

# ENVIRONMENTAL IMPACT STATEMENT

FOR THE

SENTINEL (GBSD) DEPLOYMENT

AND MINUTEMAN III

DECOMMISSIONING

AND DISPOSAL



Air Force Global Strike Command  
Barksdale Air Force Base, Louisiana



# SUMMARY OF THE FINAL ENVIRONMENTAL IMPACT STATEMENT FOR THE SENTINEL (GBSD) DEPLOYMENT AND MINUTEMAN III DECOMMISSIONING AND DISPOSAL



March 2023

Air Force Global Strike Command  
Barksdale Air Force Base, Louisiana



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### **Privacy Advisory**

This Environmental Impact Statement (EIS) is provided for public comment in accordance with the National Environmental Policy Act of 1969 (NEPA) (Public Law 90-190), the President's Council on Environmental Quality (CEQ) NEPA regulations (Title 40 of the *Code of Federal Regulations* [CFR] Parts 1500–1508), and the U.S. Air Force (Air Force) Environmental Impact Analysis Process (EIAP) (32 CFR Part 989).

The EIAP encourages inviting public participation in Air Force decision-making, allowing the public to provide input on alternative ways for the Air Force to accomplish its proposal, and soliciting comments on the Air Force's analysis of environmental effects. As certain elements of the Ground Based Strategic Deterrent deployment program need to be protected by security classification, discussion of the Proposed Action and alternatives in this EIS has been tailored to permit as much public involvement as possible while fully protecting the classified elements of the action and their environmental analysis (32 CFR § 989.26(c)).

Public commenting enables the Air Force to make better, more informed decisions. As required by law, letters and other written and oral comments provided may be published in the EIS. Providing personal information is voluntary on the part of the commenter. Any personal information provided will be used only to identify a desire to make a statement during the public comment portion of any public meetings or hearings or to fulfill a request for copies of the EIS or associated documents. Private addresses will be compiled into a mailing list of those requesting copies of the EIS; however, only the names of the individuals making comments and specific comments will be disclosed. Personal home addresses and phone numbers will not be published in the EIS.

### **Updated Council on Environmental Quality Regulations**

On July 16, 2020, the CEQ issued a final rule to update its regulations for federal agencies on implementing NEPA with an effective date of September 14, 2020. The effective date passed before the release of the Notice of Intent (NOI) for this EIS. Therefore, the Air Force has prepared this EIS in accordance with the new 2020 CEQ regulations (40 CFR § 1507.3(a)). All specific citations of CEQ NEPA regulations are to the 2020 regulations. However, the EIS's approach to cumulative effects is consistent with the final rule for the NEPA Implementing Regulation Revisions published in the *Federal Register* on April 20, 2022. Because of the breadth and complexity of the Proposed Action analyzed in this EIS, the Secretary of the Air Force has approved in writing extending both the page and time limits outlined in the 2020 NEPA regulations.

### **Section 508 Compliance**

The electronic version of this document (PDF) is compliant with Section 508 of the Rehabilitation Act (Title 29 of the *United States Code* § 798). This format enables assistive technology to be used to obtain the available information from the document. Because of the nature of the graphics, figures, tables, and images in the document, accessibility is limited to a descriptive title for each of these items.



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## SUMMARY

### S.1 INTRODUCTION

The U.S. Air Force (Air Force) has prepared this Environmental Impact Statement (EIS) to analyze the potential effects on the human and natural environments from (1) deployment of the Sentinel intercontinental ballistic missile (ICBM) system and (2) the decommissioning and disposal of the Minuteman III (MMIII) ICBM system. The Sentinel weapon system addressed in this EIS was formerly known as the Ground Based Strategic Deterrent (GBSD) and represents the continual modernization of the United States' land-based nuclear arsenal with replacement of the aging MMIII. Neither the Sentinel deployment activities nor the MMIII decommissioning and disposal process would include generating or disposing of nuclear material, and the number of land-based nuclear missiles in the continental United States would not change.

Deployment-related activities (i.e., construction, updating, and fielding) would primarily occur on-base and in the missile fields at F.E. Warren Air Force Base (AFB), WY; Malmstrom AFB, MT; and Minot AFB, ND. Maintenance, training, storage, and support actions would occur at the three main operating bases as well as at Hill AFB, UT; the Utah Test and Training Range (UTTR), UT; Camp Guernsey, WY (a Wyoming National Guard installation); and Camp Navajo, AZ (an Arizona Army National Guard installation). The installations are shown in **Figure S.1-1**.

Deployment activities would include replacing all land-based MMIII ICBMs in the United States with the Sentinel system, a technologically advanced ICBM system. The Sentinel would replace the MMIII, including the motors, interstages, propulsion system rocket engine (PSRE), and missile guidance set (MGS), generally within the existing MMIII footprint. All launch facilities (LFs), communication systems, infrastructure, and technologies would be modernized, replaced, or reused as necessary to support the Sentinel system. In general, the missile fields at the three main operating bases consist of an array of missile alert facilities (MAFs) and LFs (i.e., missile silos) and an array of interconnected utility corridors.

Separate responsibilities for U.S. nuclear weapons reside in the Department of Defense (DoD) and the Department of Energy (DOE). DoD develops, deploys, and operates the weapon system platforms that deliver nuclear warheads. It also generates the military requirements for the warheads carried on those platforms. DOE and its semiautonomous National Nuclear Security Administration oversee the research, development, and acquisition programs that produce, maintain, and sustain the nuclear warheads. The proposed Sentinel missile would support the DOE components, including variations of currently fielded warheads. The proposed Sentinel missiles would support delivery of the currently fielded reentry vehicles (RVs) as well as future RVs.

The Air Force has prepared this EIS in accordance with the National Environmental Policy Act of 1969 (NEPA) (Title 42 of the *United States Code* [U.S.C.] § 4321 *et seq.*), the Council on Environmental Quality (CEQ) *National Environmental Policy Act Implementing Regulations* (Title 40 of the *Code of Federal Regulations* [CFR] Parts 1500–1508), and the Air Force's Environmental Impact Analysis Process (EIAP) (32 CFR Part 989). Because certain aspects of the Sentinel deployment program need to be protected by security classification, the discussion



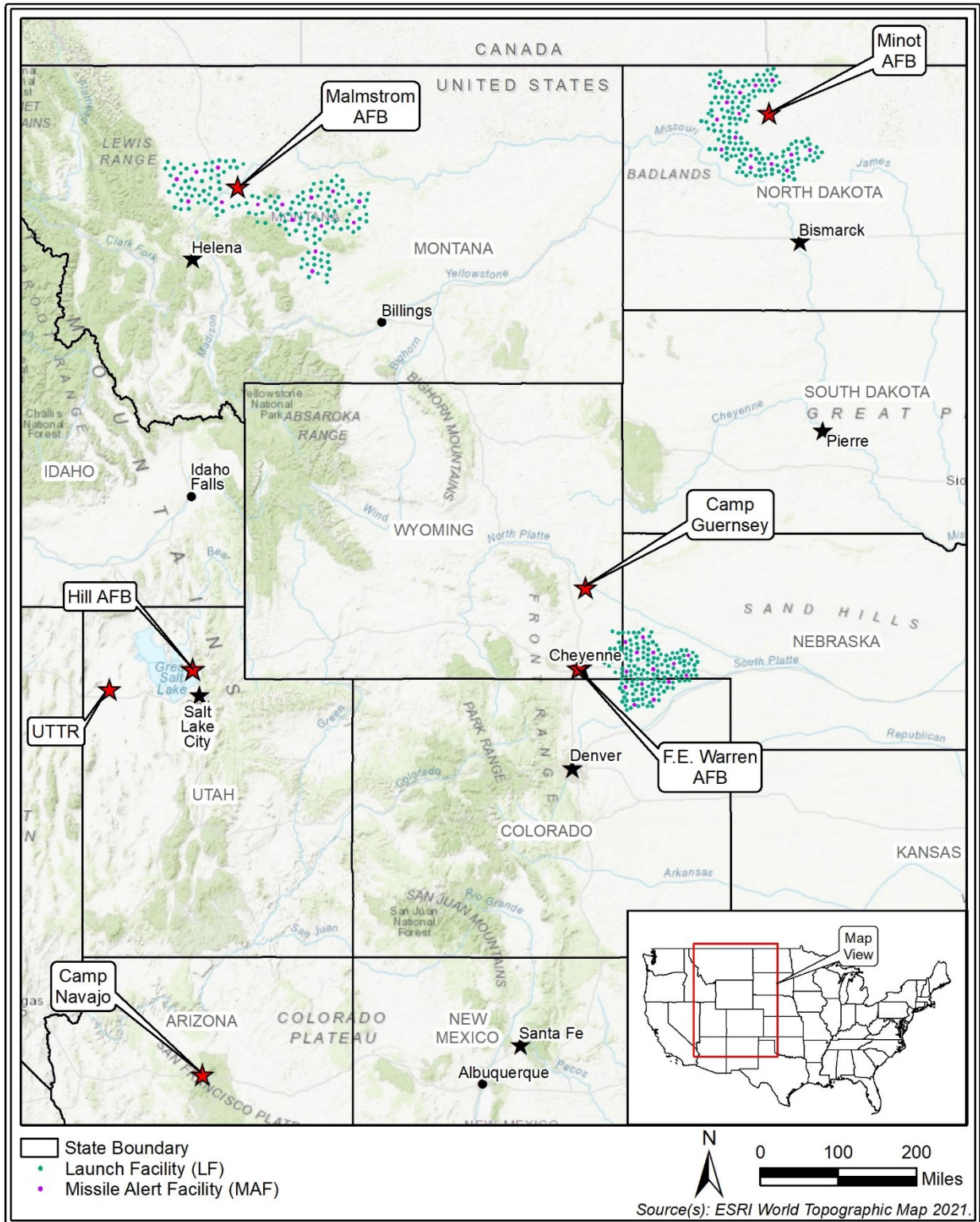


Figure S.1-1. Sentinel Deployment and Support Locations

of the Proposed Action in this EIS has been tailored to permit as much public involvement as possible while fully protecting the classified aspects of the action and environmental analysis (32 CFR § 989.26(c)). A separate classified annex to this EIS addresses the protected aspects of the Proposed Action and their associated impacts.

