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## 1.0 INTRODUCTION

The vertical lines in the margin identify text that has been modified in the preparation of the FEIS and substantively differs from the corresponding text in the DEIS.

On January 8, 2007, AES Sparrows Point LNG, LLC (AES) filed an application with the Federal Energy Regulatory Commission (FERC or Commission) under Section 3(a) of the Natural Gas Act (NGA) for a proposed liquefied natural gas (LNG) import terminal, referred to as the Sparrows Point LNG Project. On the same date, Mid-Atlantic Express, L.L.C. (Mid-Atlantic Express) filed an application with the FERC under Section 7(c) of the NGA for a related natural gas pipeline, referred to as the Mid-Atlantic Express Pipeline Project. In this document, the two projects are referred to jointly as the Sparrows Point Project, or the Project. Whenever the two applicants have joint responsibilities or have made a joint commitment, they are referred to jointly as AES. When only the pipeline is being considered we may substitute Mid-Atlantic Express as the owner's name.

The applications were noticed in the Federal Register on January 23, 2007. In Docket No. CP07-62-000, AES seeks authorization to site, construct, operate and maintain an LNG import terminal in Baltimore County, Maryland. In Docket No. CP07-63-000, Mid-Atlantic Express seeks a Certificate of Public Convenience and Necessity (Certificate) to site, construct, operate and maintain a new natural gas pipeline and ancillary aboveground facilities to connect the proposed LNG terminal to three interstate gas transmission facilities in Chester County, Pennsylvania.

AES proposes to construct and operate an LNG import terminal in an industrial port setting on Sparrows Point, in Baltimore County, Maryland. The LNG terminal would consist of facilities capable of unloading LNG ships, storing up to 480,000 cubic meters (m<sup>3</sup>) of LNG (10.2 billion cubic feet of natural gas equivalent), vaporizing the LNG, and sending out natural gas at a baseload rate of 1.5 billion cubic feet per day (Bcfd). The maximum potential gas sendout capacity without expansion is 1.595 Bcfd. AES proposes to interconnect the LNG facilities with three interstate natural gas pipelines approximately 88 miles north near Eagle, Pennsylvania.

The LNG terminal and pipeline facilities would consist of:

- a ship unloading facility, with two berths, capable of receiving LNG ships with capacities up to 217,000 m<sup>3</sup>;
- three 160,000 m<sup>3</sup> (net capacity) full-containment LNG storage tanks, comprised of 9 percent nickel inner tank, pre-stressed concrete outer tank, and a concrete roof;
- a closed-loop shell and tube heat exchanger vaporization system;
- various ancillary facilities including administrative offices, warehouse, main control room, security building, and a platform control room<sup>1</sup>;
- meter and regulation station within the LNG terminal site; and
- approximately 88 miles of 30-inch-diameter natural gas pipeline (about 48 miles in Maryland and 40 miles in Pennsylvania), a pig launcher and receiver facility at the beginning and ending of the pipeline, 10 mainline valves, and three meter and regulation stations, one at each of three interconnection sites at the end of the pipeline.

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<sup>1</sup> AES also proposes an optional natural gas power plant to be constructed within the LNG site. A final decision has not been made about building the facility. The optional power plant is treated as a nonjurisdictional facility in appropriate sections of the EIS.

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The Project would also include the vessel transit from the LNG vessel's entrance into U.S. territorial waters, through its transit to and from the LNG terminal at Sparrows Point.

## **1.1 PURPOSE AND SCOPE OF THIS STATEMENT**

The FERC is the federal agency responsible for authorizing applications to construct and operate onshore LNG import facilities and interstate natural gas transmission facilities. The U.S. Coast Guard (Coast Guard) is the federal agency responsible for determining the suitability of the waterway for LNG marine traffic. The FERC is the lead federal agency for the preparation of this Environmental Impact Statement (EIS) in compliance with the requirements of the National Environmental Policy Act of 1969 (NEPA), the Council on Environmental Quality (CEQ) regulations for implementing NEPA (40 Code of Federal Regulations (CFR) 1500-1508), and the FERC's regulations implementing NEPA (18 CFR 380). This document is a Final EIS (FEIS). This document has been prepared to respond to comments on the Draft EIS (DEIS) and to incorporate other information gathered since the issuance of the DEIS. The distribution list for the FEIS is provided in Appendix A.

Our<sup>2</sup> principal purposes in preparing this FEIS are to:

- identify and assess potential impacts on the natural and human environment that would result from the implementation of the proposed actions;
- describe and evaluate reasonable alternatives to the proposed actions that would avoid or minimize adverse effects on the human environment; and
- identify and recommend specific mitigation measures, as necessary, to minimize the environmental impacts.

The FERC will consider the findings in this FEIS in its determination of whether the Project should be approved. A final approval would only be granted if, after consideration of both environmental and non-environmental issues, the FERC finds that the proposed Project is in the public interest. The EIS and mitigation development described herein will be important factors in this final determination. In addition, the Coast Guard would be able to review and adopt this FEIS to satisfy its own responsibilities under NEPA. After issuance of the final EIS and completion of its review, the Coast Guard will issue a Letter of Recommendation (LOR) which will include the Coast Guard's final determination on the suitability of the waterway for LNG marine traffic.

Our analysis in this FEIS focuses on the facilities that are under the FERC's jurisdiction (i.e., the LNG import terminal proposed to be constructed by AES and the natural gas sendout pipeline proposed to be constructed by Mid-Atlantic Express) as well as an optional, nonjurisdictional electric power plant that would supply waste heat to the vaporization equipment at the facilities (see section 1.6, below). Our analysis also addresses the transit of the LNG vessels along the waterway from 12 miles offshore to the Sparrows Point terminal.

