Executive Summary

Introduction

This Programmatic Environmental Impact Statement (PEIS) provides an assessment of the potential environmental impacts associated with the proposed implementation of the Nationwide Automatic Identification System (NAIS) project by the U.S. Coast Guard (USCG). The proposed implementation of the NAIS project would involve installing receivers, transmitters, transceivers, repeaters, and other equipment on towers or other structures at up to 450 sites at locations along 95,000 miles of coastline and inland waterways. Selected remote platforms such as satellites, offshore oil and gas platforms, and data buoys would also be used. The proposed implementation of the NAIS project is a U.S. Department of Homeland Security (DHS) Level I investment and USCG major systems acquisition and would be expected to be fully implemented and operational by 2014.

The Automatic Identification System (AIS) is an international standard for ship-to-ship, ship-to-shore, and shore-to-ship communication of information, including vessel identity, position, speed, course, destination, and other data of critical interest for navigational safety and maritime security. AIS equipment is required domestically and internationally aboard most commercial vessels. AIS shipboard equipment consists of a transceiver that continually transmits and receives vessel navigational information (e.g., position, course, speed) over very high frequency-frequency modulation (VHF-FM) maritime frequencies. AIS is an "open system" which allows vessels operating in proximity to each other to automatically share AIS-related information and create a virtual network. Shore stations can also join these virtual networks, and can receive shipboard AIS signals, perform network and frequency management, and send additional broadcast or individual informational messages to AIS-equipped vessels.

The proposed implementation of the NAIS project would provide the USCG with the capability to receive and distribute information from shipboard AIS equipment and transmit information to AIS-equipped vessels to enhance Maritime Domain Awareness (MDA). MDA is the effective understanding of anything associated with the global marine environment that could impact the security, safety, economy, or environment of the United States. The project would provide detection and identification of vessels carrying AIS equipment that are approaching or operating in the maritime domain where little or no vessel tracking capability currently exists.

Purpose and Need

The purpose of the Proposed Action is to establish a nationwide network of receivers and transmitters to capture, display, exchange, and analyze AIS-generated information. The Proposed Action would satisfy the USCG's need to enhance homeland security while carrying out its mission to ensure marine safety and security, preserve maritime mobility, protect the marine environment, enforce U.S. laws and international treaties, and perform search and rescue (SAR) operations.

The need for the Proposed Action arises from several sources, including the following:

International Treaty. The United States is a member of the International Maritime Organization (IMO). IMO administers the Safety of Life at Sea Convention, also known as SOLAS, an international treaty. In December 2000, Chapter V of the SOLAS Convention was amended to require AIS, capable of providing information about the ship to other ships and to coastal authorities automatically, to be fitted aboard all ships of 300 gross tonnage and upwards engaged on international voyages, cargo ships of 500 gross tonnage and upwards not engaged on international voyages, and passenger ships irrespective of size built on or after July 1, 2002. The United States, through the USCG, works closely with the international community in AIS standards development and implementation.

Maritime Transportation Security Act (MTSA) of 2002. Section 70113 of the MTSA of 2002 directs the Secretary of DHS to "… implement a system to collect, integrate, and analyze information concerning vessels operating on or bound for waters subject to the jurisdiction of the United States, including information related to crew, passengers, cargo, and intermodal shipments." Further, Section 70114 of the MTSA requires that certain vessels "while operating on the navigable waters of the United States, shall be equipped with and operate an automatic identification system under regulations prescribed by the Secretary." The USCG has determined that this Congressional directive would be largely satisfied through AIS carriage requirements and implementation of the proposed NAIS project.

Other Congressional Actions. In Senate Report 108-86, which accompanied the DHS Appropriations Bill for 2004, Congress directed that the AIS initiative be funded and identify specific capabilities that should be part of the system. Moreover, signaling its interest in timely performance, Congress required submission of a report detailing how and when the AIS would be implemented nationwide.

