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1.0 Purpose and Need

1.0 PURPOSE AND NEED

1.1 INTRODUCTION

The National Environmental Policy Act (NEPA) of 1969 and 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 impact statement (EIS) examines the potential for impacts to the environment as a result of the potential deployment of a National Missile Defense (NMD) system. Appendix A presents acronyms, abbreviations, and a glossary of terms used in this document.

1.2 PROGRAM OVERVIEW

Within the DOD, the Ballistic Missile Defense Organization is responsible for managing, directing, and executing the Ballistic Missile Defense Program. The Ballistic Missile Defense Program focuses on three areas: Theater Missile Defenses to meet the existing missile threat to deployed U.S. and allied forces, NMD to negate limited strategic ballistic missile attacks against the United States, and advanced Ballistic Missile Defense technologies to improve the performance of theater and NMD systems. The NMD Joint Program Office of the Ballistic Missile Defense Organization is responsible for developing and deploying the NMD system.

The NMD program was originally a technology development effort. In 1996, at the direction of the Secretary of Defense, NMD was designated a Major Defense Acquisition Program and transitioned to an acquisition effort. Concurrently, the Ballistic Missile Defense Organization was tasked with developing a deployable system. In the year 2000, there will be a DOD Deployment Readiness Review to review the technical readiness of NMD elements. Thereafter, the United States Government will determine whether the threat, developed capability, and other pertinent factors justify deploying an operational NMD system. Should the deployment option not be exercised in the year 2000, improvements in NMD system element technology would continue.

The NMD system would be 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 NMD system would consist of five elements: Battle Management, Command, Control, and Communications (BMC3), which includes the Battle Management, Command and Control (BMC2), the

communication lines, and the In-Flight Interceptor Communications System (IFICS) Data Terminal as subelements; 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 satellite detection capability would either be the existing Defense Support Program early-warning satellites and/or Space-Based Infrared System (SBIRS) satellites currently being developed by the Air Force. The NMD elements considered for deployment are those land-based systems that include the GBI, BMC2, IFICS Data Terminal, XBR, and the fiber optic cable required to link some of the NMD elements.

1.3 PURPOSE AND NEED FOR THE PROPOSED ACTION

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 NMD program is defense of the United States against a threat of a limited strategic ballistic missile attack.

1.4 DECISIONS TO BE MADE

The decision to be made is whether to deploy an NMD system. A decision to deploy an NMD system would include the selection of deployment sites from among the alternatives considered in this EIS (see section 2.0). This decision will be based on the analysis of the ballistic missile threat to the United States, technical maturity of the NMD system for deployment, operational effectiveness, affordability, strategic arms reduction objectives, and other factors, including potential environmental impacts of deploying and operating the NMD system from the potential locations analyzed in this EIS. The EIS will provide the U.S. Government with the information necessary to properly account for the environmental impacts. At this time, a decision to commit to a program leading to deployment is not anticipated before mid-2000 at the earliest. Figure 1.4-1 summarizes the decision that would be involved in deploying the NMD system.

1.5 COOPERATING AGENCIES

1.5.1 FEDERAL AGENCIES

In accordance with 40 Code of Federal Regulations (CFR) 1501.6, an invitation for cooperating agency status was extended to the U.S. Department of the Air Force, Navy, Army, and Federal Aviation Administration (FAA) for consultation, review, and comment on the EIS. Each agency accepted its respective invitation. Table 1.5-1 lists the

cooperating agencies that have potential deployment or development responsibilities for the NMD program.