On July 16, 2020, the CEQ issued a final rule to update its regulations for federal agencies on implementing NEPA with an effective date of September 14, 2020. The effective date passed before the release of the Notice of Intent for this EIS. Therefore, the Air Force has prepared this EIS in accordance with the new 2020 CEQ regulations (40 CFR § 1507.3(a)). All specific citations of CEQ NEPA regulations refer to the 2020 regulations. Because of the breadth and complexity of the Proposed Action analyzed in this EIS, the Secretary of the Air Force has both increased the 300-page limit and extended the 2-year time limit for the EIS (40 CFR §§ 1501.10, 1502.7). In addition, the Air Force has accounted for the final rule for the NEPA Implementing Regulation Revisions published in the *Federal Register* on April 20, 2022, in this assessment. To fulfill these requirements, the Air Force considered the potential for cumulative effects from reasonably foreseeable actions or activities later in time or farther removed in distance that might be indirectly caused by the Proposed Action. Effects were considered reasonably foreseeable if they were sufficiently likely to occur and if a person of ordinary prudence would take them into account in reaching a decision.

The Air Force is the lead agency for this EIS pursuant to 40 CFR Part 1502. Since the Proposed Action includes activities associated with other federal agencies, the Air Force requested participation in the NEPA process of the Bureau of Indian Affairs, Bureau of Land Management, Bureau of Reclamation, U.S. Army Corps of Engineers, U.S. Forest Service, U.S. Fish and Wildlife Service (USFWS), and Wyoming Army National Guard, as described in the CEQ's NEPA regulations in 40 CFR § 1501.8, *Cooperating Agencies*. All have agreed to participate as cooperating agencies and have been involved in several areas of the EIS's development primarily associated with infrastructure upgrades and activities that would occur on properties for which they maintain an ongoing program of control. This involvement has specifically included (1) participating in the scoping process, (2) developing information and preparing analyses on issues for which each agency has specialized expertise, and (3) making staff support available to enhance interdisciplinary review capability and provide specific comments (40 CFR § 1503.3).

Sentinel ICBM testing must proceed well in advance of and in locations separate from deployment activities (both within the United States and overseas); therefore, missile-testing elements of the Sentinel program are outside the scope of this EIS. The Air Force has addressed early-stage Sentinel testing activities in a separate NEPA analysis, which includes evaluating actions that support Sentinel system development and must necessarily precede fielding the system to ensure its functional design, operation, and capability (U.S. Air Force Nuclear Weapons Center 2021).

## S.2 PURPOSE AND NEED

Under federal law and to meet national security requirements, the Air Force must implement a strategy “**to accelerate the development, procurement, and fielding of the ground based strategic deterrent program**” (John S. McCain National Defense Authorization Act for Fiscal Year 2019 [Public Law 115-232 Section 1663]). The law directs:

*...that the GBSD program includes the recapitalization of the full intercontinental ballistic missile weapon system for 400 deployed missiles and associated spares and 450 launch facilities, without phasing or splitting the program, including with respect to the missile flight system, ground based infrastructure and equipment, appropriate command and control elements.*

The purpose of the action is to replace all land-based MMIII missiles deployed in the continental United States with the Sentinel weapon system. The need for the action is to comply with Public Law 115-232, as outlined above. Implementing the action will ensure the United States continues to have effective, responsive, and resilient ICBMs and associated infrastructure for the land-based leg of its nuclear triad and the capacity and adaptability to manage and respond to shifting global requirements. The proposed ICBMs and supporting upgrades would allow the United States to continue to offer long-term tangible evidence to both allies and potential adversaries of our nuclear weapons capabilities, thus contributing to nuclear deterrence and assurance, and providing a hedge against arms competition.

## S.3 PROPOSED ACTION AND ALTERNATIVES

### S.3.1 Proposed Action

The Proposed Action includes replacing all land-based MMIII ICBMs deployed in the continental United States with Sentinel ICBMs. All components of the MMIII missile would be replaced, including the three motors, two interstages, PSRE, and MGS. All MAFs, LFs, communication systems, infrastructure, and technologies would be modernized or replaced as necessary to support the Sentinel weapon system. The existing MAFs and LFs would be updated extensively to completely refurbished condition to meet the requirements of the Sentinel system.

Deployment would primarily occur at F.E. Warren, Malmstrom, and Minot AFBs. Maintenance, training, storage, and support actions would occur at these three main operating bases as well as at Hill AFB, UTTR, Camp Guernsey, and Camp Navajo. Elements of the Proposed Action would include the following:

- On-base elements of the Sentinel deployment, including construction, modification, operation, and maintenance of on-base facilities and infrastructure
- Off-base elements of the Sentinel deployment, including updating MAFs and LFs to completely refurbished condition, establishing new utility corridors, utility work within existing utility corridors and easements, constructing new communication towers, and deploying and maintaining the Sentinel weapon system
- Decommissioning and disposing of the MMIII weapon system

**Table S.3-1** outlines which of the elements of the Proposed Action would be implemented at each installation, and a detailed discussion follows the table. All three elements would be implemented at F.E. Warren, Malmstrom, and Minot AFBs. Hill AFB would provide support facilities and MMIII decommissioning activities; Camp Guernsey would provide on-base training and support activities; and UTTR and Camp Navajo would support storing and demilitarizing MMIII missiles. To simplify discussion and analysis, this EIS groups together F.E. Warren AFB and Camp Guernsey in Wyoming and Hill AFB and UTTR in Utah instead of discussing each of the four facilities individually.

**Table S.3-1. Elements of the Proposed Action at Each Installation**

Location	On-base elements of Sentinel weapon system deployment	Off-base elements of Sentinel weapon system deployment	Decommissioning and disposal of MMIII weapon system
F.E. Warren AFB	■	■	■
Malmstrom AFB	■	■	■
Minot AFB	■	■	■
Hill AFB	■		■
UTTR	■		■
Camp Guernsey	■		
Camp Navajo <sup>a</sup>			■

*Note:* <sup>a</sup> Camp Navajo would provide missile and booster storage only.

Sentinel system deployment and MMIII disposal activities are scheduled to begin in late 2023, starting at F.E. Warren AFB, then at Malmstrom AFB, and finally at Minot AFB. This EIS considers these three main operating bases. Each location is the preferred alternative for its respective sequenced order for deployment. Activities at F.E. Warren, Malmstrom, and Minot AFBs and throughout their missile fields would be implemented in phases, either concurrently or consecutively; however, the Air Force would, at all times, maintain its warfighter commitment and nuclear readiness posture. Deployment of the Sentinel weapon system would be completed by the mid-2030s, and Sentinel would remain viable until at least 2075. This EIS thoroughly examines the full implementation of Sentinel system deployment and MMIII decommissioning and disposal activities at all the installations outlined in **Table S.3-1** as a reasonable upper bound of effects under NEPA.

### S.3.1.1 On-Base Elements of the Sentinel Weapon System Deployment

The Proposed Action involves construction and reconstruction of facilities, additional personnel, and missile maintenance and security operations at F.E. Warren, Malmstrom, Minot, and Hill AFBs; Camp Guernsey; and UTTR. It includes constructing nearly 50 facilities and multiplexes distributed throughout the installations, which would comprise operational, training, security, storage, and maintenance facilities to support the Sentinel weapon system program.

The level of operations and missile maintenance activities at the four AFBs—including the overhaul, upgrading, and rebuilding of parts, assemblies, and subassemblies and equipment testing and reclamation—would gradually decline as the aging MMIII weapon system program is phased out and the more modern Sentinel program is deployed. Migrating to the new, more modular Sentinel weapon system would ultimately reduce the level of the Air Force’s overall missile maintenance activity at the installations. In general, personnel associated with the MMIII program would transition to the Sentinel program as it is deployed. Approximately 350 additional personnel would be required at each of the three main bases during the peak year when the two programs would be operating simultaneously. Ultimately, each main base would have a small reduction in number of personnel and Hill AFB would have an increase of about 300 personnel once the Proposed Action is fully implemented.

### **S.3.1.2 Off-Base Elements of the Sentinel Weapon System Deployment**

The Proposed Action includes construction and modernization activities at all existing 45 MAFs and 450 LFs, establishing new utility corridors between the main bases and selected MAFs and LFs throughout their missile fields, and installing new communication towers. Centralized workforce hubs and laydown areas would be temporarily established to help support the off-base construction activities. After construction was complete, the number of personnel would return to preconstruction levels throughout each missile field, and the level of missile maintenance activities would remain similar to, but be slightly less than, existing conditions.