National Security Presidential Directive 14/Homeland Security Presidential Directive 13. In December 2004, the President of the United States directed the Secretaries of the Department of Defense (DOD) and DHS to lead the Federal effort to develop a comprehensive National Strategy for Maritime Security, to better integrate and synchronize the existing department-level strategies and ensure their effective and efficient implementation. The National Strategy for Maritime Security aligns all Federal government maritime security programs and initiatives into a comprehensive and cohesive national effort involving appropriate Federal, state, local, and private sector entities.

Eight supporting plans to the National Strategy for Maritime Security address the specific threats and challenges of the maritime environment. While the plans address different aspects of maritime security, they are mutually linked and reinforce each other. Of particular relevance to the Proposed Action is the *National Plan to Achieve Maritime Domain Awareness*. The MDA Plan is a cornerstone for successful execution of the security plans tasked in the National Strategy for Maritime Security. As stated in this plan, the basis for effective prevention measures is awareness and threat knowledge, along with credible deterrent and interdiction capabilities. Without effective understanding of maritime domain activities, gained through persistent awareness, vital opportunities for an early response can be lost. Awareness grants time and distance to detect, deter, interdict, and defeat adversaries. NAIS will provide the nation with the tools to conduct nationwide persistent surveillance of vessels operating in or bound for U.S. waters.

USCG Missions and NAIS Operational Requirements. The USCG is the lead Federal agency for maritime homeland security. USCG statutory responsibilities include ensuring marine safety and security, preserving maritime mobility, protecting the marine environment, enforcing U.S. laws and international treaties, and performing search and rescue. The USCG supports the DHS overarching goal of mobilizing and organizing our nation to secure the homeland from terrorist attacks, natural disasters, and other emergencies. In performing its duties, the USCG has established five strategic goals: maritime safety, protection of natural resources, maritime security, maritime mobility, and national defense.

AIS equipment would be installed on various platforms (e.g., buildings, towers, satellites, and offshore oil and gas platforms and data buoys) and would function in expected adverse operating environments. The information provided by the NAIS project would support most of the nation's maritime interest, from the safety of vessels and ports through collision avoidance, to the safety of the nation through detection, traffic identification, and classification of vessels out to 2,000 nautical miles (NM).

Scope of the PEIS

This PEIS examines the direct, indirect, and cumulative environmental impacts associated with the proposed implementation of the NAIS project. This document has been prepared in compliance with the National Environmental Policy Act of 1969 (NEPA), the Council on Environmental Quality (CEQ) regulations for implementing NEPA, and DHS and USCG policy.

A programmatic environmental document, such as this PEIS, is prepared when an agency is proposing to carry out a broad action, program, or policy. The USCG has determined that implementation of the proposed NAIS project is a broad action with national implications. Consistent with CEQ regulations, the USCG is preparing this PEIS at the program development stage. The purpose of this PEIS is to provide general environmental information on the Proposed Action and alternatives to USCG decisionmakers, expert agencies, and the interested and affected public, and to determine and disclose the significance of the environmental impacts associated with the proposed implementation of the NAIS project. The programmatic or systemwide approach creates a comprehensive, global analytical framework that supports subsequent environmental analyses that are then tiered off the PEIS to address specific actions at site-specific locations within the overall system once they are identified. Programmatic analysis can save resources by providing tiered NEPA coverage for the entire program, allowing subsequent NEPA analyses to be more narrowly focused on specific activities at specific locations.

Public Review and Comment

The USCG invites public participation in the NEPA process. Public participation opportunities are guided by CEQ regulations and policies of DHS and USCG. USCG consideration of the interests of potential stakeholders promotes open communication and enables better decisionmaking. All agencies, organizations, and individuals having an interest in the Proposed Action are urged to participate in the decisionmaking process.

