
APPENDIX A
DISTRIBUTION LIST

APPENDIX A

DISTRIBUTION LIST

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Office of Project Management & Permitting
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Anchorage AK

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Adak AK

Kevin Oates
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US EPA
Seattle WA

Steve Cords
Alaskan Region Headquarters
FAA
Anchorage AK

Kenneth J. Havran
Director, Office of Environmental Policy
and Compliance
Department of the Interior
Washington, DC

APPENDIX B
CORRESPONDENCE



DEPARTMENT OF DEFENSE
MISSILE DEFENSE AGENCY
GROUND-BASED MIDCOURSE DEFENSE
JOINT PROGRAM OFFICE

P.O. Box 1500
Huntsville, AL 35807-3801

MDA/GMW-E

NOV 01 2004

Ms. Judith Bittner, SHPO
Alaska DNR, Office History & Archeology
550 West 7th Avenue, Suite 1310
Anchorage, AK 99501-3565

Dear Ms. Bittner:

This notice is being provided in accordance with the National Historic Preservation Act as amended, and implemented in 36 CFR 800. The Missile Defense Agency's Ground-Based Midcourse Defense project plans to station a Sea Based X-Band (SBX) radar in Kuluk Bay at Adak Island, Alaska. Use of the SBX was analyzed in the *Ground-Based Midcourse Defense (GMD) Extended Test Range Final EIS, July 2003*. An environmental assessment for the basing of the SBX at Adak is currently being prepared.

The SBX is a converted oil-drilling platform that supports the radar equipment (see Enclosure 1). It is a mobile unit that will move in and out of the bay several times per year. While stationary at Adak the SBX will be attached to a mooring system that requires eight drag-embedment anchors and cables attached to the four corners of the SBX. The installation of the mooring system anchors and cables in Kuluk Bay is the subject of this consultation.

The SBX moorage is approximately 2 nautical miles from the western shore of the bay (see Enclosure 2). During a recent sea floor geophysical survey to determine the optimal mooring system design and placement for the SBX, a "debris field" was discovered in the part of the bay that includes the SBX moorage. The majority of the debris is un-identifiable, however some fragments of World War II anti-submarine nettings, and ship anchors and anchor chain from various eras are present in the debris field. A single engine aircraft was also detected by sonar, but it lay 0.6 nautical miles outside of and west of the mooring area and will not be disturbed by the mooring system installation.

Artifacts in the bay are not considered contributing resources for the Adak National Historic Landmark. The distribution of the debris suggests that the debris was deposited by ocean dumping, most probably in the post WWII era. The debris are individual discreet artifacts and do not represent an intact World War II “site” or the original location of the anti-submarine net.

This is further suggested by the only site-specific record of anti-submarine net installation that we have found thus far. Most mentions of the net only say the net was installed at Kuluk Bay. However the history of the *USS UTE* says specifically that anti-submarine nets were installed at Sweepers Cove, an inlet of the much larger Kuluk Bay. The entrance to Sweepers Cove lies approximately 2.5 nautical miles southwest of the SBX mooring area.

The mooring location was selected to meet design requirements such as holding capacity as well as to avoid submerged debris to the extent possible. However, some debris has been identified within 50 feet of one or more anchors and associated cables. The installation contractors will employ technologies that will enable them to identify and remove obstructions with minimal disruption of the surrounding marine habitat, or other debris that does not require removal. Acceptable methods of removal include video guided clamshells and video guided mechanical grapples. Additionally, the contractor may propose other methods for the secure, minimally invasive removal of debris. Removal techniques that will be prohibited include: wire drags, grappling hooks, nets, non-video guided clamshells and mechanical grapples, and other bulk removal technologies incapable of target discrimination.

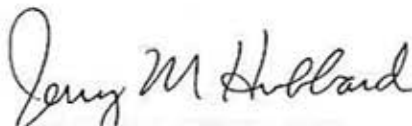
Debris will be removed and disposed of in an approved manner, or if it is an identifiable artifact that potentially contributes to the Adak National Historic Landmark, it can be brought to the surface and deposited on shore at a location desired by the Office of History and Archaeology. Adak National Historic Landmark includes contributing resource AHRS ADK-153, which is a pile of World War II anti-submarine netting located on the shore of Finger Bay.

All material and debris recovered from the seabed as part of the obstruction removal process will be washed down to return any marine organisms to the sea.

Through application of the Criteria of Effect and Adverse Effect under 36 CFR § 800.5 (a)(1) of the National Historic Preservation Act, we have determined that these two undertakings will have no adverse effect on historic properties.

Your review, comments, and concurrence of this Finding of No Adverse Effect are requested. To carry out this program in an expeditious manner, we request your response within 30 days of your receipt of this correspondence. Should you have any questions, please contact Mr. David Hasley at (256)955-4170.