The topics addressed in the FEIS include geology; soils and sediments; water use and quality; wetlands; vegetation; wildlife; fish and invertebrates; threatened, endangered, and special-status species; land use, recreation, and visual resources; socioeconomics and traffic; cultural resources; air quality and noise; reliability and safety; cumulative effects; and alternatives. The FEIS describes the affected environment as it currently exists, discusses the environmental consequences of the proposed Project, and compares the Project's potential impact to that of alternatives. The FEIS also addresses the potential environmental impacts related to LNG marine traffic in the waterway from the outer limit of the United States territorial sea to the proposed LNG terminal location, including portions of the shoreline within the "Zones of Concern." The FEIS also presents our conclusions and recommended mitigation measures.

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2 "We," "us," and "our" refer to environmental staff of the FERC's Office of Energy Projects (OEP).

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## 1.2 PROJECT PURPOSE AND NEED

AES proposes to provide additional natural gas supplies to the Mid-Atlantic/South-Atlantic region (i.e., New York, New Jersey, Pennsylvania, Maryland, Delaware, District of Columbia, and Virginia) to meet the increasing energy demands in this region of the United States. With proposed interconnections to three existing interstate pipeline systems (and potentially to local distribution companies and other entities), the Project would also be capable of supplying natural gas to other portions of the East Coast. The Sparrows Point Project would provide:

- a new LNG import terminal in the Mid-Atlantic region;
- storage facilities for LNG;
- access to natural gas reserves in production areas throughout the world that are inaccessible to the United States by conventional pipelines; and
- a new supply of natural gas to the Mid-Atlantic region as well as to northern portions of the South-Atlantic region.

We have reviewed assessments of the national and regional energy supply and energy consumption for a period extending through the year 2030. These assessments are summarized in the paragraphs below.

On an annual basis, the Energy Information Administration (EIA) of the U.S. Department of Energy (DOE) produces a prediction and summary of key energy issues and publishes this assessment as the Annual Energy Outlook. This publication addresses economic growth, energy prices, energy consumption, electric generation, domestic energy production and imports, and carbon dioxide emissions. The following measurements and predictions are from EIA's Annual Energy Outlook 2006 (EIA 2006), which covers the period from 2004 to 2030, and from EIA's Annual Energy Outlook 2008, which covers the period between 2006 and 2030. Some of the statistics reported in the Annual Energy Outlook 2006 are no longer reported in the same manner in the Annual Energy Outlook 2008. For this reason, some of the Annual Energy Outlook 2006 statistics are retained to show the regional trends.

- Energy consumption is predicted to increase nationally at an average of 0.7 percent per year until 2030 (EIA 2008).
- In the EIA Mid-Atlantic region (New York, New Jersey, and Pennsylvania) natural gas consumption would increase by 0.7 percent per year (EIA 2006).
- In the EIA South-Atlantic region (including the states of Maryland, Delaware, Virginia, and the District of Columbia), energy consumption would increase an average of 1.3 percent per year (EIA 2006).
- Nationally, the projected trend is that natural gas production would increase from 18.57 trillion cubic feet (Tcf) in 2006 to 19.49 Tcf in 2030 (EIA 2008).
- Net natural gas imports (not LNG) from foreign sources would decrease from 3.46 Tcf in 2006 to 3.18 Tcf in 2030 (EIA 2008).
- Nationally, the annual demand for natural gas would increase from 21.66 Tcf in 2006 to 22.72 Tcf in 2030, (EIA 2008).

In addition to the average annual increased demand for natural gas of 1.06 quadrillion British thermal units (Btu), EIA's Annual Energy Outlook 2008 predicted an annual increase of 3.93 quadrillion Btu for liquid fuels, 7.4 quadrillion Btu for coal, 1.36 quadrillion Btu for nuclear electricity, and 1.57 quadrillion Btu for renewable energy. The EIA projections for energy consumption including natural gas and other fuels are sensitive to cost and other factors. For the third straight year, the EIA Annual Energy Outlook has lowered energy consumption predictions for the year 2030. For example, in the 2006 Annual Energy Outlook, EIA projected increased natural gas consumption to reach 26.86 Tcf by 2030, whereas the 2007 edition projected

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26.12 Tcf, and the 2008 edition projects 22.72 Tcf consumption. Slower economic growth, use of more efficient appliances and vehicles, increased energy prices, and decreased growth in energy-intensive industries are some of the factors leading to lower total energy demand predictions in the 2008 edition. The total U.S. primary energy consumption is projected to be met by increases in the use of fossil fuels and renewable energy sources (EIA 2008).

One commenter noted that there have been published papers issued by economists and researchers that suggest that the EIA forecasts cited in the Annual Energy Outlook contain systematic errors. The examples cited were:

- In 2002, the EIA projected the cost of natural gas to electric generators in 2006 would be \$3.82 per million cubic feet (MMcf). Actual cost per mcf was \$7.15 (all in 2006 dollars).
- In 2003, the EIA overestimated domestic natural gas production in 2006 by almost 2 Tcf more than the annual production in Oklahoma.

These examples would illustrate that, if anything, EIA has underestimated the cost of natural gas for some end uses (power generation) and has overestimated domestic natural gas production. Thus, these examples would lend additional weight to the need for new supplies of natural gas for the U.S. market.

### **1.3 PERMITS, APPROVALS, AND REGULATORY REQUIREMENTS**

#### **1.3.1 FERC Regulatory Authority**

The FERC is the federal agency responsible for authorizing applications to construct and operate onshore LNG import and interstate natural gas transmission facilities. As such, the FERC is the “lead federal agency” responsible for preparation of this FEIS. This effort was undertaken with the participation and assistance of the Coast Guard and the U.S. Army Corps of Engineers (COE), U.S. Environmental Protection Agency (EPA), and the Pennsylvania Department of Conservation and Natural Resources (PDCNR) who acted as “cooperating agencies” under NEPA. Cooperating agencies have jurisdiction by law or special expertise with respect to environmental impacts involved with the proposal. The roles of the agencies in the Project review process is described below. The EIS will provide a basis for coordinated federal decision making in a single document, avoiding duplication between federal processes. In addition to the lead and cooperating agencies, other federal, state, and local agencies may use the FEIS in approving or issuing permits or approvals for all or part of the proposed Project. Major federal and state permits, approvals, and consultations for the Project are identified below.