**Construction.** The Proposed Action includes the demolition, reconstruction, and construction necessary to prepare all 45 MAFs to accommodate the Sentinel weapon system. This would include (1) dismantling and removing all MMIII equipment, supplies, components, and infrastructure at the MAFs not suitable for use with the Sentinel weapon system and (2) reinstalling any of those materials that are usable for the Sentinel program supplemented with the installation of any new materials necessary to fully support the new program. Prior to reconstruction, the Air Force would construct a communication support building (CSB). A launch center (LC) would be constructed at 24 of the existing MAF sites, and the remaining 21 MAF sites would be decommissioned and razed. Construction of the CSBs and LCs would be confined to areas within the existing property boundaries; however, a 1-acre temporary easement would be acquired to accommodate storage of construction materials and equipment for each site. Construction of CSBs and conversion of the MAFs to LCs would take 3–5 years at each installation. After reconstruction, CSB-associated structures would be removed on a case-by-case basis and disturbed areas reseeded and restored, as appropriate. Preparing the LFs would include (1) dismantling and removing equipment, supplies, components, and infrastructure not suitable for use with the Sentinel weapon system and (2) installing updated equipment, supplies, components, and infrastructure necessary to support the Sentinel program.

The Proposed Action includes establishing approximately 3,000 miles of new utility corridors to supplement the existing utility connections to the LFs and proposed LCs throughout the three missile fields in Colorado, Montana, Nebraska, North Dakota, and Wyoming (**Figure S.1-1**). The Air Force would acquire temporary construction easements up to 100 feet (ft) each in addition to 16-ft permanent easements to facilitate the installation, operation, and maintenance of the

proposed utility corridors. Easements would be cleared and grubbed to provide access to the areas, erosion control devices would be installed and maintained, and the utility lines would be installed. There would be no aboveground permanent infrastructure within the easements. Constructing the new utility corridors would take 2–5 years at each of the main bases. The proposed utility corridors are sited based on the best information available at the time this EIS was being prepared. In the final design stages of the project, the Air Force anticipates that their locations might vary from those the EIS specifies. To refine the siting of the corridors throughout the missile fields, the Air Force would implement detailed selection guidelines to limit the effects of any changes to the currently specified corridors.

Easements and Sentinel proposed utility corridors would be established within previously disturbed lands to the maximum extent possible, using existing rights-of-way where feasible, and construction corridors would be topographically restored and reseeded after utility installation. The Air Force would arrange for contractual real estate transactions with individual landowners, who would be fully compensated for the acquired easements. In certain cases in which access is not provided by the property owner and the Air Force is unable to “construct around” a given property, the Air Force would exercise the right of eminent domain (i.e., the compulsory acquisition of private property for public use) to secure the necessary land access and property rights.

The Proposed Action includes the potential to conduct activities within the 4,900 miles of existing utility corridors and easements throughout the missile fields. Activities would be similar to those that would occur within the proposed new utility corridors. They would be in alignment with existing easement grants in place and might include ingress; egress; construction; maintenance; and repair, replacement, and removal of utility lines, junction boxes, manholes, and other appurtenances, as necessary. The Air Force would acquire temporary easements of up to 100 ft to supplement the existing easements during construction.

The Proposed Action includes establishing 62 communication towers on newly acquired property throughout the three missile fields. The towers would be up to 300 ft tall and lighted in accordance with Federal Aviation Administration (FAA) requirements. Each tower site would be up to 5 acres of which approximately 1 acre would be cleared and grubbed to provide access for tower construction and maintenance as well as to enable installation of utility lines to support the towers. Because of the towers’ height, they might require guy wires for stabilization. The Proposed Action would require property, including easements for access and utilities, to be acquired in fee (i.e., to be owned outright by the Air Force) for the establishment of the towers. The Air Force would arrange for contractual real estate transactions with individual landowners, who would be fully compensated for the acquired properties. In certain cases in which access is not provided by the property owner, the Air Force would exercise the right of eminent domain to secure the necessary land access and property rights.

Four temporary centralized workforce hubs each containing living quarters, a cafeteria, a central medical facility, training areas, a central transport facility, construction offices, and utility service areas would be established in or near Kimball, NE; Great Falls and Lewistown, MT; and Minot, ND. Each workforce hub would typically house 2,000 construction workers and support personnel during the construction phase of the project and as many as 3,000 individuals during

peak periods. The hubs would include primarily barracks-style modular housing for the workers in the missile field, food services, recreational facilities, and support services staff quarters. They would be self-supporting, where possible, or use locally available utilities, including water, wastewater treatment, and telecommunications, and would remain in place for 2–5 years during construction at each of the three main bases. Upon completion of the off-base elements of the Proposed Action, the site of each workforce hub would be returned to the condition agreed upon with local stakeholders. Common areas would be transferred to the community or the hub would be removed, and disturbed areas would be reseeded and restored, as appropriate.

Because of the limited amount of on-site material storage area at sites throughout the missile fields, temporary laydown areas would be established for storing bulk materials and equipment for construction. Each laydown area would be approximately 13 acres sited near highways and other access roads and strategically located to minimize travel times to and from construction sites throughout each missile field. Each area would contain a warehouseman office, a satellite medical area, indoor controlled and outdoor material staging areas, a heavy equipment maintenance area, light-duty equipment and demolition material staging areas, a water distribution well for the construction sites, a fuel distribution area, and a construction component preassembly area. The laydown sites would remain in place for 2–5 years during construction at each of the main bases.

**Operations.** The level and nature of operations and maintenance activities supporting the Sentinel program throughout the missile fields would be similar to, but somewhat less than, those supporting the MMIII program. Maintenance of the Sentinel weapon system would comprise standard Air Force logistics structure, directives, and procedures focused on normal supply and repair activities to sustain alert readiness. The level of activity to replace, remanufacture, repair, rebuild, and upgrade Sentinel missiles and supporting systems during their service life would be similar to the level of activity for the MMIII systems, MAFs, and LFs. The Sentinel modular design, however, would allow component replacements, as necessary, during maintenance activities, thereby, reducing or eliminating time and effort required in the field. All transport vehicles (e.g., payload transporters, transporter erectors, and missile transporters) would be upgraded or replaced to be compatible with the heavier Sentinel system. The new vehicles would be similar in size and function to the existing fleet vehicles, possibly with minor differences in length, height, and overall weight. All vehicles would be configured and permitted as necessary to meet all on-road requirements

### **S.3.1.3 Decommissioning and Disposal of the MMIII Weapon System**

MMIII decommissioning and disposal processes would encompass both missiles and facilities. Decommissioning and disposal of each missile would include removing the missile from the LF, transporting it to the base for temporary storage, and preparing it for transport to Hill AFB, UTTR, Camp Navajo, or a contractor facility. Decommissioning and disposal of facilities would include removing MMIII-related technology and support equipment from the MAFs and LFs; transporting the material(s) to the base; and sorting, declassifying, and disposing of them based on standardized protocols. No decommissioning or disposal activities would be conducted at Camp Guernsey.

MMIII missiles would be removed from LFs at a rate of one per week. The Air Force would transport missile components to the main operating bases with standard safety and security measures in place. Once the components were at the installation, RVs would be tagged for Sentinel missile reuse or transferred to the DOE for disposition. Critical components and secondary explosives would be removed following established procedures. Subsequently, at the LF, a team would extract the MMIII booster (the combined motors and interstages) and transport it to the installation for preparation for shipment to Hill AFB, UTTR, Camp Navajo, or a contractor facility. Notably, the shipping, handling, disassembly, storage, and disposal of ICBM boosters and interstages have been routinely conducted by Air Force personnel following established protocol for approximately 60 years.

An estimated 5,000 cubic yards (CY) of construction debris and equipment components would be removed from a typical MAF, and 2,500 CY would be removed from a typical LF. The MAFs and LFs contain various equipment used to support daily operation of the MMIII weapon system, including electronic racks, motor cabinets, environmental control systems, brine chillers, generators, and ground batteries, which would be removed and shipped back to the Air Force for disposition. In addition, other pieces of support equipment ranging from test stations to maintenance stands are located at F.E. Warren, Malmstrom, Minot, and Hill AFBs. The MMIII-specific equipment removed from the MAFs and LFs, as well as general support equipment located at the bases, would be returned to the operating base for the missile field or shipped to Hill AFB for disposal through established Defense Logistics Agency (DLA) procedures. Equipment containing hazardous materials, such as hydraulic fluids, refrigerants, and fuel, would be drained of those materials prior to equipment disposal through established maintenance disassembly processes and approved waste streams.