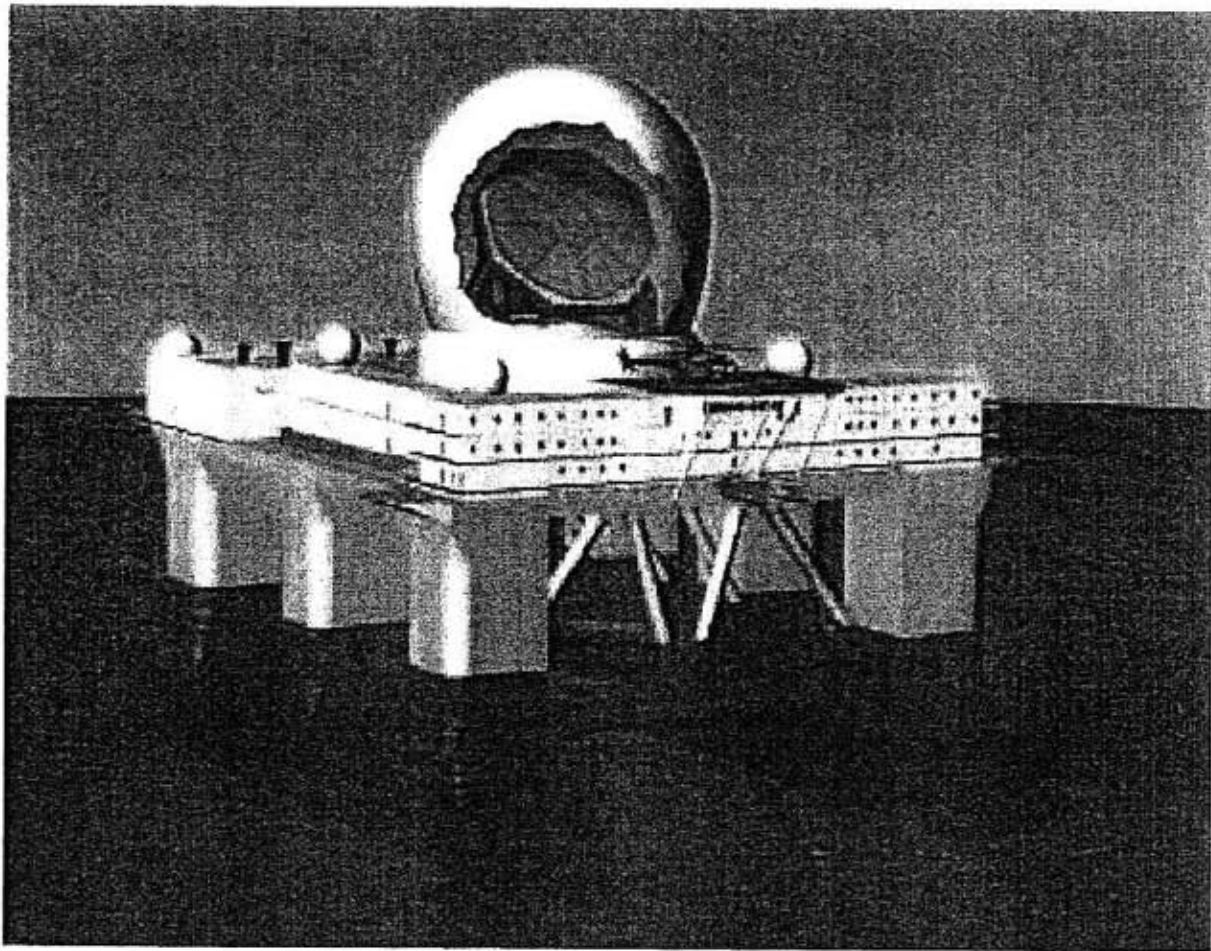
Sincerely,



JERRY M. HUBBARD

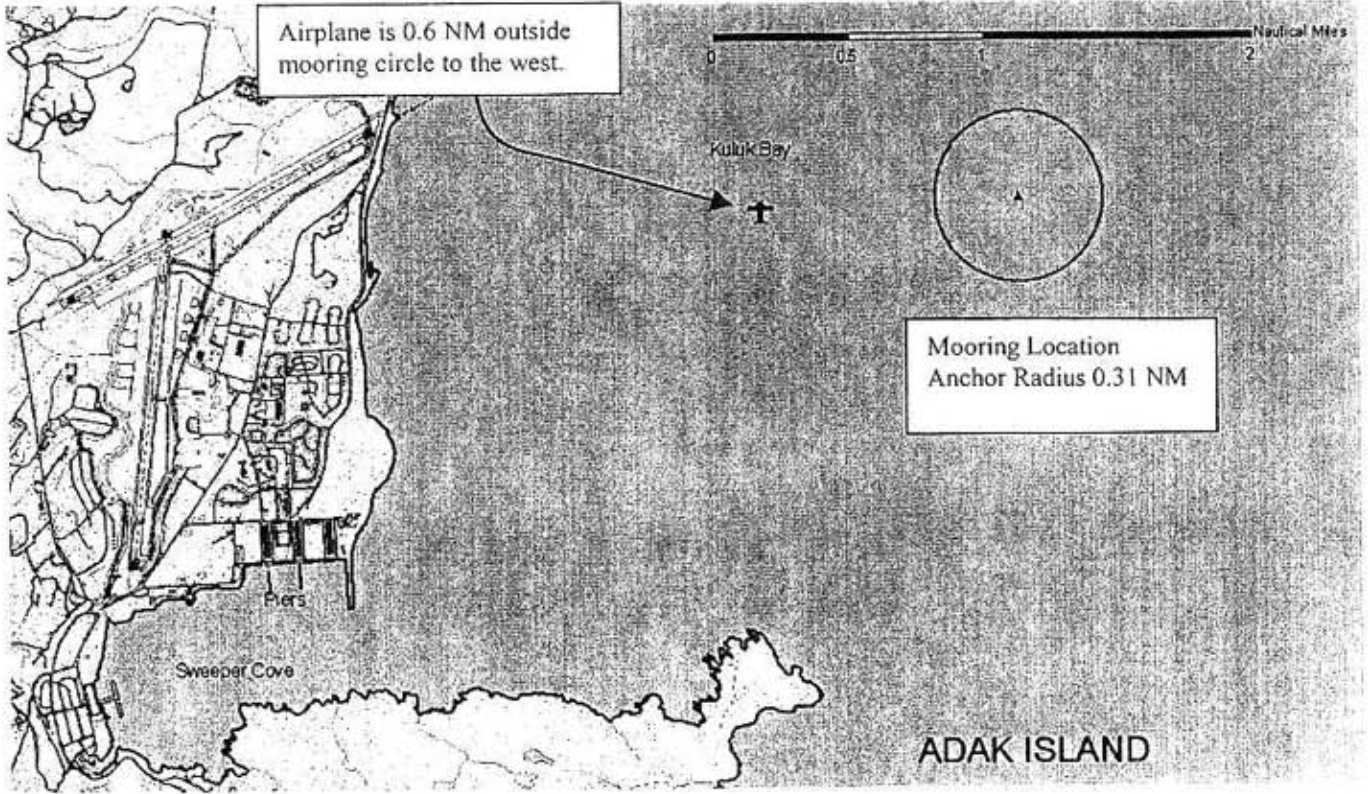
Dep. Director, Site Activation World Wide
Ground-Based Midcourse Defense

Enclosures:
As stated



Artist conception of the Sea Based X-Band Radar

Enclosure 1



Mooring location of the SBX in Kuluk Bay

Enclosure 2



**DEPARTMENT OF DEFENSE
MISSILE DEFENSE AGENCY
GROUND-BASED MIDCOURSE DEFENSE
JOINT PROGRAM OFFICE**

P.O. Box 1500
Huntsville, AL 35807-3801

DEC 07 2004

MDA/GMW-E

MEMORANDUM FOR: SEE DISTRIBUTION

SUBJECT: Ground-Based Midcourse Defense (GMD) Sea-Based X-Band Radar (SBX)
Placement and Operation Adak, Alaska Coordinating Draft Environmental
Assessment (EA)

Within the Department of Defense, the Missile Defense Agency is responsible for developing, testing, and deploying the Ballistic Missile Defense System, which is designed to intercept threat missiles during all phases of their flight: boost, midcourse, and terminal. The Ground-Based Midcourse Defense (GMD) is an element of the BMDS; the purpose of this GMD element is to intercept and destroy long-range missiles in the ballistic (midcourse) phase of flight before their reentry into the Earth's atmosphere. GMD system testing, Sea-Based X-Band Radar (SBX) operations, and the establishment of a Primary Support Base (PSB) at Adak Island, Alaska were analyzed in the 2003 *Ground-Based Midcourse Defense (GMD) Extended Test Range Environmental Impact Statement (EIS)*. The subsequent Record of Decision for the GMD Extended Test Range EIS selected Adak as the location to establish a PSB for the SBX.

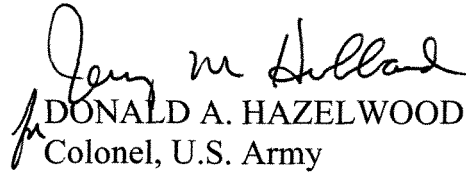
In compliance with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality regulations implementing NEPA, an Environmental Assessment (EA) is being prepared by the U.S. Army Space and Missile Defense Command in support of the SBX placement and operation at the Adak Island PSB.

The EA describes and addresses the potential environmental impacts of positioning and securing the SBX in the waters of Kuluk Bay near Adak; SBX operations while in port; designation and enforcement of a security zone and in the waters surrounding the SBX; use of onshore PSB assets to support SBX operations; and operation of a SBX support vessel. The purpose of the Proposed Action is to provide a safe, effective means of positioning the SBX at its PSB, along with providing adequate infrastructure, security, and support operations so that the SBX can maintain a high state of readiness for missile defense test missions and Limited Defensive Operations support. The actions described in the EA are needed to provide the capabilities to operate and maintain the readiness of the SBX and its crew.