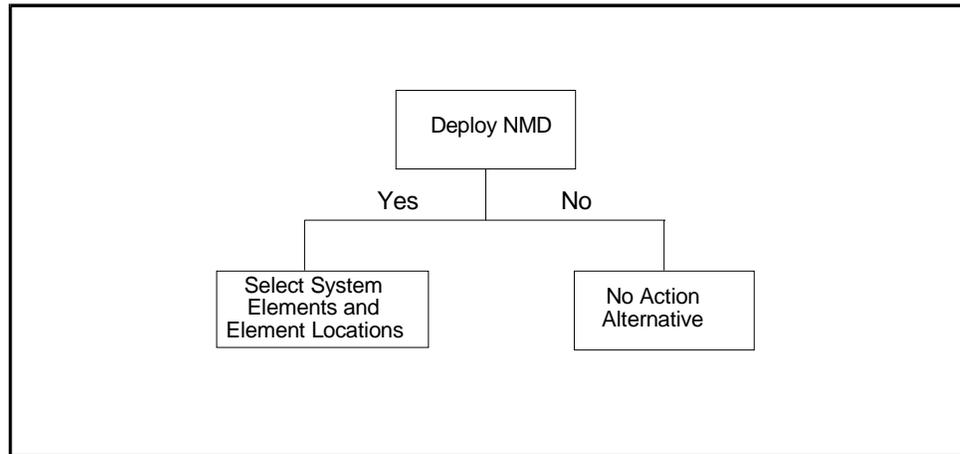


Figure 1.4-1: NMD Deployment Decision

Table 1.5-1: Cooperating Agencies

Cooperating Agency	NMD Element or Site	Purpose
Department of the Air Force	Space-Based Infrared System; X-Band Radars; Battle Management, Command, Control, and Communications	Element Development
	Defense Support Program Satellites; Upgraded Early Warning Radars	Existing Element
	Clear Air Force Station, Alaska	Potential NMD Deployment Site
	Eareckson Air Station, Alaska	Potential NMD Deployment Site
	Eielson Air Force Base, Alaska	Potential NMD Deployment Site
	Cavalier Air Force Station, North Dakota	Potential NMD Deployment Site
	Grand Forks Air Force Base, North Dakota	Potential NMD Deployment Site
Department of the Army	Ground-Based Interceptor; X-Band Radars; Battle Management, Command, Control, and Communications	Element Development
	Fort Greely, Alaska	Potential NMD Deployment Site
	Yukon Training Area, Alaska	Potential NMD Deployment Site
	Stanley R. Mickelsen Safeguard Complex, North Dakota	Potential NMD Deployment Site

1.6 SCOPE OF THIS ENVIRONMENTAL IMPACT STATEMENT

This EIS analyzes the potential impacts of deployment and operation of the land-based NMD system. Under the Proposed Action, potential sites for each NMD element are evaluated as deployment options to be considered by the decisionmaker. For the GBI, BMC2, and XBR elements, the EIS analyzes potential deployment sites in North Dakota and Alaska. The North Dakota sites fall within the deployment area under the 1972 Anti-Ballistic Missile Treaty. The Alaska sites fall within the geographic area that maximizes NMD system performance.

All of the sites analyzed in this EIS meet the siting criteria for the respective NMD elements. However, some sites may be determined to be preferable to others for operational, environmental, and other reasons. The Ballistic Missile Defense Organization has not identified preferred alternatives for siting the individual elements at this time. Mission conflicts have been identified at two sites, Cavalier Air Force Station (AFS) and the Yukon Training Area, making it less likely that either of these sites would be selected. However, if either of these sites is selected, then the mission conflict would be resolved at that time. All of the identified sites are fully analyzed in this EIS to ensure maximum flexibility in the decision process.

This EIS analyzes all of the candidate deployment locations for the proposed GBI, BMC2, XBR, and UEWRs that have been identified. The operational requirements for the IFICS Data Terminal are still being identified. As such, the specific locations where the IFICS Data Terminal could be deployed have not yet been determined. Regions under study include Alaska and North Dakota. In addition, as the operational requirements are refined, other regions may be identified. Since specific sites have not been identified, a general programmatic description of the types of impacts that could be expected from deployment is included within this EIS. Once specific candidate sites are identified, supplemental site-specific environmental analysis, as required, would be performed based on the initial analysis in this EIS. In addition, since not all sites and requirements have been finalized, the exact location of the fiber optic cable line to support the system is not known, but would be required around many of the NMD elements. Since the exact ground alignment of the fiber optic cable line has not been identified, a general programmatic description of the types of impacts that could be expected is provided in this EIS. Once the exact alignment is identified, supplemental site-specific analysis, as required, would be performed based on the initial analysis in this EIS.