Decommissioning and disposal options for MMIII trainers, training devices, and equipment within other support facilities on-base range from being reused by other Air Force or DoD programs to being destroyed or abandoned. In general, trainer-related components would not be reused at the existing facilities. Equipment and supplies currently in MMIII-specific trainers and other support facilities would be removed and returned to the operating base for the missile field or shipped to Hill AFB for disposal through established DLA procedures for training-related equipment. Facilities that house the trainers not being used by the Sentinel program would be returned to the operating base for future use by other tenants. As with previous deactivations, trainers could be transferred to the Air Force Museum (or similar institution) or retained as static displays following demilitarization. Finally, DoD and Air Force laboratories or other government agencies might reuse the trainers, components, or support equipment. Complete reutilization requirements would be determined on a case-by-case basis. Any items that are not returned would be processed for disposal in accordance with Federal Acquisition Regulations 45.6, *Reporting, Reutilization, and Disposal of Government Property*. All ICBM-related equipment and materials that cannot be used on other systems would be destroyed.

### **S.3.2 Reduced Utility Corridors Alternative**

The Reduced Utility Corridors Alternative would replace all land-based MMIII ICBMs deployed in the continental United States with Sentinel ICBMs, as would the Proposed Action. And, while it includes most of the elements of the Proposed Action, it also proposes establishing appreciably



fewer miles of new utility corridors and reutilizing marginally fewer miles of existing utility corridors. This section discusses only those differences between this alternative and the Proposed Action since all other off-base elements, all on-base elements, and all MMIII decommissioning and disposal activities at all installations would be identical to those outlined under the Proposed Action.

The Proposed Action includes the breadth of the possible utility corridor options necessary to meet the design criteria of the Sentinel weapon system. It outlines the upper bound of new utility corridors that would be built and intrinsically includes a wide array of potential alternatives that also are represented in this alternative. For obvious reasons, many design and functional requirements of the Sentinel weapon system are classified. To ensure the EIS provides the most complete description of the action possible, the Air Force has tailored the discussion of the Reduced Utility Corridors Alternative and moved these activities into the public-facing portions of the EIS to permit as much public involvement as possible.

During the scoping process, the Air Force received several recommendations to adjust proposed utility corridor siting to reduce and avoid environmental impacts. In response, the Air Force has made local siting adjustments to reroute corridors away from sensitive resources to avoid and minimize impacts. Specifically, the Air Force proposal has been adjusted in and around Judith Gap to reroute utility corridors to avoid wildlife refuges, levees, sage grouse leks, and tribal areas of importance. The Air Force identified these issues in consultation with USFWS, USACE, BLM, and Tribes, respectively. Similarly, the Air Force is using the Draft EIS process as a means to coordinate with affected landowners and the public to further develop the understanding of sensitive environmental areas and potential impact avoidance measures that would help optimize siting of the utility corridors.

In addition, the Air Force conducted a detailed assessment of both the environmental and socioeconomic effects and took a “hard look” at the viability of the Proposed Action, of which this alternative is a distinct subset. Subsequently, a surety and security study was conducted in an effort to maximize network coverage for the missile fields, increase the alert rate during deployment, and independently maximize network coverage for Security Forces. During the design process, it became clear that the full implementation of the Proposed Action would meet or exceed all the Sentinel design requirements. As part of this process, and to better define the Reduced Utility Corridors Alternative, the Air Force is engaged in an ongoing effort to reduce the overall impacts on landowners and resources associated with construction on new land, and it is anticipated that:

- The actual number of miles of new utility corridors would be up to 80 percent less than in the Proposed Action;
- The actual number of miles of existing utility corridors would be up to 20 percent less than in the Proposed Action;
- The number of affected landowners and parcels would be up to 90 percent lower than in the Proposed Action; and
- The number of overall off-base construction workers would be slightly lower than in the Proposed Action.

The Reduced Utility Corridors Alternative includes establishing as few as 182 miles of new utility corridors in the F.E. Warren AFB missile field, 256 miles of new utility corridors in the Malmstrom AFB missile field, and 188 miles of new utility corridors in the Minot AFB missile field, and it is possible that additional reductions could be incorporated over time. The proposed corridors, for which the government would acquire the necessary property easements, are a distinct subset of those outlined under the Proposed Action. The activities within and selection guidelines for the utility corridors would be the same as outlined in Section S.3.1.2. In addition, although the Proposed Action includes the potential reuse of all existing utility corridors, the Reduced Utility Corridors Alternative would use up to 20 percent fewer miles than the Proposed Action.

As the design and NEPA processes continue to align, the Air Force would determine over time the exact subset of utility corridor miles that would provide the required security redundancies while striving to minimize the amount of new property and, subsequently, the number of landowners and parcels, affected. As the design develops and the breadth of the real estate acquisition effort continues to evolve, the Air Force would likely pursue the Reduced Utility Corridors Alternative. The Air Force has concluded it might be a potentially feasible alternative to the Proposed Action as described in Section S.3.1. As the Reduced Utility Corridors Alternative would fully meet the purpose of and need for the action, it was carried forward for further consideration in this EIS.

The term “Proposed Action” throughout the EIS refers to the Proposed Action as outlined in Section S.3.1. However, in sections of the document not strictly dedicated to the Proposed Action, to avoid redundancy and to improve readability, it was assumed the term “Proposed Action” naturally incorporates all elements of the Reduced Utility Corridors Alternative.

### **S.3.3 No Action Alternative**

CEQ and Air Force EIAP regulations (40 CFR § 1502.14(c); 32 CFR § 989.8(a)) require agencies to include and analyze the No Action Alternative in EISs. Although the No Action Alternative does not fulfill the purpose of or need for the action, the Air Force has carried it forward for detailed analysis in this EIS, as required under NEPA.

Under the No Action Alternative, the Air Force would continue to rely on the aging MMIII weapon system, missiles, facilities, and infrastructure to provide for the nation’s security. No changes would be made in operations or maintenance activities associated with the MMIII system, which would continue at F.E. Warren, Malmstrom, and Minot AFBs and in their missile fields as well as at Camp Guernsey, Hill AFB, and UTTR. Over time, however, the level of maintenance activity would increase as the system continues to age. No planned or programmed changes to currently ongoing and continuing activities have been identified under the No Action Alternative, and any discussion of future activities would be somewhat speculative rather than informative.

The Air Force would continue to employ modernization programs to lengthen the service life of the MMIII weapon system, including design, testing, assembly, and installation of upgraded missile components. Although no planned or programmed projects had been identified at the

time this EIS was being prepared, historically, MMIII modernization programs have included replacing propellant in the motors and PSRE, replacing the MGS and the RV, fuse modernization, and security enhancement of both missile hardware and facilities. In addition, minor technology upgrades and replacement activities would continue at the MAFs and LFs, ranging from upgrading a printer to replacing a weapon system control panel. In general, however, MAFs and LFs would continue to fall into disrepair, have periodic water infiltration, and continue to use components containing asbestos, lead-based paint, and polychlorinated biphenyls.

The No Action Alternative would involve ongoing and normal construction, renovation, and demolition activities at all the installations. Although no planned or funded projects had been identified at the time this EIS was being prepared, as the structures that house MMIII-related support activities on-base age, they would eventually need to be rehabilitated or replaced to continue to serve the MMIII weapon system's administrative and maintenance needs.

### **S.3.4 Identification of the Preferred Alternative**

According to CEQ guidelines, an agency's preferred alternative is the alternative the agency believes would fulfill its statutory mission and responsibilities, considering economic, environmental, technical, and other factors. After considering comments on the Draft EIS from the public, Tribes, agencies, and other stakeholders, the Air Force determined the Reduced Utility Corridors Alternative is its preferred alternative.

## **S.4 SUMMARY OF ENVIRONMENTAL CONSEQUENCES**

As required under NEPA, the Air Force took a "hard look" at the effects of the Proposed Action, the Reduced Utility Corridors Alternative, and the No Action Alternative on each of 15 resource areas and made a determination of the level of those effects. This EIS defines the potential level of effects on each resource area as follows:

- **Negligible**—The effect would be nonexistent or not readily perceptible when compared to existing conditions.
- **Less than significant**—The effect would be readily perceptible when compared to existing conditions, but not severe, widespread, or prolonged. In this EIS, a less-than-significant effect is defined as one that would not itself trigger the requirement to prepare an EIS.
- **Significant**—The effect would be severe or widespread or would exceed a regulatory threshold. In this EIS, as outlined in the CEQ regulation, a "significant effect" would itself trigger the requirement to prepare an EIS.

For purposes of analysis, this EIS defines the duration of effects as follows:

- **Short term**—The effect would be temporary, occurring during construction and initial deployment of the Sentinel missiles at each installation, regardless of when those activities began. For example, short-term effects at F.E. Warren AFB would occur during the on- and off-base construction and missile deployment at that installation, whereas short-term effects at Minot AFB would occur during the same activities, but during a different time period.

- **Long term**—The effect would be ongoing and occur after the construction and missile deployment phases were complete, such as effects from ongoing operations and maintenance activities at each location.

**Table S.4-1** summarizes the environmental consequences of the Proposed Action and the Reduced Utility Corridors Alternative by resource area. The Proposed Action and the Reduced Utility Corridors Alternative would have potentially significant adverse effects on cultural resources, public health and safety, socioeconomics, and utilities and infrastructure and less-than-significant adverse effects on the other 11 analyzed resource areas. In coordination with the cooperating agencies, regulatory agencies, and other stakeholders for the EIS, the Air Force developed more than 380 mitigation measures to avoid, reduce, or minimize impacts. These mitigation measures are specific to the Proposed Action and the Reduced Utility Corridors Alternative; will apply to construction, operation, and maintenance involved in the action; or will be implemented as compensatory measures. The EIS describes in detail both the affected environment and the environmental consequences of the Proposed Action for each resource area analyzed by the Air Force.