The SBX would be positioned in Kuluk Bay by one of the following three alternatives: Permanent Mooring System (Preferred Alternative), Loitering in Kuluk Bay (Alternative 2), or Temporary Anchoring (Alternative 3). The Preferred Alternative would include the installation of a permanent mooring system to secure the SBX in Kuluk Bay, a catenary mooring system that uses drag embedment-type anchors.

The Coordinating Draft EA is being distributed to various agencies, including your office for review and comment prior to preparing the Final EA for public review. We desire to ensure that any concerns you might have about our efforts to identify natural resources and assess potential impacts are fully addressed. Please review this information and the Coordinating Draft EA and provide comments or any questions regarding the SBX project by January 7, 2005, to Mr. David Hasley, U.S. Army Space and Missile Defense Command, P.O. Box 1500, Huntsville, Alabama, 35807-3801 or by data facsimile (256) 955-5074.

Sincerely,


DONALD A. HAZELWOOD
Colonel, U.S. Army
Director, Site Activation World Wide
Ground-Based Midcourse Defense

Attachment:
Copies Furnished

DISTRIBUTION:

Amanda S. Henry
Project Review Coordinator
Office of Project Management & Permitting
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Homer AK

Chuck Luck
Mayor of Adak
Adak AK

Judy Jacobs
US Fish & Wildlife
Anchorage Field Office
Anchorage AK

Kevin Oates
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US EPA
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Steve Cords
Alaskan Region Headquarters
FAA
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DEPARTMENT OF DEFENSE
MISSILE DEFENSE AGENCY
GROUND-BASED MIDCOURSE DEFENSE
JOINT PROGRAM OFFICE

P.O. Box 1500
Huntsville, AL 35807-3801

MDA/GMW-E

DEC 07 2004

Director, Office of Environmental Policy and Compliance
Department of the Interior
Main Interior Building, MS 2342
1849 C Street, NW
Washington, DC 20240

Dear Mr. Ken Havran,

Within the Department of Defense, the Missile Defense Agency is responsible for developing, testing, and deploying the Ballistic Missile Defense System, which is designed to intercept threat missiles during all phases of their flight: boost, midcourse, and terminal. The Ground-Based Midcourse Defense (GMD) is an element of the BMDS; the purpose of this GMD element is to intercept and destroy long-range missiles in the ballistic (midcourse) phase of flight before their reentry into the Earth's atmosphere. GMD system testing, Sea-Based X-Band Radar (SBX) operations, and the establishment of a Primary Support Base (PSB) at Adak Island, Alaska were analyzed in the 2003 *Ground-Based Midcourse Defense (GMD) Extended Test Range Environmental Impact Statement (EIS)*. The subsequent Record of Decision for the GMD Extended Test Range EIS selected Adak as the location to establish a PSB for the SBX.

In compliance with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality regulations implementing NEPA, an Environmental Assessment (EA) is being prepared by the Missile Defense Agency in support of the SBX placement and operation at the Adak Island PSB.

The EA describes and addresses the potential environmental impacts of positioning and securing the SBX in the waters of Kuluk Bay near Adak; SBX operations while in port; designation and enforcement of a security zone in the waters surrounding the SBX; use of onshore PSB assets to support SBX operations; and operation of a SBX support vessel. The purpose of the Proposed Action is to provide a safe, effective means of positioning the SBX at its PSB, along with providing adequate infrastructure, security, and support operations so that the SBX can maintain a high state of readiness for missile defense test missions and Limited Defensive Operations support. The actions described in the EA are needed to provide the capabilities to operate and maintain the readiness of the SBX and its crew. The U.S. Coast

Guard would create a security zone around the SBX of approximately 500 yards required to ensure the physical protection of the SBX while positioned at the PSB.

The SBX consists of a converted semi-submersible mobile oil-drilling platform on which an X-Band Radar and other GMD system components have been mounted. The self-propelled SBX vessel is 238 feet wide and 398 feet long. While entering and leaving Kuluk Bay at transit draft, the SBX will have a height of approximately 250 feet. While at Adak, the SBX vessel would ballast down to operational draft and position itself in Kuluk Bay. At operational draft, the SBX would have a height of approximately 200 feet above the water's surface.

The SBX would be positioned in Kuluk Bay by one of the following three alternatives: Permanent Mooring System (Preferred Alternative), Loitering in Kuluk Bay (Alternative 2), or Temporary Anchoring (Alternative 3). The Preferred Alternative would include the installation of a permanent mooring system to secure the SBX in Kuluk Bay, a catenary mooring system that uses drag embedment-type anchors. The installation of each mooring leg would include dragging the anchor assembly approximately 50 to 100 feet along the sea floor. Each anchor would be buried up to 15 feet deep in the seafloor subsurface. Upon each arrival of the SBX into Kuluk Bay, a support vessel would assist in connecting the SBX to the mooring system.

Alternative 2 for positioning the SBX in Kuluk Bay would include the SBX operating its engines to maintain position in Kuluk Bay via the use of its own thrusters. The SBX would be underway, and would select a station-keeping point or would change position as desired. The SBX would remain at operational draft for the majority of its time, limiting its speed. The SBX could also move out of Kuluk Bay into Sitkin Sound (east and northeast of Adak) to provide more sea room in case of very high winds. Alternative 3 for positioning the SBX in Kuluk Bay would use the installed anchors aboard the SBX. On reaching the anchoring position, one of the two anchors on the SBX would be deployed. The approach to anchoring position would be upwind, and the anchor set by pulling downwind resulting in a different direction of plowing each time the anchor embeds itself.

The Proposed Action would include the SBX being located at the Adak PSB for up to 12 months per year. However, the SBX would likely depart Adak several times per year to support GMD testing and operational readiness. Current plans include up to 20 years of SBX operations for the Adak PSB. The SBX would use a radar that would perform tracking, discrimination, and kill assessments of target missiles as analyzed in the GMD Extended Test Range EIS. While located at the PSB, daily testing and calibration of the SBX's radar system would be performed to monitor and improve radar performance. During tests, the X-band radar would emit full-power Radio Frequency (RF) emissions for short time periods several times a day, which could result in total full-power RF emission time of up to an average of 5 hours per day. Calibration balloons launched from the main deck of the SBX and satellites would be used as radar targets during testing.

Various seabirds and water fowl overwinter around Adak. Gulls, fork-tailed petrels, and whiskered auklets (endemic to the Aleutians) are commonly observed in Kuluk Bay. The

ranges of the federally threatened spectacled eider (*Somateria fischeri*) and Steller's eider (*Polysticta stelleri*) and endangered short-tailed albatross (*Phoebastria albatrus*) include the Aleutian Islands. Steller sea lions (*Eumetopias jubatus*) and sea otters (*Enhydra lutris kenyoni*), are present in the bays and harbors of Adak. A Steller sea lion rookery is located on the southwestern portion of the island at Lake Point and a haulout area is located at Cape Moffett, northwest of the proposed SBX mooring location and outside the Region of Influence (ROI).