Operational (wartime) launches from the GBI site are not evaluated in this EIS. Missiles would not be test launched from the GBI deployment site.

1.6.1 RELATED NMD ACTIONS

This NMD Deployment EIS is tiered from the *Ballistic Missile Defense Final Programmatic EIS* (Department of Defense, 1994). The Ballistic Missile Defense Organization Programmatic EIS examined environmental issues associated with broad research, development, and testing activities of the Ballistic Missile Defense Program, discussed the major highlights, and considered general classes of alternatives for the program. The Ballistic Missile Defense Program included Theater Missile Defense and NMD initiatives under the direction of the Ballistic Missile Defense Organization. The Programmatic EIS did not focus on project or site-specific environmental concerns. This NMD deployment EIS focuses on the site-specific environmental impacts from deployment and operation of an NMD system. Provided below are other actions related to NMD deployment.

Upgraded Early Warning Radars (UEWRs)

As part of the NMD system, there would be a requirement to upgrade the existing early warning radars at Clear AFS, Alaska, Beale Air Force Base (AFB), California, Cape Cod AFS, Massachusetts, and other potential locations to be determined. These early warning radars, also referred to as "PAVE PAWS," are phased-array surveillance radars and are currently used to detect, track, and provide early warning of sea-launched ballistic missiles. They are also used to track satellites and space debris. Hardware and software modifications are planned for these existing radars in conjunction with the NMD system. A detailed description of the proposed changes and potential environmental impacts was prepared as a Supplement to the NMD Deployment Draft EIS. The supplement was circulated for public and agency review. The analysis for the upgraded Early Warning Radar has been incorporated into this Final EIS as Appendix H—UEWR Analysis. The Air Force is in the process of preparing an EIS to address modernization, maintenance, and sustainment of operations of the Early Warning Radars.

One of the requirements of the NMD program is to protect the system from the high altitude electromagnetic pulse that could occur during a nuclear blast and cause components of the system to fail. All new components of the system would be built with high altitude electromagnetic pulse protection; however, some of the existing early warning system is not protected. The exact requirements for upgrading the existing system have not been developed but could include shielding the radar equipment, modernizing power plants and internal electronic components at the existing UEWR sites, and possible upgrading of some fiber optic cable terminals. It is likely that power plant

modernization would include replacing the existing facility with a more efficient, cleaner burning power plant. Once specific details of the modifications are defined, separate site-specific analysis, as required, would be performed.

Space-Based Infrared System (SBIRS) Satellites

SBIRS is currently being developed by the Air Force independently of the NMD program as part of the early warning satellite system upgrade, which would replace the Defense Support Program satellites. Since SBIRS would be deployed independently of an NMD decision, a detailed description and analysis of impacts was evaluated by the Air Force in the *Overview Environmental Assessment for the Space Based Infrared System (SBIRS)* (Department of the Air Force, 1996). It was concluded in the Finding of No Significant Impact that no significant impacts would occur from the SBIRS program. This action is, therefore, not analyzed in detail in this EIS.

NMD Ground-Based Interceptor (GBI) Integration

Initial integration of the GBI is occurring at Redstone Arsenal, Huntsville, Alabama as part of the developmental flight test program. This program involves modification to facilities at Redstone Arsenal and the integration of GBI components before proposed flight test activities at Vandenberg AFB, California, and U.S. Army Kwajalein Atoll, Republic of the Marshall Islands. The modification of facilities and assembly of the GBI at Redstone Arsenal was addressed in the *Environmental Assessment for the Integration, Assembly, Test, and Checkout of National Missile Defense Components at Redstone Arsenal, Alabama* (U.S. Army Space and Missile Defense Command, 1999). This Environmental Assessment (EA), which resulted in a Finding of No Significant Impact, also addressed long-term integration of the GBI for potential deployment of the NMD system and concluded that there would be no significant impacts from these activities at the integration facility on Redstone Arsenal; therefore, long-term integration of the GBI is not analyzed in detail in this EIS.