The No Action Alternative would have long-term negligible or less-than-significant effects on all resources. Even though no action would be taken, ongoing adverse effects from the operation and maintenance of the MMIII weapon system, MAFs, and LFs would continue. Long-term effects would be the result of ongoing incremental increases in the level of maintenance activities and number of personnel necessary to support all on- and off-base elements of the MMIII weapon system.

Under the No Action Alternative, the infrastructure associated with the MMIII missiles and associated support equipment and facilities would continue to age and have the potential to fall into disrepair. For the United States to maintain its warfighter commitment and nuclear readiness posture, there would be ongoing incremental increases in maintenance activities and associated environmental effects as the aging on- and off-base facilities become progressively outdated. These increases would include effects from restoration and renovation activities at the facilities that support the MMIII weapon system and program, and missile restoration and maintenance activities occurring at all the installations, MAFs, and LFs, including F.E. Warren, Malmstrom, Minot, and Hill AFBs; Camp Guernsey; and UTTR.

Any benefit to the environment from the conversion of MAFs to unmanned facilities, the overall decrease in the level of operations and maintenance activities associated with the Sentinel weapon system, and the elimination of ongoing upgrades otherwise required for the MMIII weapon system would go unrealized.

**Table S.4-1. Summary of Environmental Consequences by Resource Area**

**Air Quality.** The Proposed Action and the Reduced Utility Corridors Alternative would have short- and long-term less-than-significant adverse effects on air quality. Short-term less-than-significant adverse effects would be caused by construction and MMIII decommissioning and disposal activities at F.E. Warren, Malmstrom, Minot, and Hill AFBs; Camp Guernsey; UTTR; and MAFs, LFs, and proposed utility corridor and communication tower locations throughout the missile fields. Long-term less-than-significant adverse effects would be the result of changes in operations and maintenance activities at F.E. Warren, Malmstrom, Minot, and Hill AFBs; Camp Guernsey; and MAFs and LFs throughout the missile fields. Total emissions from the Proposed Action would not (1) exceed the prevention of significant deterioration major source thresholds in any attainment area; (2) exceed the *de minimis* thresholds in any nonattainment area; or (3) contribute to a violation of any local, state, or federal air quality regulation.

Location	Elements of the action	Proposed Action/Reduced Utility Corridors Alternative		No Action Alternative
		Short-term	Long-term	Long-term
F.E. Warren AFB and Camp Guernsey	On-base elements	Less than significant	Less than significant	Less than significant
	Off-base elements	Less than significant	Less than significant	Less than significant
	MMIII decommissioning and disposal	Less than significant	N/A	N/A
	<b>Combined effects</b>	<b>Less than significant</b>	<b>Less than significant</b>	<b>Less than significant</b>
Malmstrom AFB	On-base elements	Less than significant	Less than significant	Less than significant
	Off-base elements	Less than significant	Less than significant	Less than significant
	MMIII decommissioning and disposal	Less than significant	N/A	N/A
	<b>Combined effects</b>	<b>Less than significant</b>	<b>Less than significant</b>	<b>Less than significant</b>
Minot AFB	On-base elements	Less than significant	Less than significant	Less than significant
	Off-base elements	Less than significant	Less than significant	Less than significant
	MMIII decommissioning and disposal	Less than significant	N/A	N/A
	<b>Combined effects</b>	<b>Less than significant</b>	<b>Less than significant</b>	<b>Less than significant</b>
Hill AFB and UTTR	On-base elements	Less than significant	Less than significant	Less than significant
	Off-base elements	N/A	N/A	N/A
	MMIII decommissioning and disposal	Less than significant	N/A	N/A
	<b>Combined effects</b>	<b>Less than significant</b>	<b>Less than significant</b>	<b>Less than significant</b>
Camp Navajo	MMIII decommissioning and disposal	Less than significant	N/A	N/A
<b>Overall effects for all elements at all locations</b>		<b>Less than significant</b>	<b>Less than significant</b>	<b>Less than significant</b>

**Airspace Use and Management.** The Proposed Action and the Reduced Utility Corridors Alternative would have short- and long-term less-than-significant adverse effects on airspace use and management. These effects would be the result of establishing 62 communication towers each up to 300 ft tall throughout the missile fields of F.E. Warren, Malmstrom, and Minot AFBs. Seven towers for F.E. Warren AFB, 12 towers for Malmstrom AFB, and four towers for Minot AFB would be established relatively close to or within existing charted airspaces. The siting of these towers would require closer coordination than usual with FAA, including a formal airspace review and an independent Determination of No Hazard to Air Navigation. These requirements outlined in the EIS would ensure the effects remain less than significant. The remaining 39 towers would not interfere directly with other existing airspace uses but, because of their vertical nature, would have less-than-significant adverse effects. Overall, the Proposed Action would not (1) undermine the safety of military, commercial, or civil aviation; (2) cause unacceptable conflicts, congestion, delays, or economic hardship for nonparticipating aircraft that would otherwise freely use that airspace; or (3) contribute to a violation of federal regulations.

Location	Elements of the action	Proposed Action/Reduced Utility Corridors Alternative		No Action Alternative
		Short-term	Long-term	Long-term
F.E. Warren AFB and Camp Guernsey	On-base elements	N/A	N/A	N/A
	Off-base elements	Less than significant	Less than significant	Negligible
	MMIII decommissioning and disposal	N/A	N/A	N/A
	<b>Combined effects</b>	<b>Less than significant</b>	<b>Less than significant</b>	<b>Negligible</b>
Malmstrom AFB	On-base elements	N/A	N/A	N/A
	Off-base elements	Less than significant	Less than significant	Negligible
	MMIII decommissioning and disposal	N/A	N/A	N/A
	<b>Combined effects</b>	<b>Less than significant</b>	<b>Less than significant</b>	<b>Negligible</b>
Minot AFB	On-base elements	N/A	N/A	N/A
	Off-base elements	Less than significant	Less than significant	Negligible
	MMIII decommissioning and disposal	N/A	N/A	N/A
	<b>Combined effects</b>	<b>Less than significant</b>	<b>Less than significant</b>	<b>Negligible</b>
<b>Overall effects for all elements at all locations</b>		<b>Less than significant</b>	<b>Less than significant</b>	<b>Negligible</b>

**Biological Resources.** The Proposed Action and the Reduced Utility Corridors Alternative would have short- and long-term less-than-significant adverse effects on biological resources. Short-term less-than-significant adverse effects would result from construction and MMIII decommissioning and disposal activities at F.E. Warren, Malmstrom, Minot, and Hill AFBs; Camp Guernsey; UTTR; and MAFs, LFs, and proposed utility corridors and communication tower locations throughout the missile fields. Long-term less-than-significant adverse effects would result from permanent loss of habitat at communication tower locations and any permanent on-base facilities sited in habitat used by a special status wildlife. The Proposed Action and the Reduced Utility Corridors Alternative would not (1) result in a substantial loss of or detrimental effect on native vegetation types; (2) have population-level effects on an unlisted plant species of concern; (3) result in the increased spread of noxious weeds or invasive species; (4) result in long-term adverse effects on wetlands other than those associated with wastewater treatment ponds at some MAFs; (5) result in a substantial loss of individuals or habitat that would threaten the viability of local populations of general wildlife, including species of local significance (e.g., big game animals or state species of greatest conservation need); or (6) result in the reduced viability of federally or state-listed species or substantial modification of USFWS-designated critical habitat.

Location	Elements of the action	Proposed Action/Reduced Utility Corridors Alternative		No Action Alternative
		Short-term	Long-term	Long-term
F.E. Warren AFB and Camp Guernsey	On-base elements	Less than significant	Less than significant	Negligible
	Off-base elements	Less than significant	Less than significant	Negligible
	MMIII decommissioning and disposal	Less than significant	N/A	N/A
	<b>Combined effects</b>	<b>Less than significant</b>	<b>Less than significant</b>	<b>Negligible</b>
Malmstrom AFB	On-base elements	Less than significant	Less than significant	Negligible
	Off-base elements	Less than significant	Less than significant	Negligible
	MMIII decommissioning and disposal	Less than significant	N/A	N/A
	<b>Combined effects</b>	<b>Less than significant</b>	<b>Less than significant</b>	<b>Negligible</b>
Minot AFB	On-base elements	Less than significant	Less than significant	Negligible
	Off-base elements	Less than significant	Less than significant	Negligible
	MMIII decommissioning and disposal	Less than significant	N/A	N/A
	<b>Combined effects</b>	<b>Less than significant</b>	<b>Less than significant</b>	<b>Negligible</b>
Hill AFB and UTTR	On-base elements	Less than significant	Less than significant	Less than significant
	Off-base elements	N/A	N/A	N/A
	MMIII decommissioning and disposal	Less than significant	N/A	N/A
	<b>Combined effects</b>	<b>Less than significant</b>	<b>Less than significant</b>	<b>Negligible</b>
<b>Overall effects for all elements at all locations</b>		<b>Less than significant</b>	<b>Less than significant</b>	<b>Negligible</b>

**Cultural Resources.** The Proposed Action and the Reduced Utility Corridors Alternative would have short- and long-term significant adverse effects on cultural resources. Short-term significant adverse effects would result from visual and auditory intrusions from the temporary workforce hubs and laydown areas. Long-term significant adverse effects would be the result of changes to the missile facilities in all three missile fields from construction and MMIII decommissioning and disposal activities; potential visual effects from communication tower locations; potential physical effects from utility corridors, communication towers, workforce hubs, and laydown areas; and conversion of on-base LF trainers to the Sentinel system.