As the lead agency for the Sparrows Point LNG and Mid-Atlantic Express Pipeline Projects, the FERC is required to comply with Section 7 of the Endangered Species Act of 1973 (ESA), the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA), Marine Mammal Protection Act (MMPA), Section 106 of the National Historic Preservation Act (NHPA), and Section 307 of the Coastal Zone Management Act of 1972 (CZMA). Each of these statutes has been taken into account in the preparation of this statement as described below.

#### **1.3.2 Coast Guard Regulatory Authority**

The Coast Guard exercises regulatory authority over LNG facilities that affect safety and security of port areas and navigable waterways under Executive Order 10173; the Magnuson Act (50 United States Code (USC) Section 1910); the Port and Waterways Safety Act of 1972, as amended (33 USC Section 1221, et seq.); and the Maritime Transportation Act of 2002 (46 USC Section 701). The Coast Guard is responsible for matters related to navigation safety, vessel engineering and safety standards, and matters pertaining to the safety of facilities or equipment located in or adjacent to navigable waters up to the first valve inside the containment area. The Coast Guard also has authority for LNG facility security plan review, approval and compliance verification as provided in Title 33 CFR Part 105, and siting as it pertains to the management of vessel traffic in and around the LNG facility.

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As required by its regulations, the Coast Guard is responsible for issuing a LOR as to the suitability of the waterway for LNG marine traffic. The LOR would be based on, among other things, the following items:

- physical location and description of the facility;
- the LNG carrier's characteristics and the frequency of LNG shipments to or from the facility;
- waterway channels and commercial, industrial, environmentally sensitive, and residential areas in and adjacent to the waterway used by LNG carriers en route to the facility, within 25 kilometers (15.5 miles) of the facility;
- density and character of marine traffic in the waterway;
- locks, bridges, or other manmade obstructions in the waterway;
- depth of water;
- tidal range;
- protection from high seas;
- natural hazards, including reefs, rocks, and sandbars;
- underwater pipes and cables; and
- distance of berthed vessels from the channel and the width of the channel.

In accordance with Title 33 CFR Part 127.007, each applicant must submit a Letter of Intent (LOI) to the local Captain of the Port (COTP) to begin the LOR process. On June 14, 2005, the Coast Guard issued a Navigation and Vessel Inspection Circular – Guidance on Assessing the Suitability of a Waterway for Liquefied Natural Gas (LNG) Marine Traffic (NVIC 05-05). The purpose of this NVIC 05-05 is to provide Coast Guard COTPs/Federal Maritime Security Coordinators, members of the LNG industry, and port stakeholders with guidance on assessing the suitability of a waterway for LNG marine traffic that takes into account conventional navigation safety/waterway management issues contemplated by the existing LOI/LOR process, but in addition, will also take completely into account maritime security implications. In accordance with this guidance, each LNG project applicant is to submit a Waterway Suitability Assessment (WSA) to the cognizant COTP. The WSA is to address the transportation of LNG from the LNG tanker's entrance into U.S. territorial waters, through its transit to and from the LNG receiving facility, including operations at the vessel/facility interface. In addition, the WSA should address the navigational safety issues and port security issues introduced by the proposed LNG operations. The NVIC 05-05 also provides specific guidance on the timing and scope of the WSA. For this Project, an LOI and WSA were submitted to the Coast Guard on March 3, 2006. A Follow-on WSA was submitted on October 26, 2006 and the Coast Guard's WSR was issued February 2008. The WSR indicated that the waterway was not deemed suitable but could be found suitable if certain Risk Reduction Measures (RMMs) were developed by AES and approved by the Coast Guard (see Appendix J). The WSR and additional RMMs (see Appendix J for October 24, 2008 letter from the Coast Guard) are discussed in section 4.12.5.5.

### **1.3.3 Major Acts That This Document Addresses**

#### **Endangered Species Act (ESA)**

Section 7 of the ESA, as amended, states that any project authorized, funded, or conducted by a federal agency (e.g., the FERC) should not "jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined ... to be critical" (16 USC § 1536(a)(2)(1988)). The FERC, or the applicant as a non-federal party, is required to consult with the U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS) to determine whether any federally-listed or proposed endangered or threatened species or their designated

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critical habitat occur in the vicinity of a proposed project. If, upon review of existing data or data provided by the applicant, the FERC determines that these species or habitats may be adversely affected by a proposed project, the FERC is required to prepare a biological assessment (BA) to identify the nature and extent of adverse impact, and to recommend measures that would avoid the habitat and/or species, or would reduce potential impacts to acceptable levels, and initiate formal consultation with FWS or NMFS. ESA impacts must be addressed for the entire waterway out to the territorial sea. Because a federally-listed species may be adversely affected by the Sparrows Point Project, we are requesting that the FWS and NMFS consider this FEIS as the BA for the proposed Project (see section 4.7).

### **Magnuson-Stevens Fishery Management and Conservation Act (MSFMCA)**

The MSFMCA, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), established procedures designed to identify, conserve, and enhance Essential Fish Habitat (EFH) for those species regulated under a federal fisheries management plan. The MSFMCA requires federal agencies to consult with the NMFS on all actions or proposed actions authorized, funded, or undertaken by the agency that may adversely affect EFH (MSFMCA §305(b)(2)). Although absolute criteria have not been established for conducting EFH consultations, the NMFS recommends consolidated EFH consultations with interagency coordination procedures required by other statutes, such as NEPA, the Fish and Wildlife Coordination Act, or the ESA (50 CFR 600.920(e)) to reduce duplication and improve efficiency. To comply with this consolidated coordination effort, EFH impacts must be addressed for the entire waterway out to the territorial sea. As part of the consultation process, the FERC prepared an EFH Assessment in the draft EIS and the conservation recommendations from NMFS are addressed in section 4.6.3 of this EIS.