Although not directly within the region of influence, training for SBX personnel would include awareness of the presence of the Aleutian shield-fern on Adak and the need to avoid its habitat when visiting the island. Since birds are not likely to remain continuously within the radar beam and the power density is not expected to exceed levels that could impact birds, the likelihood of harmful exposure is not great. Overall, no harm to birds would be expected as a result of electromagnetic radiation (EMR) exposure. Lighting on the SBX platform would be shielded or pointed downward to minimize the attraction to birds. The amount of light coming from the platform has been minimized during design of the vessel to the extent practicable and in keeping with crew safety requirements. An on-board procedure for responding to bird strikes would be developed and implemented based on U.S. Fish and Wildlife Service guidance. The SBX vessel would incorporate marine pollution control devices such as keeping decks clear of debris, cleaning spills and residues, and engaging in spill and pollution prevention practices in compliance with the Uniform National Discharge Standards provisions of the Clean Water Act.

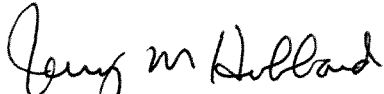

The relatively slow speed of the SBX platform should preclude the potential for collision with a free-swimming marine mammal. The normal running noise level from the SBX vessel at water level should be approximately 43 dBA, which is not anticipated to significantly affect biological resources. The SBX radar main beam would not be directed toward the ocean's surface. The signal height would be safely above any surfacing marine mammals such as the sea otter and Steller sea lion. No adverse impacts would occur to whales or other marine mammals below the surface. The SBX mooring site has high flushing conditions, deep water, and high wind velocities. Based on these factors at the SBX mooring site in Kuluk Bay, thermal effects to biological resources from cooling water discharge are expected to be minimal.

Based on the analysis in the Coordinating Draft EA as summarized above and conversations with U.S. Fish and Wildlife Service personnel, we believe the proposed activities may affect, but are unlikely to adversely affect threatened or endangered species in the region and thus no formal Section 7 consultation under the Endangered Species Act is required. The proposed activities would also not have a lasting effect on migratory bird populations protected by the Migratory Bird Treaty Act.

The enclosed Coordinating Draft EA is being distributed to various agencies, including your office for review and comment prior to preparing the Final EA for public review. We desire to ensure that any concerns you might have about our efforts to identify natural resources and assess potential impacts are fully addressed. If you would like additional species to be addressed, please let us know as soon as possible. Please review this

information and the Coordinating Draft EA and provide comments or any questions regarding the SBX project by January 7, 2005, to Mr. David Hasley, U.S. Army Space and Missile Defense Command, P.O. Box 1500, Huntsville, Alabama, 35807-3801 or by data facsimile (256) 955-5074.

Sincerely,


DONALD A. HAZELWOOD
 Colonel, U.S. Army
Director, Site Activation World Wide
Ground-Based Midcourse Defense

Enclosure:
As stated

DISTRIBUTION:

ALASKA MARITIME NATIONAL WILDLIFE REFUGE, ATTN: MS. ANNE
MORKILL, 95 STERLING HIGHWAY, SUITE 1, HOMER, ALASKA 99603
U.S. FISH AND WILDLIFE SERVICE, ECOLOGICAL SERVICES ANCHORAGE
FIELD OFFICE, BRANCH CHIEF FOR ENDANGERED SPECIES, ATTN: MR
GREG BALOGH, 605 WEST 4TH AVENUE, ROOM G-62, ANCHORAGE, ALASKA
99501



**DEPARTMENT OF DEFENSE
MISSILE DEFENSE AGENCY
GROUND-BASED MIDCOURSE DEFENSE
JOINT PROGRAM OFFICE**

P.O. Box 1500
Huntsville, AL 35807-3801

DEC 07 2004

MDA/GMW-E

Ms. Janet Herr
Administrative Support
National Oceanic and Atmospheric Administration (NOAA) Fisheries Alaska Region
Protected Resources Division
222 W. 7th Ave., #43
Anchorage, AK 99513-7577

Dear Ms. Herr:

Within the Department of Defense, the Missile Defense Agency is responsible for developing, testing, and deploying the Ballistic Missile Defense System, which is designed to intercept threat missiles during all phases of their flight: boost, midcourse, and terminal. The Ground-Based Midcourse Defense (GMD) is an element of the BMDS; the purpose of this GMD element is to intercept and destroy long-range missiles in the ballistic (midcourse) phase of flight before their reentry into the Earth's atmosphere. GMD system testing, Sea-Based X-Band Radar (SBX) operations, and the establishment of a Primary Support Base (PSB) at Adak Island, Alaska were analyzed in the 2003 *Ground-Based Midcourse Defense (GMD) Extended Test Range Environmental Impact Statement (EIS)*. The subsequent Record of Decision for the GMD Extended Test Range EIS selected Adak as the location to establish a PSB for the SBX.

In compliance with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality regulations implementing NEPA, an Environmental Assessment (EA) is being prepared by the Missile Defense Agency in support of the SBX placement and operation at the Adak Island PSB.

The EA describes and addresses the potential environmental impacts of positioning and securing the SBX in the waters of Kuluk Bay near Adak; SBX operations while in port; designation and enforcement of a security zone in the waters surrounding the SBX; use of onshore PSB assets to support SBX operations; and operation of a SBX support vessel. The purpose of the Proposed Action is to provide a safe, effective means of positioning the SBX at its PSB, along with providing adequate infrastructure, security, and support operations so that the SBX can maintain a high state of readiness for missile defense test missions and Limited Defensive Operations support. The actions described in the EA are needed to provide the capabilities to operate and maintain the readiness of the SBX and its crew. The U.S. Coast

Guard would create a security zone around the SBX of approximately 500 yards required to ensure the physical protection of the SBX while positioned at the PSB.

The SBX consists of a converted semi-submersible mobile oil-drilling platform on which an X-Band Radar and other GMD system components have been mounted. The self-propelled SBX vessel is 238 feet wide and 398 feet long. While entering and leaving Kuluk Bay at transit draft, the SBX will have a height of approximately 250 feet. While at Adak, the SBX vessel would ballast down to operational draft and position itself in Kuluk Bay. At operational draft, the SBX would have a height of approximately 200 feet above the water's surface.

The SBX would be positioned in Kuluk Bay by one of the following three alternatives: Permanent Mooring System (Preferred Alternative), Loitering in Kuluk Bay (Alternative 2), or Temporary Anchoring (Alternative 3). The Preferred Alternative would include the installation of a permanent mooring system to secure the SBX in Kuluk Bay, a catenary mooring system that uses drag embedment-type anchors. The installation of each mooring leg would include dragging the anchor assembly approximately 50 to 100 feet along the sea floor. Each anchor would be buried up to 15 feet deep in the seafloor subsurface. Upon each arrival of the SBX into Kuluk Bay, a support vessel would assist in connecting the SBX to the mooring system.

The Proposed Action would include the SBX being located at the Adak PSB for up to 12 months per year. However, the SBX would likely depart Adak several times per year to support GMD testing and operational readiness. Current plans include up to 20 years of SBX operations for the Adak PSB. The SBX would use a radar that would perform tracking, discrimination, and kill assessments of target missiles as analyzed in the GMD Extended Test Range EIS. While located at the PSB, daily testing and calibration of the SBX's radar system would be performed to monitor and improve radar performance. During tests, the X-band radar would emit full-power Radio Frequency (RF) emissions for short time periods several times a day, which could result in total full-power RF emission time of up to an average of 5 hours per day. Calibration balloons launched from the main deck of the SBX and satellites would be used as radar targets during testing.