Location	Elements of the action	Proposed Action/Reduced Utility Corridors Alternative		No Action Alternative
		Short-term	Long-term	Long-term
F.E. Warren AFB and Camp Guernsey	On-base elements	Negligible	Significant	Less than significant
	Off-base elements	Significant	Significant	Less than significant
	MMIII decommissioning and disposal	Negligible	Significant	Negligible
	<b>Combined effects</b>	<b>Significant</b>	<b>Significant</b>	<b>Less than significant</b>
Malmstrom AFB	On-base elements	Negligible	Significant	Less than significant
	Off-base elements	Significant	Significant	Less than significant
	MMIII decommissioning and disposal	Negligible	Significant	Negligible
	<b>Combined effects</b>	<b>Significant</b>	<b>Significant</b>	<b>Less than significant</b>
Minot AFB	On-base elements	Negligible	Significant	Less than significant
	Off-base elements	Significant	Significant	Less than significant
	MMIII decommissioning and disposal	Negligible	Significant	Negligible
	<b>Combined effects</b>	<b>Significant</b>	<b>Significant</b>	<b>Less than significant</b>
Hill AFB and UTTR	On-base elements	Negligible	Significant	Less than significant
	Off-base elements	N/A	N/A	N/A
	MMIII decommissioning and disposal	Negligible	N/A	N/A
	<b>Combined effects</b>	<b>Negligible</b>	<b>Significant</b>	<b>Less than significant</b>
<b>Overall effects for all elements at all locations</b>		<b>Significant</b>	<b>Significant</b>	<b>Less than significant</b>



**Environmental Justice.** The Proposed Action and the Reduced Utility Corridors Alternative would have negligible (i.e., no) environmental justice effects. The Proposed Action and the Reduced Utility Corridors Alternative would have no disproportionately high and adverse environmental or human health impacts on any identified minority or low-income population that would appreciably exceed those on the general population in the project regions.

Location	Elements of the action	Proposed Action/Reduced Utility Corridors Alternative		No Action Alternative
		Short-term	Long-term	Long-term
F.E. Warren AFB and Camp Guernsey	On-base elements	Negligible	Negligible	Negligible
	Off-base elements	Negligible	Negligible	Negligible
	MMIII decommissioning and disposal	Negligible	N/A	N/A
	<b>Combined effects</b>	<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>
Malmstrom AFB	On-base elements	Negligible	Negligible	Negligible
	Off-base elements	Negligible	Negligible	Negligible
	MMIII decommissioning and disposal	Negligible	N/A	N/A
	<b>Combined effects</b>	<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>
Minot AFB	On-base elements	Negligible	Negligible	Negligible
	Off-base elements	Negligible	Negligible	Negligible
	MMIII decommissioning and disposal	Negligible	N/A	N/A
	<b>Combined effects</b>	<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>
Hill AFB and UTTR	On-base elements	Negligible	Negligible	Negligible
	Off-base elements	N/A	N/A	N/A
	MMIII decommissioning and disposal	Negligible	N/A	N/A
	<b>Combined effects</b>	<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>
<b>Overall effects for all elements at all locations</b>		<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>

**Geology and Soils.** The Proposed Action and the Reduced Utility Corridors Alternative would have short-term less-than-significant and long-term negligible adverse effects on geology and soils. Short-term less-than-significant adverse effects would result from construction activities at F.E. Warren, Malmstrom, Minot, and Hill AFBs; Camp Guernsey; UTTR; and MAFs, LFs, and proposed utility corridors and communication tower locations throughout the missile fields. Long-term negligible adverse effects would be potentially permanently damaging fossils during construction and the additional operations and maintenance activities at F.E. Warren, Malmstrom, Minot, and Hill AFBs and Camp Guernsey. A decrease in the level of operations and maintenance activities over the existing system would result in long-term less-than-significant beneficial effects at MAFs and LFs throughout the missile fields. The Proposed Action and the Reduced Utility Corridors Alternative would not (1) substantially alter bedrock; (2) substantially increase soil erosion or topsoil mixing or contribute to soil compaction and rutting; or (3) contribute to a violation of any local, state, or federal regulation.

Location	Elements of the action	Proposed Action/Reduced Utility Corridors Alternative		No Action Alternative
		Short-term	Long-term	Long-term
F.E. Warren AFB and Camp Guernsey	On-base elements	Less than significant	Negligible	Negligible
	Off-base elements	Less than significant	Beneficial	Negligible
	MMIII decommissioning and disposal	Negligible	N/A	N/A
	<b>Combined effects</b>	<b>Less than significant</b>	<b>Negligible</b>	<b>Negligible</b>
Malmstrom AFB	On-base elements	Less than significant	Negligible	Negligible
	Off-base elements	Less than significant	Beneficial	Negligible
	MMIII decommissioning and disposal	Negligible	N/A	N/A
	<b>Combined effects</b>	<b>Less than significant</b>	<b>Negligible</b>	<b>Negligible</b>
Minot AFB	On-base elements	Less than significant	Negligible	Negligible
	Off-base elements	Less than significant	Beneficial	Negligible
	MMIII decommissioning and disposal	Negligible	N/A	N/A
	<b>Combined effects</b>	<b>Less than significant</b>	<b>Negligible</b>	<b>Negligible</b>
Hill AFB and UTTR	On-base elements	Less than significant	Negligible	Negligible
	Off-base elements	N/A	N/A	N/A
	MMIII decommissioning and disposal	Negligible	N/A	N/A
	<b>Combined effects</b>	<b>Less than significant</b>	<b>Negligible</b>	<b>Negligible</b>
<b>Overall effects for all elements at all locations</b>		<b>Less than significant</b>	<b>Negligible</b>	<b>Negligible</b>

**Hazardous Substances and Waste.** The Proposed Action and the Reduced Utility Corridors Alternative would have short- and long-term less-than-significant adverse effects on the amount of hazardous materials used and the amount of hazardous waste generated. Short-term less-than-significant adverse effects would result from construction and MMIII decommissioning and disposal activities at F.E. Warren, Malmstrom, Minot, and Hill AFBs; Camp Guernsey; UTTR; and MAFs, LFs, and proposed utility corridors and communication tower locations throughout the missile fields. Long-term less-than-significant adverse effects would result from changes in operations and maintenance activities at F.E. Warren, Malmstrom, Minot, Hill AFBs; Camp Guernsey; and the MAFs and LFs throughout the missile fields. The Proposed Action and the Reduced Utility Corridors Alternative would not (1) cause or increase the risk of human exposure to hazardous substances, including explosives, without adequate protection; (2) substantially increase the risk of spills or releases of hazardous substances; (3) disturb the progress of cleanup activities so that adverse effects on human health or the environment could result; (4) conflict with established land use controls; or (5) result in noncompliance with applicable federal, state, or local laws and regulations or with permits related to hazardous materials and waste.

Location	Elements of the action	Proposed Action/Reduced Utility Corridors Alternative		No Action Alternative
		Short-term	Long-term	Long-term
F.E. Warren AFB and Camp Guernsey	On-base elements	Less than significant	Beneficial	Less than significant
	Off-base elements	Less than significant	Less than significant	Less than significant
	MMIII decommissioning and disposal	Less than significant	N/A	N/A
	<b>Combined effects</b>	<b>Less than significant</b>	<b>Less than significant</b>	<b>Less than significant</b>
Malmstrom AFB	On-base elements	Less than significant	Beneficial	Less than significant
	Off-base elements	Less than significant	Less than significant	Less than significant
	MMIII decommissioning and disposal	Less than significant	N/A	N/A
	<b>Combined effects</b>	<b>Less than significant</b>	<b>Less than significant</b>	<b>Less than significant</b>
Minot AFB	On-base elements	Less than significant	Beneficial	Less than significant
	Off-base elements	Less than significant	Less than significant	Less than significant
	MMIII decommissioning and disposal	Less than significant	N/A	N/A
	<b>Combined effects</b>	<b>Less than significant</b>	<b>Less than significant</b>	<b>Less than significant</b>
Hill AFB and UTTR	On-base elements	Less than significant	Beneficial	Less than significant
	Off-base elements	N/A	N/A	N/A
	MMIII decommissioning and disposal	Less than significant	N/A	N/A
	<b>Combined effects</b>	<b>Less than significant</b>	<b>Beneficial</b>	<b>Less than significant</b>
<b>Overall effects for all elements at all locations</b>		<b>Less than significant</b>	<b>Less than significant</b>	<b>Less than significant</b>

**Health and Safety.** The Proposed Action and the Reduced Utility Corridors Alternative would have short-term less-than-significant adverse and long-term beneficial effects on the health and safety of workers and short-term significant adverse effects on public health and safety. Short-term significant adverse effects on public health and safety would be the result of the influx of the temporary workforce, which would increase crime and put a significant strain on local medical, law enforcement, and firefighting resources if additional personnel and associated facilities and vehicles were not added. Short-term less-than-significant adverse effects on workers would result from construction and MMIII decommissioning and disposal activities at F.E. Warren, Malmstrom, Minot, and Hill AFBs; Camp Guernsey; UTTR; and MAFs, LFs, and proposed utility corridors and communication tower locations in the missile fields. Long-term beneficial effects on workers would result from the changes in operations and maintenance activities at F.E. Warren, Malmstrom, Minot, and Hill AFBs; Camp Guernsey; and MAFs and LFs throughout the missile fields.