### **Marine Mammal Protection Act (MMPA)**

The MMPA of 1972 prohibits, with certain exceptions, the take of marine mammals in U.S. waters by U.S. citizens on the high seas. The MMPA also prohibits the importation of marine mammals and marine mammal products into the United States. Congress amended the MMPA in 1994 to provide for certain exceptions to the take prohibitions including a program to authorize and control the taking of marine mammals incidental to commercial fishing operations, preparation of stock assessments for all marine mammal stocks in waters under U.S. jurisdiction, and studies of pinniped-fishery interactions. The Secretary of NMFS, in consultation with any other federal agency (e.g., FERC) to the extent such agency may be affected, prescribes regulations as are necessary and appropriate to carry out the purposes of the MMPA (16 USC 1382 Section 112 (a)). The MMPA must be addressed for the entire waterway out to the territorial sea. See section 4.7.1 for a discussion on marine mammals.

### **National Historic Preservation Act (NHPA)**

Section 106 of the NHPA requires the FERC to take into account the effects of its undertakings on properties listed on or eligible for listing on the National Register of Historic Places (NRHP), including prehistoric or historic sites, districts, buildings, structures, objects, or properties of traditional religious or cultural importance, and to afford the Advisory Council on Preservation (ACHP) an opportunity to comment on the undertaking. The FERC has requested that AES and Mid-Atlantic Express, as non-federal parties, assist in meeting the FERC's obligation under Section 106 by preparing the necessary information and analyses as required by the ACHP procedures in 36 CFR 800. Section 4.10 of this EIS addresses cultural resources in the Project area, including the entire waterway out to the territorial sea, and addresses compliance with Section 106 of the NHPA.

### **Coastal Zone Management Act (CZMA)**

The CZMA calls for the "effective management, beneficial use, protection, and development" of the nation's coastal zone and promotes active state involvement in achieving those goals. As a means to reach these goals, the CZMA requires participating states to develop management programs that demonstrate how these states

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will meet their obligations and responsibilities in managing their coastal areas. In Maryland, the lead agency responsible for implementing the Coastal Zone Management Program (CZMP) and coordinating the CZMA Section 307 federal consistency review is the Maryland Department of the Environment (MDE), Coastal Zone Consistency Division. No designated coastal zone would be crossed by the Project in Pennsylvania. The Delaware Estuary coastal zone is confined to Delaware, Philadelphia, and Bucks Counties in Pennsylvania, none of which would be crossed by the pipeline. The waterway for marine traffic would traverse Virginia and Maryland waters. Because Section 307 of the CZMA requires federally licensed or permitted activities to be consistent to the maximum extent practicable with the enforceable policies of a management program, the FERC requested that AES and Mid-Atlantic Express seek determinations of consistency with the applicable state CZMP(s). The Coast Guard is responsible for ensuring compliance with the CZMA as it relates to establishment of the safety and security zones for LNG marine traffic affecting Maryland and Virginia waters. Section 4.8.2 of this FEIS provides additional information about Maryland's CZMP and the Maryland Critical Area Act.

### **Other Permits, Approvals, and Consultations**

At the federal level, major required permits and approval authority outside of the FERC's jurisdiction include compliance with the Clean Water Act (CWA) of 1972, the Rivers and Harbors Act of 1899, the Clean Air Act (CAA), and issuance by the Coast Guard of a LOR regarding the suitability of the waterway for LNG marine traffic.

The COE has the authority to issue permits for work or structures in, over, or under navigable waters of the United States under Section 10 of the Rivers and Harbors Act and the discharge of dredged or fill material into waters of the U.S., including jurisdictional wetlands, under Section 404 of the CWA. The COE would regulate the dredging activities (e.g., entrance channel and turning basin) in navigable waters of the U.S., and the construction of any structure (e.g., pier/platform, bulkhead) in navigable waters of the U.S., and the discharge of any dredged or fill materials into all waters of the United States, including jurisdictional wetlands, crossed by the proposed pipeline. The EPA has the authority to review and veto COE decisions on Section 404 permits.

Air emission sources in Maryland and Pennsylvania are regulated at the federal level under the CAA, as amended through construction and operating permits, New Source Performance Standards, National Emission Standards for Hazardous Air Pollutants (NESHAP), and other federal requirements. The MDE and Pennsylvania Department of Environmental Protection (PDEP) are delegated by the EPA to implement the federal programs. Each state has additional programs that further regulate emission sources. FERC issued a draft General Conformity Determination (GCD) on October 2, 2008, (see Appendix R and section 4.11.1.5). Section 4.11.1 of this EIS provides a detailed analysis of air quality requirements, comments on the draft GCD, and potential Project impacts.

The Coast Guard has the primary responsibility for reviewing and approving the navigational and security aspects of the Project in accordance with 33 CFR 127 and 66.

We have consulted with the U.S. Department of Defense (DoD), as required by the Energy Policy Act of 2005 and Section 3 of the NGA, to determine if there would be an effect on training or activities on any military installations from the Project. In reply to the FERC's Notice of Intent to Prepare an Environmental Impact Statement for the Proposed Sparrows Point LNG Project, Request for Comments on Environmental Issues, and Notice of Public Scoping Meeting (NOI) issued, May 16, 2006, we have had several discussions with offices of the Navy as indicated below.