Adak is part of the Aleutian Islands Unit of the Alaska Maritime National Wildlife Refuge and is within one of the world's richest fishing regions. The refuge was established to conserve marine mammals, seabirds, other migratory birds, and their habitat. Currently the Adak Fisheries Development Council processes cod, crab, halibut, and other bottom fish. Coho salmon, pink salmon, and Dolly Varden are known to spawn in most streams that drain into Kuluk Bay, north of the proposed SBX mooring location.

Marine mammals are present in the bays and harbors of Adak either year-round or during migration. These include non-listed species such as the harbor seal, orca, northern harbor porpoise, and Dall's porpoise as well as listed species such as Steller sea lions (*Eumetopias jubatus*), sea otters (*Enhydra lutris kenyoni*), and whales. Minke whales are often seen around the Central Aleutians and inside Kuluk Bay. Listed whales that have been observed include the endangered sperm whale (*Physeter macrocephalus*), fin whale

(*Balaenoptera physalus*), and humpback whale (*Megaptera novaeangliae*). A Steller sea lion (federally endangered) rookery is located on the southwestern portion of the island at Lake Point and a haulout area is located at Cape Moffett, northwest of the proposed SBX mooring location and outside the region of influence.

Under the Preferred Alternative, after the anchors have been set and the chain lengths have been properly adjusted the first time the SBX uses the moor, lateral dragging of the anchor lines on the seafloor would be very limited. The most significant movement along the chain would be vertical. A gentle lifting and lowering of the anchor chain catenaries would occur in response to changes in mooring loads on the SBX. Other than the initial disturbance during installation, impacts to the seafloor and its inhabitants would be minimal. Initial disturbance of the seafloor and its inhabitants during installation of the security boom/fence anchoring system is anticipated to be minimal and lateral dragging of the anchor lines would be limited once installed. SBX anchor chains would not restrict free movement of marine mammals in the area. The U.S. Navy would continue to monitor the levels of PCBs in rock sole and blue mussels from Sweeper Cove and Kuluk Bay every other year through 2009.

The relatively slow speed of the SBX platform should preclude the potential for collision with a free-swimming marine mammal. The normal running noise level from the SBX vessel at water level should be approximately 43 dBA, which is not anticipated to significantly affect biological resources. The total height of the SBX above the water line including the XBR radome would be approximately 280 feet at transit draft, and the SBX radar main beam would not be directed toward the ocean's surface. The signal height would be safely above any surfacing marine mammals such as the sea otter and Steller sea lion. No adverse impacts would occur to whales or other marine mammals below the surface. Operation of the SBX would not require delays if whales and other marine mammals are observed. The SBX mooring site has high flushing conditions, deep water, and high wind velocities. Based on these factors at the SBX mooring site in Kuluk Bay, thermal effects to biological resources from cooling water discharge are expected to be minimal.

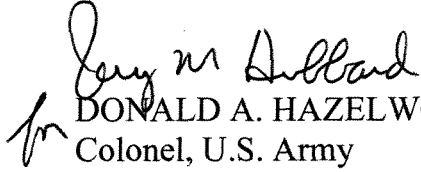
The SBX vessel would incorporate marine pollution control devices such as keeping decks clear of debris, cleaning spills and residues, and engaging in spill and pollution prevention practices in compliance with the Uniform National Discharge Standards provisions of the Clean Water Act. The potential for impacts to marine mammals due to an accidental release of diesel fuel is considered low.

Based on the analysis in the Coordinating Draft EA as summarized above, we believe the proposed activities may affect, but are unlikely to adversely affect threatened or endangered marine species in the region protected by the Endangered Species Act and the Marine Mammal Protection Act.

The enclosed Coordinating Draft EA is being distributed to various agencies, including your office for review and comment prior to preparing the Final EA for public review. We desire to ensure that any concerns you might have about our efforts to identify natural resources and assess potential impacts are fully addressed. If you would like additional species to be addressed, please let us know as soon as possible. Please review this

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Sincerely,


DONALD A. HAZELWOOD
Colonel, U.S. Army
Director, Site Activation World Wide
Ground-Based Midcourse Defense

Enclosure:
As stated

DISTRIBUTION:

NOAA FISHERIES ALASKA REGION, ATTN: MR.MARK BOLAND
NOAA FISHERIES ALASKA REGION, ATTN: MS.JEANNE HANSON



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
P.O. Box 21668
Juneau, Alaska 99802-1668

December 21, 2004

David Hasley
U.S. Army Space and Missile Defense Command
P.O. Box 1500
Huntsville, Alabama 35807-3801

Dear Mr. Hasley:

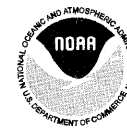
The National Marine Fisheries Service (NMFS) has reviewed the draft Environmental Assessment (EA) for the Ground- Based Midcourse Defense (GMD) Sea-Based X-Band Radar (SBX). The EA describes and addresses the potential environmental impacts of positioning and securing the SBX in the waters of Kuluk Bay near Adak Island, Alaska. GMD system testing, SBX operations, and the establishment of a Primary Support Base (PSB) at Adak Island, Alaska were analyzed in the 2003 *Ground-Based Midcourse Defense (GMD) Extended Test Range Environmental Impact Statement (EIS)*. The subsequent Record of Decision for the GMD Extended Test Range EIS selected Adak as the location to establish a PSB for the SBX.

The information provided below should be used in making your determinations under section 7(a)(2) of the Endangered Species Act of 1973, as amended (ESA) and the Essential Fish Habitat (EFH) provisions of the Magnuson-Stevens Fishery Conservation Management Act (Magnuson-Stevens Act).

Essential Fish Habitat

Under Section 305(b)(2) of the Magnuson-Stevens Act, federal agencies are required to consult with the Secretary of Commerce on any action that may adversely affect EFH. The trigger for EFH consultation is a federal action agency's determination that an action may adversely affect EFH. The SBX draft EA does not discuss whether the proposed actions may adversely affect EFH.

We offer the following information to assist you in making your determination. EFH has been designated in waters around Adak for anadromous salmon and certain life stages of marine fish under NMFS' jurisdiction. Please visit our web site at <http://www.fakr.noaa.gov/habitat/> for additional EFH information regarding your project area.



ALASKA REGION - www.fakr.noaa.gov

Threatened and Endangered Species/Marine Mammals

The following is a list of the federally listed threatened and endangered species that may occur in the vicinity of Adak Island and for which the National Marine Fisheries Service is responsible:

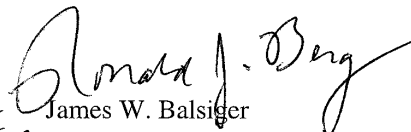
fin whale (endangered)	<i>Balaenoptera physalus</i>
humpback whale (endangered)	<i>Megaptera novaeangliae</i>
Steller sea lion - western stock *	<i>Eumetopias jubatus</i>

*The Steller sea lion is listed as endangered west of 144 degrees west longitude, and threatened east of this line.

The draft EA determined that the proposed activities may affect, but are unlikely to adversely affect endangered and threatened marine species. Our agency concurs with your determinations regarding threatened and endangered species and their critical habitat, finding the proposed actions and alternatives are not likely to adversely affect the endangered marine species. Therefore, we consider the requirements of section 7 (a)(2) of the ESA have been met and no further consultation is required.