NMD Ground-Based Interceptor (GBI) Test Program

Developmental flight testing of the GBI is proposed to occur at Vandenberg AFB, California, and at U.S. Army Kwajalein Atoll, Republic of the Marshall Islands, before deployment of the NMD system. Booster verification tests at Vandenberg AFB were addressed in the *Environmental Assessment for Booster Verification Test at Vandenberg AFB, California* (Ballistic Missile Defense Organization, 1999). Booster verification tests and subsequent integration flight tests at Kwajalein Atoll were addressed in the *Record of Environmental Consideration for Infrastructure Modernization and Test Facilities Construction in Support*

of NMD GBI Booster Verification/Integrated Flight Test at Meck Island, U.S. Army Kwajalein Atoll, Republic of the Marshall Islands (U.S. Army Space and Missile Defense Command, 1999). This Record of Environmental Consideration also addressed long-term reliability testing of the GBI. Reliability testing consists of selectively removing an operational GBI from the deployment site and launching it from Kwajalein Atoll to ensure operational effectiveness of the system. Both the EA Finding of No Significant Impact and the Record of Environmental Consideration concluded that there would be no significant impacts from developmental testing at either Vandenberg AFB or Kwajalein Atoll or long-term reliability testing at Kwajalein Atoll; therefore, developmental testing and long-term reliability testing of the GBI are not analyzed in detail in this EIS.

In addition to the testing program discussed above, a launch cell simulator was required to conduct simulations and testing of the various components of the GBI element before flight testing. This launch cell simulator was located adjacent to Boeing's NMD Ground-Based Interceptor Development and Integration Laboratory facility, Huntsville, Alabama. The potential environmental impacts of the construction and operation of this facility were addressed in the *Environmental Assessment for Additional Facilities at the National Missile Defense Ground-Based Interceptor Development and Integration Laboratory, Huntsville, Alabama* (U.S. Army Space and Missile Defense Command, 1999). This EA and associated Finding of No Significant Impact concluded that there would be no significant impacts from these activities.

Dismantlement/Destruction of Stanley R. Mickelsen Safeguard Complex

Dismantlement or Destruction of the existing anti-ballistic missile system at the U.S. Army's Stanley R. Mickelsen Safeguard Complex (SRMSC) in North Dakota may be required in connection with a potential NMD deployment. In addition, the U.S. Army could decide to demolish some or all of these facilities (radars, launchers, and ancillary tactical facilities) in advance of, or for reasons unrelated to, an NMD deployment decision. The U.S. Army is currently preparing an EA in support of these contingencies; therefore, SRMSC Dismantlement or Destruction is not included within this EIS.

Production and Integration of the NMD System

As part of the deployment process, some of the NMD elements such as the GBI would require production and integration before deployment. Because a decision has not been made to deploy the NMD system, the location and requirements of the production and integration facilities have not been finalized. The production and integration facilities would make use of either existing or new buildings on government installations

or commercial property. The types of activities that would occur would be similar to any manufacturing type operation and would comply with Federal, state, and local environmental regulations. Once the requirements and locations of these facilities are finalized, the appropriate environmental documentation would be prepared.

1.6.2 RELATED ENVIRONMENTAL DOCUMENTATION

A number of other EISs and EAs were prepared previously to support the development of specific technologies that may be used as part of the NMD system. The information and analysis from these NEPA documents were used in the development of this EIS and are referenced in the appropriate sections. Chapter 7 provides a list of reference material cited in this EIS.