In addition, in communications on April 13, 2006, to the Army, Navy, and Air Force at the Pentagon, we requested any information on effects on military installations. In discussions with an official from Patuxent River Naval Air Station (PAX) (U.S. Navy, Patuxent River Naval Air Station, 2007) we determined that the main concern was possible restrictions to Naval operations in the various "Surface Danger Zones" which occur in the middle portion of Chesapeake Bay, from Wolf Trap to Cove Point. The operators of the Cove Point

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LNG facility currently coordinate with the PAX on the arrival and departure of LNG ship traffic to avoid interfering with Naval operations in these Surface Danger Zones. This coordination involves direct contact between the LNG operator and the Navy to determine the time that LNG ships would transit the Surface Danger Zones. Since the LNG ships related to the Sparrows Point LNG Project would also have to pass through these zones, it would increase the number of days and occurrences for potential conflict with Naval operations. We have determined that Sparrows Point LNG Project shippers would need to coordinate with the Navy in advance of LNG traffic in Chesapeake Bay and, when necessary, adjust their arrival and departure schedules so that LNG tankers do not interfere with Naval operations that require clearance of the Surface Danger Zones. This coordination may be in conjunction with or in addition to early notification to the Coast Guard. As stated in its WSR, any final Coast Guard determination of the waterway suitability is contingent upon AES developing a Transit Management Plan (TMP) in consultation with the Coast Guard and participating agencies. The TMP would include AES' procedures for ensuring that LNG carriers transiting to the proposed facility would not adversely affect naval operations or permitted marine events. This would involve AES obtaining schedule information from commercial deep draft shipping transits, Navy operations at PAX, and marine event information from the Coast Guard and scheduling LNG carrier transits to avoid interfering with these activities. See Section 4.12.5.5 for further discussion of the TMP.

We also had discussions with the Regional Port Operations Officer (Naval District Washington, 2007) regarding Naval facilities at Annapolis and in the Port of Baltimore (POB). We concluded that the Project as proposed would have little effect on the Naval facilities, including the U.S. Naval Academy at Annapolis, but the Greenbury Point alternative LNG terminal would have impacts on the Annapolis facilities if this alternative LNG terminal site was used. However, this site was rejected by AES, and we agree that the Greenbury Point location would not be an appropriate site for an LNG facility (see section 3.2.3). We also discussed with the Regional Port Operations Officer that the Sparrows Point LNG Project might entail 120 to 150 vessel calls per year (approximately 2 to 3 vessel calls per week), and that the LNG ship traffic in the Brewerton Channel might delay ship traffic to the POB by 45 minutes to 1 hour for each LNG ship call at the terminal. The naval Regional Port Operations Officer has indicated that this should not cause significant impacts to naval operations at the POB.

In addition to the federal permits and approvals identified above, AES and Mid-Atlantic Express would obtain other permits and approvals from federal, state and local agencies. Table 1.3-1 lists the major federal and state permits, approvals, and consultations for the Sparrows Point Project.

The FERC encourages cooperation between applicants and state and local authorities, but this does not mean that state and local agencies, through application of state and local laws, may prohibit or unreasonably delay the construction or operation of facilities approved by the FERC. Any state or local permits issued with respect to jurisdictional facilities must be consistent with the conditions of any Certificate the FERC may issue.<sup>3</sup>

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3 See, e.g., *Schneidewind v. ANR Pipeline Co.*, 485 U.S. 293 (1988); *National Fuel Gas Supply v. Public Service Commission*, 894 F.2d 571 (2d Cir. 1990); and *Iroquois Gas Transmission System, L.P., et al.*, 52 FERC ¶ 61, 091 (1990) and 59 FERC ¶ 61,094 (1992).

TABLE 1.3-1

**Major Permits, Approvals, and Consultations for the Sparrows Point Project**

<b>Agency</b>	<b>Permit/Approval/Consultations</b>	<b>Actual or Anticipated Application Filing/Consultation Date</b>
<b>Federal</b>		
Federal Energy Regulatory Commission (FERC)	Authorization to construct and operate an LNG import facility under Section 3(a) of the Natural Gas Act (NGA) Certificate of Public Convenience and Necessity to construct, operate and maintain natural gas pipeline and ancillary facilities under Section 7(c) of the NGA	Application filed January 8, 2007.
Advisory Council on Historic Preservation (ACHP)	Comment on the Project under Section 106 of the National Historic Preservation Act (NHPA)	Pending
U.S. Army Corps of Engineers (COE)	Authorization required for work (including dredging) or structures in, over, or under navigable waters under Section 10 of the Rivers and Harbors Act of 1899 and the discharge of dredged or fill material (including filling and grading activities) into waters of the United States (including jurisdictional wetlands) under Section 404 of the Clean Water Act (CWA) of 1972 Note: See CWA Section 401 below under MDE	Application filed January 8, 2007 Revised Joint Application filed on April 13, 2007.
U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service (NMFS)	Consultation regarding compliance with Section 7 of the Endangered Species Act; the Magnuson-Stevens Fishery Conservation and Management Act; and the Marine Mammal Protection Act	Began consultation April 2006.
U.S. Department of the Interior, U.S. Fish and Wildlife Service	Consultation regarding compliance with Section 7 of the Endangered Species Act; the Migratory Bird Treaty Act; and the Fish and Wildlife Coordination Act	Began informal consultation April 2006.
U.S. Department of Homeland Security, U.S. Coast Guard	Letter of Intent (LOI)  Waterway Suitability Report (WSR)  Letter of Recommendation (LOR) Maritime Transportation Security Act - Facility Security Plan Spill prevention and spill response plan approval Permission of establishment of aids to navigation	LOI and WSA submitted on March 3, 2006. Follow on WSA filed on October 26, 2006. Notice of WSR completion to FERC from Coast Guard on February 25, 2008. Pending. Pending. Pending. Pending.
U.S. Department of Transportation (DOT)	Evaluations of compliance with federal safety standards for transportation pipelines pursuant to 49 CFR 192 & 193	Pending.