We hope this information is useful in fulfilling your requirements under Section 7 of the ESA and under Section 305(b)(2) of the Magnuson-Stevens Act. Please direct any questions regarding protected species to Mr. Brad Smith at (907) 271-3023, and questions regarding EFH to LCDR Mark Boland at (907) 271-2373.

Sincerely,


James W. Balsiger
For Administrator, Alaska Region



United States Department of the Interior

NATIONAL PARK SERVICE
Alaska Regional Office
240 W. 5th Avenue, Room 114
Anchorage, Alaska 99501

IN REPLY REFER TO:

H3417(AKRO-RCR)

DEC 23 2004

Jerry M. Hubbard
Deputy Director, Site Activation World Wide
Department of Defense
Missile Defense Agency
Ground-Based Midcourse Defense
P.O. Box 1500
Huntsville, Alabama 35807-3801

Dear Mr. Hubbard:

The Alaska State Historic Preservation Officer (SHPO) recently provided us with copies of your correspondence regarding the Sea-Based X-Band (SBX) radar in Kuluk Bay, Alaska.

The National Park Service (NPS) administers the National Historic Landmarks (NHL) program for the Secretary of the Interior. Federal agencies undertaking a project within a NHL must be in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended. The above referenced project is located within the boundaries of the Adak Army and Naval Operations Base NHL. The NPS serves as an interested party throughout the Section 106 process to ensure the integrity of the NHL.

In reference to potential impacts to World War II related resources through this undertaking, we agree with the SHPO's condition recommendations as stated in their letter addressed to you, dated December 8, 2004.

We are very interested in knowing what is discovered within the "debris field." Would you please provide us with this information as well as with a copy of the Ground-Based Midcourse Defense (GMD) Extended Test Range Final EIS, July 2003.

Please send this information to Linda Cook, Superintendent of Affiliated Areas, at 240 W. 5th Avenue, Anchorage, AK 99501. If you have any questions, please call Linda at 907/644-3503 or e-mail at: Linda_cook@nps.gov.

For your interest, enclosed are some educational materials about World War II in the Aleutians.

Sincerely,


Jane Clemens
Historian

cc:

Judith E. Bittner, SHPO
Linda Cook, Superintendent, AFAR



DEPARTMENT OF DEFENSE
MISSILE DEFENSE AGENCY
GROUND-BASED MIDCOURSE DEFENSE
JOINT PROGRAM OFFICE
P.O. Box 1500
Huntsville, AL 35807-3801

MDA/GMW-E

Ms. Ann G. Rappoport
U.S. Department of the Interior
Fish and Wildlife Service
Anchorage Fish & Wildlife Service Field Office
605 West 4th Avenue, Room G-61
Anchorage, Alaska 99501-2249

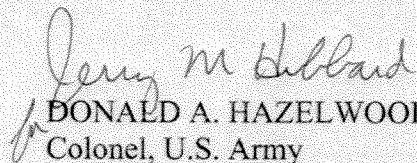
Dear Ms. Rappoport,

Thank you for your comments on the Ground-Based Midcourse Defense (GMD) Sea-Based X-Band Radar (SBX) Placement and Operation, Adak, Alaska Environmental Assessment (EA).

Per our conversation with your office on March 4, 2005, enclosed are responses to specific comments. This information will also be added to the appropriate sections of the Final EA. We look forward to working with your office to complete the consultation process.

For any questions concerning the EA, please contact Mr. David Hasley, U.S. Army Space and Missile Defense Command, (256) 955-4170.

Sincerely,


DONALD A. HAZELWOOD
Colonel, U.S. Army
Director, Site Activation World Wide
Ground-Based Midcourse Defense

Enclosure:
As stated

Responses to U.S. Fish and Wildlife Service (USFWS) comments:

1. Anchoring – Added the following to Chapter 2 of the EA: The mooring location was selected to meet design requirements such as holding capacity as well as to avoid submerged debris to the extent possible. A geophysical survey was conducted in an unobtrusive manner (i.e. by taking depth soundings, by using side scan sonar to produce images of the seafloor, by using seismic reflection systems, by taking sediment samples, and by recording video images of the seafloor at selected locations). The seabed in the mooring location consists of a thin layer of mud and then sand in sufficient depth to provide good holding ground for conventional drag embedment anchors. Fish were occasionally observed in the mooring location (200-foot depth) during the geophysical survey, but no sensitive marine habitat such as clam beds. Near shore species that have been studied in the area such as mussels and rock sole would be outside the region of influence.

As stated in Chapter 2 of the EA, Each anchor would weigh approximately 77,000 pounds and would be up to 30 feet wide. Attached to each anchor would be a preinstalled segment of the mooring chain, clump weights, and a pickup buoy that would enable the end of the preinstalled segment of the mooring chain to be available on the surface of the water during mooring connection operations. Once installed, the mooring legs and their anchors would encompass a circular area of approximately 3,400 feet in diameter, with the SBX mooring location in the center.

Although the floating security boom/fence anchoring system has not been selected, it will most likely consist of clump weight anchors that rest on the sea floor. Mooring and security system operations are not expected to drastically change the substrate or reduce the quality and/or quantity of the Essential Fish Habitat designated in the waters surrounding Adak. We have not identified any specific sensitive habitat that would be impacted by the mooring. A State of Alaska Submerged Land Lease and Corps of Engineers Section 10 Permit are currently in process for the mooring location.

Additional information from the geophysical survey will be added to the EA as an appendix.

2. Bird Strike Potential – The GMD Program is aware of the potential for bird strikes and as clarified in the EA. An onboard procedure for responding to bird strikes and reporting to the USFWS would be developed and implemented based on USFWS guidance. Points of contact with the SBX operator and the USFWS, as well as type and frequency of reports would be established. The commitment and reference to the procedures is included in the EA; however, the actual procedures would be developed outside of the National Environmental Policy Act (NEPA) process and would not be included in the EA.

The Ground-Based Radar-Prototype (GBR-P) radar, located on the tip of Kwajalein Atoll, is similar to the X-Band Radar (XBR) on the SBX. The GBR-P has a translucent dome similar

to the SBX and is illuminated for four hours every night. The facility is inspected each day and damage to the dome from anything resembling a bird strike has not been observed.

3. RF Emissions

3a. – Text in first paragraph under section 4.3.2 revised to: “The XBR would not point its main beam toward the ground or water surface and would be programmed to avoid illuminating ground obstructions such as the local terrain, buildings, and antenna towers. During calibration and maintenance testing, the XBR beam would normally be directed at least ten degrees above horizontal. In the open ocean, the main beam would be directed at least two degrees above horizontal. Because the bottom of the XBR main beam will always be at least 100 feet above the water surface (height of the bottom of the XBR antenna to the water surface at submerged draft), neither a beam at two or ten degrees elevation would illuminate the sea surface. Lesser amounts of energy would be emitted in the form of grating and side lobes in the area around the main beam; however, as shown in Table 2-1 the energy level would not exceed permissible exposure limits. Therefore, birds sitting on the water or people sitting on open decks of boats would not be adversely affected by the main beam.”

3b. – The text in the EA has been clarified. Auklets, which can range from five to nine ounces, are closer in weight to the primary bird analyzed in the study, the Aplomado falcon (9 to 14.5 ounces) and thus should also not be significantly affected. The reference to other birds “up to” 7.7 pounds was used in the original report to extrapolate from the smaller Aplomado Falcon to the larger raptors discussed in the original GBR EA.