A Notice of Intent (NOI) to prepare a PEIS was published in the *Federal Register* on November 23, 2005. The publication of the NOI initiated a 30-day public scoping period. The USCG published newspaper ads announcing the NOI and public scoping meeting in the *Washington Post* and *San Francisco Chronicle* on December 4, 2005, and repeated the ad in the *Washington Post* on December 16, 2005. The USCG also published this information in the Local Notice to Mariners. In addition, the USCG mailed an "Interested Party" letter to at least 230 potentially interested parties, including Federal, state, and local agencies, elected officials, stakeholders, and individuals. The letters included a copy of the NOI. All public involvement material is included in **Appendix B**.

An informational open house and public meeting concerning the Proposed Action and development of this PEIS was held at the USCG Headquarters Building in Washington, D.C., on December 22, 2005. Comments received at the meeting were taken into consideration in development of this PEIS.

In total, 21 written comments were received as a result of the public scoping process; 20 were received from various Federal and state agencies and 1 was received from a stakeholder association. Agency comments mainly fell into one of three categories: (1) coastal zone management coordination, (2) concerns over potential effects on historic or cultural resources, and (3) and concerns over the potential impacts on migratory birds from construction of shore-based radio frequency (RF) sites (towers). One verbal comment was received at the public scoping meeting on December 22, 2005, from the Passenger Vessel Association. The comment, which is recorded in the official transcript of the public scoping meeting, raises this stakeholder group's concerns about AIS carriage requirements and rulemaking and its potential economic impact on the group's members.

In addition to the public involvement efforts prior to preparation of the Draft PEIS, A Notice of Availability (NOA) of the Draft PEIS was published in the *Federal Register* on June 30, 2006. Ads were placed in the *Washington Post* and *San Francisco Chronicle* on July 8, 2006 announcing the availability of the Draft PEIS. The USCG also published this information in the Local Notice to Mariners (see **Appendix B)**. The USCG made the Draft PEIS available to the public for a 45-day comment period and held a public meeting on the Draft PEIS on August 9, 2006. No public comments were received at the Draft PEIS public meeting.

In total, 24 comments were received in response to the public Draft PEIS. Of these comments, 20 were received from various Federal and state agencies, 2 were received from Tribal Historic Preservation Offices (THPO), 1 was received from a regional citizens' advisory council, and 1 was received from a private citizen (**Appendix B**). Agency comments mainly requested continued consultation once decisions on individual tower sites has been made. The regional citizens' advisory council comment expressed overall support for implementation of the proposed NAIS project.

All comments received during the public comment period were taken into consideration in development of this Final PEIS. Comments received on the Draft PEIS and USCG responses to the comments are detailed in **Appendix B**.

Description of the Proposed Action and Alternatives

The technical and operational requirements for NAIS require the system to be operational in both inland navigable waters and the open ocean out to 2,000 NM offshore. No single implementation alternative could meet the technical and operational requirements of this large and geographically variable area. As a result, the USCG believed that a combination of implementation alternatives would be needed to meet the technical and operational requirements. The PEIS provides (in Section 2.2) a discussion of the process used by the USCG to formulate the alternatives carried forward for analysis in this document.

The proposed implementation of the NAIS project includes using a combination of the following coverage mechanisms.

NAIS Short-Range Coverage – Shore-Based Radio Frequency Sites. The establishment of shore-based RF sites was the only alternative found by the USCG to be viable for achieving short-range NAIS coverage. Short-range NAIS coverage includes inland navigable waters as defined in Section 1.2.5, and out to 50 NM. Shore-based RF sites would consist of AIS equipment mounted on towers, buildings, bridges, or other structures; the USCG anticipates the majority of these sites would be tower-based. The USCG would be faced with the choice of installing AIS equipment at new sites ("new build"); installing AIS equipment adjacent to existing communications equipment ("collocation"); or, programwide, using a combination of the collocation and new build sites for shore-based RF sites.

For the proposed implementation of the NAIS project, the USCG has chosen to bound or bracket the programmatic environmental analysis of the shore-based RF sites by evaluating three potential NAIS siting alternatives: All New Tower Builds, Combination of Collocations and New Tower Builds, and All Collocations.