TABLE 1.3-1

**Major Permits, Approvals, and Consultations for the Sparrows Point Project**

<b>Agency</b>	<b>Permit/Approval/Consultations</b>	<b>Actual or Anticipated Application Filing/Consultation Date</b>
U.S. Environmental Protection Agency (EPA)	Resource Conservation & Reclamation Act (RCRA) – Hazardous Waste Generator ID Application to MDE	Pending.
	Environmental Justice evaluation pursuant to Executive Order 12898	Pending.
	General review and comment on DEIS	June 2008
	CWA Section 402 National Pollutant Discharge Elimination System (NPDES) Storm Water and Wastewater Discharge Permit(s)	Pending
U.S. Department of Defense	Consultation as required by Section 311 of the Energy Policy Act of 2005 and Section 3 of the NGA	Pending.
Federal Aviation Administration (FAA)	Consultation regarding potential obstruction to air navigation pursuant to 14 CFR 77	January 8, 2007.
Tribal Historic Preservation Office (THPO)	Consultation pursuant to Section 106 of the National Historic Preservation Act (NHPA)	Consultation with tribes initiated 2 <sup>nd</sup> Qtr 2006. No federally recognized tribal lands crossed by Project. Consultations pending.
<b>State - Maryland</b>		
Maryland Department of Environment (MDE)	CWA Section 401 water quality certification for COE Section 404 permit	January 8, 2007. Revised Joint Application filed April 13, 2007.
	CZMA, Section 307 Federal Consistency Determination for FERC Certificate and COE Section 404 Permit.	MDE denied consistency finding in July 2007. Maryland's objection to the Project's CZM consistency was overruled by the Secretary of Commerce in June 2008.
	Maryland Coastal Facilities Review Act (CFRA) Permit.	Application filed January 8, 2007; action pending.
	NPDES permit (CWA Section 402) for discharge of Dredged Material Recycling Facility decant water from dewatered dredged material	Pending
	State Discharge Elimination System (SPDES) Storm Water and Wastewater Discharge Permit(s)	Pending
	Industrial wastewater discharge permit pursuant to Title 26 of the Code of Maryland Regulations (COMAR) – hydrostatic test water discharge	Pending.
	Construction stormwater discharge authorization	Pending.
	Water appropriation and use permit, pursuant to COMAR 26.17.06	Pending.
	Title V Operating Permit pursuant to COMAR 26.11.02 and .03	Pending.
General federal conformity determination pursuant to 40 CFR 93	Pending.	

TABLE 1.3-1

**Major Permits, Approvals, and Consultations for the Sparrows Point Project**

<b>Agency</b>	<b>Permit/Approval/Consultations</b>	<b>Actual or Anticipated Application Filing/Consultation Date</b>
Maryland Department of Natural Resources (MDNR) and MDE	Consultation pursuant to the Maryland Non-game and Endangered Species Act	Initiated April 2006. Consultation ongoing.
Forest Conservation Program	Forest Conservation Act	Pending.
Maryland Historical Trust; State Historic Preservation Officer (SHPO)	Consultation pursuant to Section 106 of the NHPA	Initiated Consultation April 2006.
Maryland Department of Transportation (MDOT), State Highway Administration (SHA)	MDOT design approval for pipeline located in MDOT right-of-way (ROW)	SHA denied AES application for an exception to the Utility Policy and denied AES use of SHA right-of way in June 2008. Subsequently, in September 2008, AES filed new alignment to avoid linear use of SHA right-of-way.
Maryland Port Administration	MPA approval for design of the marine facilities	Pending.
Maryland Aviation Administration	Submit written notice prior to any construction of a structure of height exceeding 200ft above ground level within 3 miles of runway of any public use airport	N/A
Maryland Public Service Commission (MPSC)	For power plant – Certificate of Public Convenience and Necessity; COMAR 20.79.03.01-03 - needed for non-jurisdictional facility, if built	No decision by applicant on necessity of power plant. Decision pending.
<b>State - Pennsylvania</b>		
Pennsylvania Department of Environmental Protection (PDEP)	CWA Section 401 water quality certification	Initiated January 2007.
	Chapter 105 Joint Permit Application review and approval by PDEP.	According to PDEP, the joint permit application has not been submitted to PDEP as of 10/31/2008. AES has committed to PDEP to file the Chapter 105 permit applications in Q1 2009.
	Water Obstruction and Encroachment (WOE) permit	According to PDEP, the WOE permit application has not been submitted by Mid-Atlantic Express as of 6/16/2008.
	NPDES PAG-10 general permit for Hydrostatic Testing for the pipeline	Water for hydrostatically testing the Pennsylvania portion of the pipeline will be sourced from the Susquehanna River and discharged back to the Susquehanna River watershed.
	NPDES – PAG-2 - Stormwater Discharge Associated with Construction Activities, NOI for Coverage under General or Individual Permits.	AES has committed to PDEP to submit Individual NPDES permit applications for pipeline construction activities in Q1 2009.
Pennsylvania Department of Conservation and Natural Resources (PDCNR)	Consultations pursuant to the Endangered Species Act	2 <sup>nd</sup> Qtr 2006.
Pennsylvania Bureau for Historic Preservation (SHPO)	Consultation pursuant to Section 106 of the NHPA	April 2006.

TABLE 1.3-1 Major Permits, Approvals, and Consultations for the Sparrows Point Project		
Agency	Permit/Approval/Consultations	Actual or Anticipated Application Filing/Consultation Date
Pennsylvania Department of Transportation (PENNDOT)	Design approval for pipeline crossings of PENNDOT right-of-way	Pending.
Susquehanna River Basin Commission (SRBC)	Surface water withdrawal and /or consumptive use permit pursuant to Susquehanna River Basin Compact	Pending.
<b>State - Virginia</b>		
Virginia SHPO	Consultation pursuant to Section 106 of the NHPA	Complete.
Note: Permits associated with the transit of LNG vessels along the waterway would include review by Virginia agencies, as appropriate.		