Location	Elements of the action	Proposed Action/Reduced Utility Corridors Alternative		No Action Alternative
		Short-term	Long-term	Long-term
F.E. Warren AFB and Camp Guernsey	On-base elements	Less than significant	Beneficial	Negligible
	Off-base elements	Significant	Negligible	Negligible
	MMIII decommissioning and disposal	Less than significant	N/A	N/A
	<b>Combined effects</b>	<b>Significant</b>	<b>Beneficial</b>	<b>Negligible</b>
Malmstrom AFB	On-base elements	Less than significant	Beneficial	Negligible
	Off-base elements	Significant	Negligible	Negligible
	MMIII decommissioning and disposal	Less than significant	N/A	N/A
	<b>Combined effects</b>	<b>Significant</b>	<b>Beneficial</b>	<b>Negligible</b>
Minot AFB	On-base elements	Less than significant	Beneficial	Negligible
	Off-base elements	Significant	Negligible	Negligible
	MMIII decommissioning and disposal	Less than significant	N/A	N/A
	<b>Combined effects</b>	<b>Significant</b>	<b>Beneficial</b>	<b>Negligible</b>
Hill AFB and UTTR	On-base elements	Less than significant	Beneficial	Negligible
	Off-base elements	N/A	N/A	N/A
	MMIII decommissioning and disposal	Less than significant	N/A	N/A
	<b>Combined effects</b>	Less than significant	<b>Beneficial</b>	<b>Negligible</b>
<b>Overall effects for all elements at all locations</b>		<b>Significant</b>	<b>Beneficial</b>	<b>Negligible</b>

**Land Use.** The Proposed Action and the Reduced Utility Corridors Alternative would have short- and long-term less-than-significant adverse effects on land use. Short-term less-than-significant adverse effects would result from the construction activities at the installations and throughout the missile fields. Long-term less-than-significant adverse effects would result from changes to on-base facilities and establishing new communication towers throughout the missile fields. The Proposed Action and the Reduced Utility Corridors Alternative would not (1) substantially conflict with established land uses in the area or create a major land use incompatibility; (2) physically divide an established community; or (3) for actions proposed on-base, be inconsistent with adopted land use control plans that require regulatory agency acceptance, such as land use controls for restoration sites and habitat conservation plans to protect endangered species.

Location	Elements of the action	Proposed Action/Reduced Utility Corridors Alternative		No Action Alternative
		Short-term	Long-term	Long-term
F.E. Warren AFB and Camp Guernsey	On-base elements	Less than significant	Less than significant	Negligible
	Off-base elements	Less than significant	Less than significant	Negligible
	MMIII decommissioning and disposal	Negligible	N/A	N/A
	<b>Combined effects</b>	<b>Less than significant</b>	<b>Less than significant</b>	<b>Negligible</b>
Malmstrom AFB	On-base elements	Negligible	Negligible	Negligible
	Off-base elements	Less than significant	Less than significant	Negligible
	MMIII decommissioning and disposal	Negligible	N/A	N/A
	<b>Combined effects</b>	<b>Less than significant</b>	<b>Less than significant</b>	<b>Negligible</b>
Minot AFB	On-base elements	Less than significant	Negligible	Negligible
	Off-base elements	Less than significant	Less than significant	Negligible
	MMIII decommissioning and disposal	Negligible	N/A	N/A
	<b>Combined effects</b>	<b>Less than significant</b>	<b>Less than significant</b>	<b>Negligible</b>
Hill AFB and UTTR	On-base elements	Negligible	Negligible	Negligible
	Off-base elements	N/A	N/A	N/A
	MMIII decommissioning and disposal	Negligible	N/A	N/A
	<b>Combined effects</b>	<b>Negligible</b>	<b>Negligible</b>	<b>Negligible</b>
<b>Overall effects for all elements at all locations</b>		<b>Less than significant</b>	<b>Less than significant</b>	<b>Negligible</b>

**Noise.** The Proposed Action and the Reduced Utility Corridors Alternative would have short- and long-term less-than-significant adverse effects on the noise environment. Short-term less-than-significant adverse effects would result from construction and MMIII decommissioning and disposal activities at F.E. Warren, Malmstrom, Minot, and Hill AFBs; Camp Guernsey; UTTR; and MAFs, LFs, and proposed utility corridors and communication tower locations throughout the missile fields. Long-term less-than-significant adverse effects would be the result of the changes in operations and maintenance activities at F.E. Warren, Malmstrom, Minot, and Hill AFBs and Camp Guernsey.

Location	Elements of the action	Proposed Action/Reduced Utility Corridors Alternative		No Action Alternative
		Short-term	Long-term	Long-term
F.E. Warren AFB and Camp Guernsey	On-base elements	Less than significant	Less than significant	Less than significant
	Off-base elements	Less than significant	Less than significant	Less than significant
	MMIII decommissioning and disposal	Less than significant	N/A	N/A
	<b>Combined effects</b>	<b>Less than significant</b>	<b>Less than significant</b>	<b>Less than significant</b>
Malmstrom AFB	On-base elements	Less than significant	Less than significant	Less than significant
	Off-base elements	Less than significant	Less than significant	Less than significant
	MMIII decommissioning and disposal	Less than significant	N/A	N/A
	<b>Combined effects</b>	<b>Less than significant</b>	<b>Less than significant</b>	<b>Less than significant</b>
Minot AFB	On-base elements	Less than significant	Less than significant	Less than significant
	Off-base elements	Less than significant	Less than significant	Less than significant
	MMIII decommissioning and disposal	Less than significant	N/A	N/A
	<b>Combined effects</b>	<b>Less than significant</b>	<b>Less than significant</b>	<b>Less than significant</b>
Hill AFB and UTTR	On-base elements	Less than significant	Less than significant	Less than significant
	Off-base elements	N/A	N/A	N/A
	MMIII decommissioning and disposal	Negligible	N/A	N/A
	<b>Combined effects</b>	<b>Less than significant</b>	<b>Less than significant</b>	<b>Less than significant</b>
<b>Overall effects for all elements at all locations</b>		<b>Less than significant</b>	<b>Less than significant</b>	<b>Less than significant</b>

**Socioeconomics.** The Proposed Action and the Reduced Utility Corridors Alternative would have short-term significant adverse effects as well as some short-term beneficial effects on socioeconomics. The Proposed Action and the Reduced Utility Corridors Alternative would (1) cause a gain in population that would exceed the historic annual average change; (2) cause a gain in employment that would exceed the historic annual average change; and (3) place a greater demand on public schools, triggering the need for expanded capacity or resources. Short-term significant adverse effects would result from on- and off-base elements and MMIII decommissioning and disposal activities at F.E. Warren, Malmstrom, and Minot AFBs. Short-term less-than-significant adverse effects also would result from on-base elements of Sentinel deployment and MMIII decommissioning and disposal activities at Hill AFB and UTTR. Long-term less-than-significant adverse effects would result from on-base elements at F.E. Warren, Malmstrom, Minot, and Hill AFBs.

Location	Elements of the action	Proposed Action/Reduced Utility Corridors Alternative <sup>a</sup>		No Action Alternative
		Short-term	Long-term	Long-term
F.E. Warren AFB and Camp Guernsey	On-base elements	Significant	Less than significant	Beneficial
	Off-base elements	Significant	Negligible	Beneficial
	MMIII decommissioning and disposal	Significant	N/A	N/A
	<b>Combined effects</b>	<b>Significant</b>	<b>Less than significant</b>	<b>Beneficial</b>
Malmstrom AFB	On-base elements	Significant	Less than significant	Beneficial
	Off-base elements	Significant	Negligible	Beneficial
	MMIII decommissioning and disposal	Significant	N/A	N/A
	<b>Combined effects</b>	<b>Significant</b>	<b>Less than significant</b>	<b>Beneficial</b>
Minot AFB	On-base elements	Significant	Less than significant	Beneficial
	Off-base elements	Significant	Negligible	Beneficial
	MMIII decommissioning and disposal	Significant	N/A	N/A
	<b>Combined effects</b>	<b>Significant</b>	<b>Less than significant</b>	<b>Beneficial</b>
Hill AFB and UTTR	On-base elements	Less than significant	Less than significant	Beneficial
	Off-base elements	N/A	N/A	N/A
	MMIII decommissioning and disposal	Beneficial	N/A	N/A
	<b>Combined effects</b>	<b>Less than significant</b>	<b>Less than significant</b>	<b>Beneficial</b>
<b>Overall effects for all elements at all locations</b>		<b>Significant</b>	<b>Less than significant</b>	<b>Beneficial</b>

Note:

<sup>a</sup> The Proposed Action and the Reduced Utility Corridors Alternative would also have short-term economically beneficial effects from all elements at all locations.