NAIS Long-Range Coverage – Satellites. For long-range coverage, satellite services could be leased from commercial satellite providers or the government. The USCG is currently assessing technology development to support this capability. The analysis of this alternative assumes that the initial technology development would yield a deployable solution. The satellite system is envisioned to consist of a number of low earth orbit satellites to provide the needed long-range maritime tracking of vessels (i.e., coverage requirement to receive AIS signals with a minimum 4-hour reporting rate out to 2,000 NM offshore).

NAIS Long-Range Coverage – Offshore Platforms and Data Buoys. NAIS long-range coverage could be provided, in part, by using existing offshore platform and data buoy capabilities to provide additional coverage availability. The USCG is currently evaluating the effectiveness of deploying AIS base stations and AIS receivers on various offshore Gulf of Mexico oil and gas platforms and National Oceanic and Atmospheric Administration data buoys. Potential offshore platforms of interest include existing active U.S. Department of the Interior (DOI) Minerals Management Service (MMS)-regulated oil and gas infrastructures in the Gulf of Mexico, Pacific, and Alaska regions.

Summary. The USCG has identified the Proposed Action to implement the NAIS project using a combination of the following coverage mechanisms as the Preferred Alternative:

1. Establishing a combination of collocated and newly built shore-based RF sites for short-range AIS coverage.
2. Leasing commercial satellite services for long-range AIS coverage.
3. Installing AIS equipment on existing offshore oil and gas platforms and data buoys for supplemental long-range coverage.

Items 2 and 3 would involve no physical disturbances, earth moving, or construction activities; no actions inconsistent with present and foreseeable land use patterns; no activities that would contribute to changes in socioeconomic resources; and very minor installation and maintenance work. Leasing commercial satellite services would not require new satellites, only modification of existing constellations. As independent actions, leasing commercial satellite services for long-range AIS coverage and installing AIS equipment on existing offshore oil and gas platforms and data buoys for supplemental long-range coverage would likely be categorically excluded from detailed NEPA analysis. Consequently, no impacts would be expected, and any extraordinary circumstances would be addressed in the tiered NEPA analysis. Accordingly, the USCG has omitted detailed examination of leasing commercial satellite services for long-range AIS coverage and installing AIS equipment on existing offshore oil and gas platforms and data buoys for supplemental long-range coverage. The analysis in the PEIS focuses on the environmental impacts associated with the **No Action Alternative** and the three NAIS siting alternatives described above: **All New Tower Builds**, **Combination of Collocations and New Tower Builds**, and **All Collocations**.

No Action Alternative. The No Action Alternative is the continuation of existing conditions without implementation of the Proposed Action. Under the No Action Alternative, the USCG would not implement the NAIS project. The No Action Alternative would not meet the requirements of MTSA, would not improve MDA, and would not meet Congressional or Presidential direction. Although the No Action Alternative would not meet the Purpose and Need, analysis of the No Action Alternative is a requirement of CEQ's regulations for implementing NEPA and serves as a benchmark against which proposed Federal actions can be evaluated.

Summary of Environmental Impacts

Table ES-1 provides an overview of potential impacts anticipated under each of the alternatives considered, broken down by the resource area. Section 4 of the PEIS evaluates the impacts. It can be assumed that potential short-term impacts would occur from construction and long-term impacts would occur from operations of a site. For each alternative (see Section 4.1.2 of the PEIS), a set of assumptions was developed to describe possible requirements for installation of communication equipment; and NAIS tower, equipment building, and access road construction. The USCG would have some flexibility in the exact siting of NAIS towers and equipment and would seek to avoid impacts to the greatest extent possible. In addition, under each of the alternatives considered, locations selected as NAIS sites might

already possess attributes that eliminate the need for a portion, or in some cases all, of the construction. In such a case, no impacts or negligible impacts would be expected at that particular location.