#### 1.4 STAKEHOLDER INVOLVEMENT PROCESS

March 24, 2006, AES and Mid-Atlantic Express, respectively, filed requests with the FERC to use the NEPA Pre-filing Process. AES's and Mid-Atlantic Express's requests to use the NEPA Pre-filing Process were approved on April 3, 2006. A consolidated Pre-filing docket PF06-22-000 was established to place information filed by the companies and related documents issued by the FERC into the public record. The Pre-filing Process provided opportunities for interested stakeholders to become involved early in Project planning, facilitated interagency cooperation, and assisted in the identification of issues prior to the companies filing their applications with the FERC.

Since initiating the Project in 2005, AES and Mid-Atlantic Express have conducted open houses for the general public, attended several meetings with federal, state, and local agencies, and met with various elected officials in Maryland and Pennsylvania. AES and Mid-Atlantic Express sponsored several informational open houses, conducted in April 2006. These meetings occurred at: Dundalk, Maryland (twice); Bel Air, Maryland; Pasadena, Maryland; White Marsh, Maryland; Downingtown, Pennsylvania; and Oxford, Pennsylvania. The primary purpose of these open houses was to provide Project information to interested stakeholders and to respond to questions and comments regarding the Project. A FERC representative was in attendance at a majority of these open houses to provide information on its regulatory process. AES and Mid-Atlantic Express also contacted numerous other entities regarding the Project including federal, state, county, and local agencies and elected officials; community organizations; commercial/recreational waterway organizations; environmental organizations; and entities associated with the POB. A list of these contacts is provided in Resource Report 1, table 1.8-2 of the AES and Mid-Atlantic Express application.

The FERC conducted additional consultation with the following agencies throughout the development of the EIS: Coast Guard; COE; NMFS; MDE; Maryland Department of Natural Resources (MDNR); Maryland Department of Transportation, State Highway Administration (MDOT/SHA); the Maryland State Historic Preservation Officer (MD-SHPO); PDCNR; Pennsylvania Fish and Boat Commission (PFBC); and the Pennsylvania State Historic Preservation Officer (PA-SHPO). In addition, FERC hosted a technical conference on January 15, 2008, with the applicant, Baltimore Gas & Electric (BGE), and the public to discuss pipeline right-of-way issues.

The Coast Guard met with port community stakeholders, and other federal, state, and local agencies having jurisdiction over the proposed Project to determine potential safety and security risks. The COTP Baltimore established a subcommittee under the Area Maritime Security Committee (AMSC) to review and validate information contained in the applicant's WSA. All port stakeholders were invited to participate in the

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subcommittee. The comments from the various stakeholders will be used to assist the COTP Baltimore and COTP Hampton Roads in developing the LOR regarding the suitability of the waterway for increased LNG transportation in the marine environment. Likewise, Sector Hampton Roads sought input from its AMSC. The Coast Guard WSR and the proposed RMMs are presented in section 4.12.5.5.

AES established a Project web site ([www.aessparrowpointlng.com](http://www.aessparrowpointlng.com)), and Mid-Atlantic Express established a website ([www.mid-atlanticexpress.com](http://www.mid-atlanticexpress.com)) for dissemination of information about the LNG terminal and the pipeline, respectively.

Also, AES and Mid-Atlantic Express sent notices to landowners and residences within 3 days of filing their FERC authorization applications.

Public libraries which have received copies of the AES application materials and public FERC documents include:

- North Point Library, Baltimore, Maryland;
- Harford County Public Library, Bel Air Branch, Bel Air, Maryland;
- Oxford Library, Oxford, Pennsylvania;
- Chester County Library, Exton, Pennsylvania; and
- Free Library of Philadelphia, Philadelphia, Pennsylvania.

## **1.5 PUBLIC REVIEW AND COMMENT**

Table 1.5-1 briefly summarizes the primary issues identified and the subjects of comments received during the public scoping and DEIS comment processes.

### **1.5.1 Public Scoping Process**

On May 16, 2006, the FERC issued a NOI. The NOI was sent to 2,750 interested parties, including federal, state and local officials; agency representatives' conservation organizations; residents within 0.5 mile of the proposed LNG terminal; Native American Tribes; property owners along the proposed pipeline route; and local libraries and newspapers. The NOI marked the start of the period for stakeholders to prepare written comments on the Project. We received over 500 comments on the proposed Project prior to the release of the DEIS (section 1.5.2 addresses comments received after issuance of the DEIS).

FERC staff, the COE, and the Coast Guard conducted three public scoping meetings: one meeting on June 5, 2006 in North Point/Edgemere, Baltimore County, Maryland; a second meeting on June 6, 2006 in Downingtown, Chester County, Pennsylvania; and the third meeting on June 7, 2006 in Bel Air, Harford County, Maryland. These meetings provided an opportunity for public officials and private citizens to learn more about the Project and to voice opinions about the issues to be included in the EIS for the Project. A total of about 675 people (400 at North Point/Edgemere, 125 at Downingtown, and 150 at Bel Air) attended these meetings. At the three meetings, 120 individuals provided oral comments regarding the Project. Transcripts of these meetings are a part of the public record for the Project.

TABLE 1.5-1

**Primary Issues Identified and Comments Received During the Public Scoping Process and following the Release of the DEIS for the Sparrows Point Project**