3c. – As stated in the EA, “Potential impacts from Radio Frequency (RF) transmissions from the XBR on birds have been compared to the existing Cobra Dane radar operating on Eareckson Air Station on Shemya Island, Alaska. The Cobra Dane operates in the L-band (1,000 to 2,000 MHz), while the proposed XBR would operate in the X-band (8,000 to 12,000 MHz). The X-band has less potential to cause thermal heating in biological resources than the L-band. Also, the proposed XBR would only transmit full-power RF emissions for short periods of time several times per day, for a total full-power emissions time of up to 5 hours per day. The main beam would be constantly moving and would not be stationary over one area. The USFWS has not noticed die-offs of birds below the Cobra Dane radar (Martin, 1999). The Aleutian goose, which was recently de-listed, is a regular visitor to Shemya Island and does not appear to have been affected by operation of the Cobra Dane radar. Rather the Aleutian goose population on Shemya has increased.” “On Kwajalein Island, where the GBR-P X-band radar is located, no bird die-offs or other impact to birds have been observed by the on-island environmental staff.”

“Birds in the Kuluk Bay area, such as gulls, whiskered auklets, and cormorants, flying momentarily in the constantly moving SBX beam would receive a similar exposure as the birds on Shemya and Kwajalein and therefore no impacts are expected.”

“The PAVE PAWS radar operated by the U.S. Air Force at Cape Cod, MA operates at 420 to 450 Megahertz (MHz), and has a higher potential to cause thermal heating than the SBX. A recent study on the potential effects from exposure to the PAVE PAWS radar included a discussion of biological studies with short-term continuous exposure times of hours to days, much longer than the momentary exposure from the SBX. The report states that “In numerous short-term exposure studies, no reproducible effects on deoxyribonucleic acid (DNA) damage have been observed, as measured by a number of different methods. While some studies have shown significant effects on gene expression due to modulated RF exposure of cells in culture, these do not include end-points traditionally associated with carcinogenesis.” (National Academy of Sciences, 2005)”

4. Thermal Cooling System – As stated in the EA, “The thermal effects of seawater cooling water overboard discharge were previously modeled using the Cornell Mixing Zone Expert System in the *Technical Development Document for Phase I Uniform National Discharge Standards for Vessels of the Armed Forces*. This system was used to estimate the plume size and temperature rises in the water body receiving the discharge of three vessels in three harbors. Of the five states having a significant presence of Armed Forces’ vessels, only Virginia and Washington have established thermal mixing zone dimensions. The models predicted that U.S. Navy aircraft carriers with a typical cooling water temperature rise of 10 to 15 degrees, would generate thermal plumes that, under conditions of low harbor flushing, low wind velocities, and maximum cooling water flow rates (120,000 gallons per minute), would exceed the regulatory thermal mixing zone limits of Washington. Thermal plumes from models of destroyers did not exceed regulatory limits. (U.S. Environmental Protection Agency and U.S. Department of the Navy, 1999)”

“The SBX cooling water would have a much lower flow rate (7,400 gallons per minute), lower typical temperature rise of 6 to 10 degrees, and the mooring site in Kuluk Bay, when compared to the modeled locations, has higher flushing conditions, much deeper water (230 feet versus 30 feet), and high wind velocities, all of which minimize the potential for thermal effects. Although certain fish and wildlife species may be attracted to warmer water, the SBX thermal plume would be a localized feature. If the number of wildlife in the vicinity of the SBX increases over time then additional coordination with the USFWS would occur.”

5. Wastewater composition – As clarified in the EA, “An onboard marine sanitation device would be used to treat the wastewater produced onboard the SBX prior to discharge while moored in Kuluk Bay. The wastewater would undergo maceration and disinfection (chlorination) treatments before being discharged just above the pontoon deck. An oil-water separator would also be used onboard to treat oily bilge water before its discharge overboard above the water line.”

“Although the SBX seawater cooling discharge would contain some heavy metals, the quantity would be less than on typical armed forces vessels which utilize nickel-copper piping. While the SBX uses some copper-nickel piping, it also uses a composite piping that does not contribute heavy metals. Although specific performance standards and potential

pollution control device requirements have not been determined, and specific requirements for the SBX, if any, can not be developed at this time, the use of the composite piping is considered a pollution control device.”

Annual underwater hull inspections would be conducted to insure there is not an excess accumulation of marine organisms. The SBX hulls would be cleaned in dry dock approximately every five years. These actions would help minimize the potential for the SBX to act as an artificial reef, attracting marine organisms.

6. Effects of supply vessel – Text revised to “The use of existing facilities on Adak for Primary Support Base (PSB) activities would not result in impacts to biological resources. Support vessels are commonly present in Sweeper Cove and Kuluk Bay, or docked pier-side at the Port of Adak. The support vessel would be operated in accordance with all applicable rules and regulations, and no significant impacts to marine life are anticipated. In addition, the patrol boat used in the waters in the vicinity of the SBX would use an approved Marine Sanitation Device to process sanitary waste generated onboard. Any hazardous wastes transported by or generated onboard the patrol boat would be disposed of onshore according to Alaska Department of Environmental Conservation (ADEC) and USEPA guidelines, and no significant impacts to marine life are anticipated.”

7. Personnel Requirements – The SBX would have 62 people assigned to permanent duty with some temporary duty personnel making the total number of personnel up to 100 at any given time. Thirty-three people would be permanently assigned to the PSB with about 40 on shore at any given time.

8. Platform Size – Text revised to “The total height of the SBX above the water line including the XBR radome would be approximately 250 feet at transit draft...”

9. Potential introduction of aquatic invasive species in bilge water – The following text has been added. “In order to comply with the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990, and the National Invasive Species Act of 1996, as mandated by the Coast Guard, the SBX would employ at least one of the following ballast water management practices as applicable:

- Prior to discharging ballast water in U.S. waters, perform complete ballast water exchange in an area no less than 200 nautical miles from any shore.
- Retain ballast water onboard the vessel.
- Prior to the vessel entering U.S. waters, use an alternative environmentally sound method of ballast water management that has been approved by the Coast Guard.
- Discharge ballast water to an approved reception facility.”

10. References – References have been reviewed.

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APPENDIX C
DRAFT AIRSPACE MEMORANDUM OF AGREEMENT

APPENDIX C

DRAFT AIRSPACE MEMORANDUM OF AGREEMENT

A Memorandum of Agreement similar to the following would establish the required scheduling and coordination process between the SBX operators and the FAA. The following example is currently under development for SBX operations in the Gulf of Mexico.

DRAFT - MEMORANDUM OF AGREEMENT
Between the
Federal Aviation Administration (FAA)
and the
Missile Defense Agency (MDA),
Ground Based Midcourse (GMD)
Sea Based X-band Radar (SBX) Program Office (GMX)

I. Purpose

This Memorandum of Agreement (MOA) establishes an operating relationship between the MDA/GMX SBX and the FAA Office of the Houston Texas Air Route Traffic Control Center (ARTCC), with respect to providing safe operations for controlled and uncontrolled aircraft in the vicinity of the SBX. This MOA includes collaboration and development of procedures between the FAA and GMX to apply FAA methodologies and expertise developing and executing aircraft safe operations and providing the FAA with appropriate controls and information to manage the affected airspace.