Table ES-1. Summary of Anticipated Environmental Impacts by Alternative

Resource Area	No Action	All New Tower Builds	Combination of Collocations and New Tower Builds	All Collocations
Noise	No impacts would be expected.	Short-term negligible adverse impacts would be expected.	Short-term negligible adverse impacts would be expected.	Short-term negligible adverse impacts would be expected.
Air Quality	No impacts would be expected.	Short-term and long-term negligible to minor adverse impacts would be expected.	Short-term and long-term negligible to minor adverse impacts would be expected.	Short-term and long-term negligible to minor adverse impacts would be expected.
Earth Resources	No impacts would be expected.	Short-term and long-term negligible to minor adverse impacts would be expected.	Short-term and long-term negligible to minor adverse impacts would be expected. Such impacts would occur at fewer sites than under the All New Tower Builds Alternative.	Negligible impacts would be expected
Water Resources	No impacts would be expected.	Short-term and long-term negligible to minor adverse impacts on surface water and groundwater resources would be expected.	Short-term and long-term negligible to minor adverse impacts on surface water and groundwater resources would be expected. Such impacts would occur at fewer sites than under the All New Tower Builds Alternative.	Short-term and long-term negligible to minor adverse impacts on surface water and groundwater resources would be expected.
Biological Resources	No impacts would be expected.	Short-term and long-term negligible to moderate adverse impacts would be expected.	Short-term and long-term negligible to moderate adverse impacts would be expected. Such impacts would occur at fewer sites than under the All New Tower Builds Alternative.	Short-term and long-term negligible to minor adverse impacts would be expected.
Cultural Resources	No impacts would be expected.	Short-term and long-term negligible to major adverse impacts would be expected depending on the proposed tower site proximity to archaeological resources, historic buildings or structures, or Traditional Cultural Properties.	Short-term and long-term negligible to major adverse impacts would be expected depending on the proposed tower site proximity to archaeological resources, historic buildings or structures, or Traditional Cultural Properties. Such impacts would occur at fewer sites than under the All New Tower Builds Alternative.	Long-term negligible to moderate adverse impacts would be expected.
Visual Resources	No impacts would be expected.	Short-term and long-term minor to moderate impacts would be expected.	Short-term and long-term minor to moderate impacts would be expected. Such impacts would occur at fewer sites than under the All New Tower Builds Alternative.	Long-term negligible to minor adverse impacts would be expected.

Table ES-1. Summary of Anticipated Environmental Impacts by Alternative (continued)

Resource Area	No Action	All New Tower Builds	Combination of Collocations and New Tower Builds	All Collocations
Land Use	No impacts would be expected.	Short-term and long-term negligible to minor adverse impacts would be expected.	Short-term and long-term negligible to minor adverse impacts would be expected. Such impacts would occur at fewer sites than under the All New Tower Builds Alternative.	No impacts would be expected.
Infrastructure	No impacts would be expected.	Short-term minor adverse impacts would be expected.	Short-term minor adverse impacts would be expected. Such impacts would occur at fewer sites than under the All New Tower Builds Alternative.	No impacts would be expected.
Hazardous Substances	No impacts would be expected.	No impacts would be expected.	No impacts would be expected.	No impacts would be expected.
Socioeconomics and Environmental Justice	No impacts would be expected.	Long-term negligible to minor adverse impacts would be expected.	Long-term negligible to minor adverse impacts would be expected. Such impacts would occur at fewer sites than under the All New Tower Builds Alternative.	No impacts would be expected.
Human Health and Safety	No impacts would be expected. However, the beneficial impacts of the Proposed Action would not be realized.	Short-term minor adverse impacts would expected. Long-term beneficial impacts would be expected.	Short-term minor adverse impacts would be expected. Such impacts would occur at fewer sites than under the All New Tower Builds Alternative. Long-term beneficial impacts would be expected.	Long-term beneficial impacts would be expected.