**Transportation and Traffic.** The Proposed Action and the Reduced Utility Corridors Alternative would have short- and long-term less-than-significant adverse effects on transportation and traffic from activities at Minot and Hill AFBs, UTTR, and Camp Guernsey as well as at MAFs, LFs, and proposed utility corridors and communication tower locations throughout the missile fields. Long-term beneficial effects would result from the changes in operations and maintenance activities at F.E. Warren, Malmstrom, Minot, and Hill AFBs; Camp Guernsey; UTTR; and MAFs and LFs throughout the missile fields. The Proposed Action and the Reduced Utility Corridors Alternative would not (1) require long-term closure of off-base roadways; (2) substantially reduce the level of service on any primary off-base roadways; or (3) otherwise interfere with the functionality of the regional transportation network.

Location	Elements of the action	Proposed Action/Reduced Utility Corridors Alternative		No Action Alternative
		Short-term	Long-term	Long-term
F.E. Warren AFB and Camp Guernsey	On-base elements	Less than significant	Less than significant	Less than significant
	Off-base elements	Less than significant	Beneficial	Less than significant
	MMIII decommissioning and disposal	Less than significant	N/A	N/A
	<b>Combined effects</b>	<b>Less than significant</b>	<b>Less than significant</b>	<b>Less than significant</b>
Malmstrom AFB	On-base elements	Less than significant	Less than significant	Less than significant
	Off-base elements	Less than significant	Beneficial	Less than significant
	MMIII decommissioning and disposal	Less than significant	N/A	N/A
	<b>Combined effects</b>	<b>Less than significant</b>	<b>Less than significant</b>	<b>Less than significant</b>
Minot AFB	On-base elements	Less than significant	Less than significant	Less than significant
	Off-base elements	Less than significant	Beneficial	Less than significant
	MMIII decommissioning and disposal	Less than significant	N/A	N/A
	<b>Combined effects</b>	<b>Less than significant</b>	<b>Less than significant</b>	<b>Less than significant</b>
Hill AFB and UTTR	On-base elements	Less than significant	Less than significant	Less than significant
	Off-base elements	N/A	N/A	N/A
	MMIII decommissioning and disposal	Less than significant	N/A	N/A
	<b>Combined effects</b>	<b>Less than significant</b>	<b>Less than significant</b>	<b>Less than significant</b>
Camp Navajo	MMIII decommissioning and disposal	Less than significant	N/A	N/A
<b>Overall effects for all elements at all locations</b>		<b>Less than significant</b>	<b>Less than significant</b>	<b>Less than significant</b>



**Utilities and Infrastructure.** The Proposed Action and the Reduced Utility Corridors Alternative would have short-term significant and long-term less-than-significant adverse effects on utilities and infrastructure. Short-term significant adverse effects would be the result of siting workforce hubs near Lewistown, MT, and Kimball, NE, where available utility capacity is inadequate to accommodate the temporary increase in demand and there are no plans to provide additional capacity. Long-term less-than-significant adverse effects would be the result of the increased utility usage of on- and off-base facilities.

Location	Elements of the action	Proposed Action/Reduced Utility Corridors Alternative		No Action Alternative
		Short-term	Long-term	Long-term
F.E. Warren AFB and Camp Guernsey	On-base elements	Less than significant	Less than significant	Less than significant
	Off-base elements	Significant	Less than significant	Less than significant
	MMIII decommissioning and disposal	Less than significant	N/A	N/A
	<b>Combined effects</b>	<b>Significant</b>	<b>Less than significant</b>	<b>Less than significant</b>
Malmstrom AFB	On-base elements	Less than significant	Less than significant	Less than significant
	Off-base elements	Significant	Less than significant	Less than significant
	MMIII decommissioning and disposal	Less than significant	N/A	N/A
	<b>Combined effects</b>	<b>Significant</b>	<b>Less than significant</b>	<b>Less than significant</b>
Minot AFB	On-base elements	Less than significant	Less than significant	Less than significant
	Off-base elements	Less than significant	Less than significant	Less than significant
	MMIII decommissioning and disposal	Less than significant	N/A	N/A
	<b>Combined effects</b>	<b>Less than significant</b>	<b>Less than significant</b>	<b>Less than significant</b>
Hill AFB and UTTR	On-base elements	Less than significant	Less than significant	Less than significant
	Off-base elements	N/A	N/A	N/A
	MMIII decommissioning and disposal	Less than significant	N/A	N/A
	<b>Combined effects</b>	<b>Less than significant</b>	<b>Less than significant</b>	<b>Less than significant</b>
<b>Overall effects for all elements at all locations</b>		<b>Significant</b>	<b>Less than significant</b>	<b>Less than significant</b>

**Visual Resources.** The Proposed Action and the Reduced Utility Corridors Alternative would have short- and long-term less-than-significant adverse effects on visual resources. The short- and long-term less-than-significant adverse effects would result from activities at F.E. Warren, Malmstrom, Minot, and Hill AFBs; Camp Guernsey; UTTR; and MAFs, LFs, and proposed utility corridors and communication tower locations throughout the missile fields. The Proposed Action and the Reduced Utility Corridors Alternative would not result in (1) strong contrast and become a permanent dominant feature in the landscape or (2) a permanent change of Visual Resource Management class from Class I or II to Class III or IV.

Location	Elements of the action	Proposed Action/Reduced Utility Corridors Alternative		No Action Alternative
		Short-term	Long-term	Long-term
F.E. Warren AFB and Camp Guernsey	On-base elements	Less than significant	Negligible	Negligible
	Off-base elements	Less than significant	Less than significant	Negligible
	MMIII decommissioning and disposal	Negligible	N/A	N/A
	<b>Combined effects</b>	<b>Less than significant</b>	<b>Less than significant</b>	<b>Negligible</b>
Malmstrom AFB	On-base elements	Less than significant	Negligible	Negligible
	Off-base elements	Less than significant	Less than significant	Negligible
	MMIII decommissioning and disposal	Negligible	N/A	N/A
	<b>Combined effects</b>	<b>Less than significant</b>	<b>Less than significant</b>	<b>Negligible</b>
Minot AFB	On-base elements	Less than significant	Negligible	Negligible
	Off-base elements	Less than significant	Less than significant	Negligible
	MMIII decommissioning and disposal	Negligible	N/A	N/A
	<b>Combined effects</b>	<b>Less than significant</b>	<b>Less than significant</b>	<b>Negligible</b>
Hill AFB and UTTR	On-base elements	Less than significant	Negligible	Negligible
	Off-base elements	N/A	N/A	N/A
	MMIII decommissioning and disposal	Negligible	N/A	N/A
	<b>Combined effects</b>	<b>Less than significant</b>	<b>Negligible</b>	<b>Negligible</b>
<b>Overall effects for all elements at all locations</b>		<b>Less than significant</b>	<b>Less than significant</b>	<b>Negligible</b>

**Water Resources.** The Proposed Action and the Reduced Utility Corridors Alternative would have short- and long-term less-than-significant adverse effects on water resources. The short- and long-term less-than-significant adverse effects would result from activities at F.E. Warren, Malmstrom, Minot, and Hill AFBs; Camp Guernsey; UTTR; and MAFs, LFs, and proposed utility corridors and communication tower locations throughout the missile fields. The Proposed Action and the Reduced Utility Corridors Alternative and the Reduced Utility Corridors Alternative would not (1) cause an exceedance of a total maximum daily load; (2) cause a detrimental change in the impairment status of a surface water; (3) result in an unpermitted direct effect on a water of the United States; (4) cause erosion and sedimentation that would violate water quality laws or the terms of a National Pollutant Discharge Elimination System permit; or (5) contribute to a violation of any local, state, or federal regulation.

Location	Elements of the action	Proposed Action/Reduced Utility Corridors Alternative		No Action Alternative
		Short-term	Long-term	Long-term
F.E. Warren AFB and Camp Guernsey	On-base elements	Negligible	Less than significant	Negligible
	Off-base elements	Less than significant	Less than significant	Negligible
	MMIII decommissioning and disposal	Negligible	N/A	N/A
	<b>Combined effects</b>	<b>Less than significant</b>	<b>Less than significant</b>	<b>Negligible</b>
Malmstrom AFB	On-base elements	Negligible	Less than significant	Negligible
	Off-base elements	Less than significant	Less than significant	Negligible
	MMIII decommissioning and disposal	Negligible	N/A	N/A
	<b>Combined effects</b>	<b>Less than significant</b>	<b>Less than significant</b>	<b>Negligible</b>
Minot AFB	On-base elements	Negligible	Less than significant	Negligible
	Off-base elements	Less than significant	Less than significant	Negligible
	MMIII decommissioning and disposal	Negligible	N/A	N/A
	<b>Combined effects</b>	<b>Less than significant</b>	<b>Less than significant</b>	<b>Negligible</b>
Hill AFB and UTTR	On-base elements	Negligible	Less than significant	Negligible
	Off-base elements	N/A	N/A	N/A
	MMIII decommissioning and disposal	Negligible	N/A	N/A
	<b>Combined effects</b>	<b>Negligible</b>	<b>Less than significant</b>	<b>Negligible</b>
<b>Overall effects for all elements at all locations</b>		<b>Less than significant</b>	<b>Less than significant</b>	<b>Negligible</b>