1.6.3 IMPACT ANALYSIS

Consistent with Council on Environmental Quality regulations, the scope of the analysis presented in this EIS was defined by the range of potential environmental impacts that would result from implementation of either the Proposed Action or the No-action Alternative (not deploying the NMD system). Resources that have a potential for impacts were considered in the EIS analysis so the decisionmakers will have sufficient evidence and analysis for evaluation of the potential effects of the NMD deployment alternatives. For this EIS, the environment is discussed in terms of 15 resource areas (see section 3.0). Each resource area is discussed in detail as required to address the potential for impacts at each location.

1.7 PUBLIC PARTICIPATION

1.7.1 SCOPING PROCESS

The Notice of Intent (appendix B) to prepare an EIS for the deployment of the NMD program was published in the *Federal Register* on November 17, 1998. Notification of public scoping was also made through the local media as well as through letters to Federal, state, and local agencies and officials, and interested groups and individuals.

Seven public scoping meetings were held from December 1–16, 1998. Table 1.7-1 lists the locations, dates, and number of attendees at the meetings.

Table 1.7-1: Scoping Meeting Locations, Dates, and Times

Meeting Location	Date	Times	Public Attendees (sign-ins)
Langdon, North Dakota	12/1/1998	5:00-8:00 p.m.	235
Grand Forks, North Dakota	12/2/1998	5:00-8:00 p.m.	70
Fairbanks, Alaska	12/7/1998	5:00-8:00 p.m.	94
Anderson, Alaska	12/8/1998	5:00-8:00 p.m.	59
Delta Junction, Alaska	12/9/1998	5:00-8:00 p.m.	102
Anchorage, Alaska	12/10/1998	5:00-8:00 p.m.	74
Arlington, Virginia	12/16/1998	3:00-8:00 p.m.	23

1.7.2 SCOPING ISSUES, QUESTIONS, AND CONCERNS

Public issues and concerns regarding the environment collected during the scoping process that helped determine the scope of this EIS involved the following areas:

- Airspace restrictions from XBR operation
- Construction and operation impacts on vegetation, wildlife, threatened and endangered species, wetlands, and fisheries
- Potential safety risks to the public from the transportation and operation of the GBI
- Electromagnetic radiation impacts to wildlife and the public
- Socioeconomic impacts and benefits from NMD deployment
- Construction and operation impacts on local water quality
- Increases in hazardous waste generation
- Increases in restricted public use around NMD deployment sites

1.7.3 DRAFT EIS PUBLIC REVIEW COMMENTS AND RESPONSES

The NMD Deployment Draft EIS public review and comment period began on October 1, 1999 with publication of the Notice of Availability in the *Federal Register*. This initiated a review period during which the public and interested agencies or organizations had the opportunity to review the Draft EIS and submit their comments. Copies of the Draft EIS were made available for review in local libraries in the areas affected and provided to those who requested copies (appendix C). Comments to the Draft EIS were considered in the preparation of the Final EIS. Chapter 9 of this EIS contains a reproduction of all comments and responses to those comments.

In addition to the Draft EIS review process, seven public hearings were held from October 26 through November 9, 1999. Chapter 9 of this EIS contains a reproduction of the transcripts of the public hearings and responses to comments. Table 1.7-2 lists the locations, dates, and number of attendees at the hearings.

Table 1.7-2: Public Hearing Locations, Dates, and Times

Meeting Location	Date	Times	Public Attendees (sign-ins)
Langdon, North Dakota	10/26/1999	6:00-8:00 p.m.	156
Grand Forks, North Dakota	10/27/1999	6:00-8:00 p.m.	39
Fairbanks, Alaska	11/1/1999	6:00-9:00 p.m.	128
Anderson, Alaska	11/2/1999	7:00-9:00 p.m.	61
Delta Junction, Alaska	11/3/1999	6:00-8:00 p.m.	200
Anchorage, Alaska	11/4/1999	6:00-8:00 p.m.	71
Arlington, Virginia	11/9/1999	6:00-8:00 p.m.	24