fort Greely or Clear AFS would be installed in a new Readiness and Control Station discussed under the GBI test site construction.

Construction of test facilities would begin in Spring 2002, and operations would begin no earlier than Spring 2004. The GMD test activities and proposed locations are summarized below.

1.5.1 PREFERRED GBI SITE, FORT GREELY, ALASKA

- Construction and operation of six GBI silos and facilities required to support test activities, including a Missile Assembly Building (MAB); repair and interior modification of existing facilities to house Government and Prime Contractor personnel or an administrative mancamp; and construction mancamp off site.
- Construction and operation of one IDT to support test activities
- Construction and operation of GCN facilities required to support test activities including one DSCS earth terminal
- Installation and operation of an Execution Level BMC2 Node (including an ability to support conduct of integrated flight tests as is currently accomplished from the Reagan Test Site at Kwajalein Atoll)
- Installation of terrestrial Fiber Optic Cable (FOC)
- Upgrade of electricity distribution
- Extension of the solid waste landfill
- Establishment of a construction debris landfill and landfill access road
- Repairs to the Allen Army Airfield runway

Eareckson AS, Shemya, Alaska

- Construction and operation of one IDT required to support test activities
- Construction and operation of GCN facilities required to support test activities including two co-located DSCS earth terminals
- Upgrades to software and hardware of the existing COBRA DANE Radar and modifications to the interior of the facility to accommodate the hardware
- Installation of terrestrial FOC
- Refurbishment of existing power plant including addition of one 9.5-million-liter (2.5-million-gallon) previously designed fuel tank

- Establishment of mancamps if interior modifications to existing facilities are not adequate to house the number of personnel involved in the project
- Repair and interior modification of existing facilities for support of construction and operation
- Facility modifications to Building 600 and operation of Element Site Communication BMC2 Node workstations

Beale AFB, California

- Upgraded hardware and associated software changes analyzed in Appendix H of the NMD Deployment EIS
- Interior facility modifications to the existing EWR to accommodate the hardware changes analyzed in Appendix H of the NMD Deployment EIS
- Interior modifications to existing facility for installation and operation of Element Site Communication BMC2 Node workstations

Eielson AFB, Alaska

- Construction and operation of a GBI Missile Transfer Facility
- Road modifications such as resurfacing and construction of an emergency pull-off ramp

Peterson AFB, Colorado

- Interior modifications to existing facility for installation and operation of Command Level BMC2 Node workstations

Shriever AFB, Colorado

- Interior modifications to existing facility for installation and operation of Command Level BMC2 Node workstations

Cheyenne Mountain Complex, Colorado

- Interior modifications to existing facility for installation and operation of Command Level BMC2 Node workstations

Boeing Facility, Anaheim, California

- Interior modifications to existing facility for installation and operation of Element Site Communication BMC2 Node workstations

Boeing Facility, Huntsville, Alabama

- Interior modifications to existing facility for installation and operation of Element Site Communication BMC2 Node workstations

1.5.2 ALTERNATIVE GBI SITE, CLEAR AFS, ALASKA

- Construction and operation of six GBI silos and facilities required to support test activities, including mancamps and temporary use of existing facilities to house construction workers and operators of the test facilities
- Construction and operation of one IDT and facilities to support test activities
- Construction and operation of GCN facilities required to support test activities to include one DSCS earth terminal
- Installation and operation of an Execution Level BMC2 Node
- Installation of terrestrial FOC

Facilities at other sites would be the same as for the Preferred Alternative.

1.6 RELATED DOCUMENTATION

Ballistic Missile Defense Organization, 1994. *Ballistic Missile Defense Final Programmatic Environmental Impact Statement*.

Department of Defense, 1999. *Integration, Assembly, Test, and Checkout of National Missile Defense Components at Redstone Arsenal, Alabama Environmental Assessment*, February.

Department of Defense, 2000. *National Missile Defense Exoatmospheric Kill Vehicle Final Assembly and Checkout Operations at Redstone Arsenal, Alabama Environmental Assessment*, March.

Department of Defense, 2000. *National Missile Defense Deployment Environmental Impact Statement*, July.

Contact the U.S. Army Space and Missile Defense Command, SMDC-EN-V, PO Box 1500, Huntsville, AL 35807-3801 for information on obtaining documents incorporated by reference.