II. Background and Rationale

The SBX platform and systems are undergoing development and tests in Brownsville Texas at the AMFELS shipyard. When completed in early 2005, the Vessel will transit from Brownsville to Corpus Christi for additional installations and tests. Following that the vessel will transit to open waters in the Gulf of Mexico for completion of its integration and tests procedures. These later tests will require the transmission of relatively high power X-band radar energy into the airspace controlled by the FAA. The radar has sufficient energy in the main beam to cause premature aging of aircraft avionic systems as delineated in FAA Notice 8710.71 "Guidance For The Certification Of Aircraft Operating In High Intensity Radiated Field (HIRF) Environments".

While this notice is not in effect and while the actual susceptibility of current aircraft designs cannot be assessed, the operating procedures for the SBX shall be to prevent high-power RF illumination of aircraft under all circumstances when aircraft are within 12 km of the radar, when the radar is operating at high power.

Safe passage must be provided to all aircraft. To this end an agreement between the FAA and the SBX regarding their mutual operations must be put in place. The SBX Program Office has been designated as the principal direct controlling agent of the vessel for the period covered by this agreement.

III. Objective/Scope

The objective of this MOA is to establish an operating working relationship between GMX and the FAA, and to provide a mechanism for the use of resources in protecting aircraft in the national airspace structure and notifying the SBX of aircraft in the vicinity of the vessel. This MOA also provides for the sharing of information and training of personnel in the areas of SBX/FAA operation and safety. There are three basic areas of collaboration under this MOA:

1. Training of SBX and FAA personnel in the processes and procedures and assets necessary to provide aircraft protection;
2. Development of requirements and standards for operational procedures;
3. Methods of implementing control.

This MOA does not limit the use of other resources by MDA, the FAA, or by other organizations required to accomplish their respective missions, nor does it modify or limit any existing roles or responsibilities.

IV. Implementation

A. GMX shall:

1. Provide appropriate opportunities for the FAA to participate in GMX's program, project, and planning process so that the FAA may make decisions regarding actions associated with developing procedures for safe operations;
2. Provide a participative role in test and/or mission planning to the FAA;
3. Coordinate and conduct field trials and test/operations readiness demonstrations, research, and testing at existing or proposed operational positions;
4. Participate in the FAA working groups as required;
5. Augment FAA capabilities and expertise with GMX by provided training in SBX operations and safety topics as required.

B. FAA shall:

1. Provide appropriate opportunities for GMX to participate in related FAA program and project planning events so GMX may make strategic decisions associated with operations;
2. Support the identification, assessment, validation, and/or demonstration of candidate concepts and technologies;
3. Facilitate and support communication and control techniques and methodologies necessary to provide adequate information flow to and from the SBX.

C. Both GMX and the FAA shall:

1. Identify collaborative tasks and establish an approach to managing work to be performed under this MOA;
2. Coordinate to prioritize projects with agreed responsibilities for each activity, including the funding sources, levels of effort, and the application of resources if required;
3. Share pertinent information associated with planning, approval, and execution of activities under the jurisdiction of the FAA and ICAO.

D. Technical Areas of Collaboration

Examples of potential areas of collaboration under this MOA are listed below. Other areas may be explored, as appropriate.

- Operations facilities and systems
- Communication and messaging systems
- Maintenance/processing
- Operations control centers
- System and equipment support
- Crew/operations/maintenance training
- National Airspace System integration

- GMX operations control centers (command, control, and communications)
- Surveillance, tracking, weather, and telemetry systems
- Emergency services
- Local operations

E. Funding and Liability

This MOA will not serve as authorization for GMX or the FAA to commit financial or other resources between GMX and FAA, nor by GMX or FAA to third parties. Any authorization for such expenditures will be stated in the documentation of implementation efforts mentioned in subsection F, and shall be consistent with the applicable authority and operating plans of GMX and FAA. Upon obtaining the appropriate approvals, and necessary funding, GMX and FAA may utilize their respective statutory and regulatory authority to award contracts, grants, cooperative agreements, and other transactions that support this collaboration. Resource commitments are subject to availability of those resources and subject to availability of appropriated funds. GMX and the FAA agree to assume liability for their own risks associated with the activities pursuant to this MOA and as documented in writing by the agencies.

F. Project/Implementation Plans

This MOA establishes the parameters for collaboration between GMX and FAA. All implementation efforts pursuant to this MOA, whether reimbursable or non-reimbursable, will be documented in writing, and be signed by appropriate GMX and FAA officials. The form of documentation will be appropriate to the complexity of and resources committed to the effort. When appropriate, Project/Implementation Plans shall be developed. These plans shall detail the objectives, scope, elements of performance, resources, responsibilities, authorities, schedule, and products associated with work to be performed. Each plan shall be approved prior to performing any work or tasks identified under the plan. All plans and other agreements entered under this MOA shall conform to applicable federal statutes, regulations, orders, and directives including agency-specific legislation. If developed, the plans shall be authorized on a case-by-case basis for each task or project.

V. Technical Representatives

The following positions are responsible for the oversight of this MOA for their respective agencies; however, they do not have the authority to unilaterally alter the terms of this MOA:

1. Manager, Houston Air Route Traffic Control Center
2. Program Manager, Missile Defense Agency, Ground Based Midcourse Defense, Sea Based X-Band Radar.

The Technical Representatives, or their successors, will resolve any disputes, which may arise under this MOA, in accordance and compliance with appropriate FAA and MDA policies and procedures.

VI. Dissemination of Information

GMX and/or the FAA may not disclose or publish results obtained from the performance of work pursuant to this MOA, independently or jointly without approval from both parties. Press releases, reports, papers, and other materials, which are produced as a result of this agreement, must be coordinated prior to release. To the extent permitted by applicable Federal laws and regulations, the initial release of any information to the public concerning results or conclusions made in performance of tasks under this MOA shall require prior written approval of the FAA and GMX Technical Representatives identified in Section V.

VII. Period of Performance

This MOA shall become effective upon the signing of the last approving party identified in Section IX, and shall remain in effect for a period of one year unless terminated or extended by mutual agreement under the process outlined in Section VIII.

VIII. Modifications/Amendments/Termination

No verbal or written statement by any person other than GMX and FAA signatories, their successors, or their designees, acting within the scope of their authority, shall modify or otherwise affect the terms of this MOA. Any changes to the terms, conditions, or scope shall be in writing and executed in accordance with each agency’s policies and procedures. Modifications, at a minimum, shall include an identifying number, title and the effective date. Either party may terminate this MOA 90 days after written notification of intent to terminate. Termination requires that the Technical Representative of the initiating party write a modification (purpose only) stating the subject MOA is to be terminated, its identifying number, title and effective date of the termination. Upon termination, each agency will refund any portion of those funds that have been advanced to the other agency, but not expended, in connection with the work specified in the MOA.

IX. AUTHORITY

- A. GMX - The legal authority for GMX to enter into this agreement is found in section (the legal definition of negotiations standards in MDA).
- B. FAA -
- C. Transfer of Funds

To the extent funds may be transferred between FAA and GMX for services and/or goods provided on a reimbursable basis, transfer shall be by authorized method of funding transfer.

X. Approvals

By our signatures below, we hereby indicate our agreement as outlined in this MOA between the GMX Program Office and the FAA.

Name (Typed)
Title

Name (Typed)
Title

Date

Date