<b>Topic</b>	<b>Comments or Issues of Concern</b>	<b>EIS Section Where Addressed</b>
ALTERNATIVES	alternative LNG terminal sites that are farther from residential communities and industrial sites; alternative dredging techniques and dredge disposal methods; alternative pipeline routes that avoid residences, residential streets, public parks, and schools; alternative renewable energy sources	3.0
DREDGING AND DREDGE DISPOSAL	quantity of sediments to be dredged from the ship berth area; future maintenance dredging and dredge disposal needs; contaminants in sediments to be dredged; use of innovative dredge disposal methods; ability to ensure compliance with state water quality standards	2.3.1.3 and 4.3.2
WATER RESOURCES	impacts of dredging contaminated sediments and terminal construction and operation on water quality, including dissolved oxygen depression, of the Patapsco River and Chesapeake Bay; sedimentation in waterbodies; effects of clearing streamside vegetation; impacts on drinking water intakes downstream of pipeline crossings	4.3 and 4.5
WETLANDS	impacts on wetlands along the proposed pipeline route; mitigation ratios	4.4
FISH AND WILDLIFE	impacts of dredging and pile driving in the Patapsco River; impacts on spawning and foraging habitat of striped bass, bluefish, summer flounder, and other resident and transient aquatic organisms; impacts to bald eagle, bog turtle, and Indiana bat; potential for LNG vessel strikes on marine mammals and sea turtles; impacts on waterfowl habitat including historic waterfowl concentrations; impacts to aquatic organisms of streams crossed by the pipeline, particularly the Susquehanna River, Gunpowder Falls, Deer Creek, and Octoraro Creek	4.6 and 4.7
LAND USE AND RECREATION	effects of LNG ships on other ship and boat traffic in Chesapeake Bay, the Patapsco River, and Bear Creek; effects of construction-related traffic on existing traffic levels on Sparrows Point; impacts on public access to recreational fishing areas; impacts to waterfowl hunting access; potential to encounter contaminated sites in the Project area; impacts on nearby commercial developments; effects on recreational areas at Gunpowder Falls State Park; disruption of recreational trail use; impacts to residences (including landscaping) and septic systems	4.8
SOCIOECONOMICS	economic impacts on Turner Station and surrounding communities; environmental and economic justice associated with constructing the proposed terminal near minority and low-income neighborhoods; potential for and economic impact of closure of the Francis Scott Key Bridge due to LNG accident; impacts on property values and insurance rates; demand of the Project on local police and fire services; potential for the Project to provide jobs, augment port infrastructure, and support economic development; costs of providing security to LNG terminal and ships	4.9
CULTURAL RESOURCES	impacts on cultural resources including architectural and historic resources and marine archaeological sites; impacts to historic districts	4.10
AIR QUALITY AND NOISE	air quality at the LNG terminal; effects of dust and emissions from construction equipment and facility operations; General Conformity Determination; potential for noise associated with construction and operation of the proposed facilities	4.11
RELIABILITY AND SAFETY	impacts on public safety, particularly the safety of people that live or work near the proposed LNG terminal or along the pipeline; risks associated with storing and transporting LNG; safety and security measures to protect ships and the terminal, potential for terrorism; ability of USCG to provide adequate security resources; emergency preparedness and response planning with local communities; monetary cost of providing security and emergency response resources, and who will bear that cost; effects of releases of LNG from ships or the terminal; impacts of security zone around LNG ships and terminal	4.12
CUMULATIVE IMPACTS	cumulative impacts on the Patapsco River as a result of the Project and existing industrial activities; cumulative impacts on air quality from operations at the LNG terminal	4.13

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On June 6 and 7, 2006, the FERC staff inspected portions of the pipeline route from the terminal site in Baltimore County to the terminus near Eagle, Pennsylvania. Members of the public accompanied the staff on portions of the tour each day, and concerned landowners were met at various locations along the proposed route. On July 26 and 27, 2006, the FERC staff again inspected the pipeline route and major alternatives from an overflight, and attended a ground tour of the proposed site of the terminal hosted by a representative of the current owners of the site.

### **1.5.2 FERC Public Comment Process for the DEIS**

On April 18, 2008, the FERC issued the DEIS for the Sparrows Point Project and filed it with EPA. A formal notice was published in the Federal Register on April 25, 2008 announcing that the DEIS was available and had been mailed to individuals and organizations on the distribution list prepared for the Project. The FERC mailed approximately 650 copies of the DEIS to interested parties, including federal, state, and local agencies; elected officials; environmental and public interest groups; Native American tribes; landowners along the pipeline route under consideration; local libraries and newspapers; and other interested stakeholders.

The FERC also conducted public comment meetings in Baltimore, Maryland, on June 9, 2008; in Downingtown, Pennsylvania, on June 11, 2008; and in Edgewood, Maryland, on June 12, 2008. A total of 98 commenters spoke at the 3 DEIS public comment meetings. We received a total of 132 written comments from interested stakeholders, including COE, EPA, FWS, NMFS, state and local agencies, elected officials, organizations, affected landowners, and other interested parties. A summary of transcripts from the public meetings on the DEIS, along with all written comments, appears in Appendix P of this EIS.

In addition, we initiated consultations with numerous agencies to discuss issues in the FEIS, among them a meeting with various Chester County agencies at the Chester County Planning Commission's offices on August 15, 2008; a teleconference with FWS (both Pennsylvania and Maryland field offices) and MDNR on September 10, 2008; several conference calls with state agencies and the applicant regarding the General Conformity Determination; several conversations with NMFS regarding potential impacts of Project activities on EFH; and joint meetings with EPA, MDE, and the applicant regarding dredging issues. FERC staff also conducted a public site visit from August 12 to 15, 2008, to review potential pipeline route variations.

In accordance with the CEQ's regulations for implementing NEPA, the public was allowed 45 days (or until June 16, 2008) to comment on the DEIS. However, FERC continued to accept comments into the docket throughout the development of the Project's record, even if received after June 16, 2008. Our analysis in this FEIS includes comments received up until the time of finalization of the FEIS for issuance.

The final EIS was mailed to agencies, individuals, and organizations on the mailing list provided in Appendix A and submitted to the EPA for formal issuance of a Notice of Availability. In accordance with CEQ's regulations implementing NEPA, no agency decision on a proposed action may be made until 30 days after EPA publishes an NOA of the final EIS. However, the CEQ regulations provide an exception to this rule when an agency decision is subject to a formal internal process that allows other agencies or the public to make their views known. In such cases, the agency decision may be made at the same time the notice of the final EIS is published, allowing both periods to run concurrently. Should the FERC issue the Applicant's Certificate for the proposed action, it would be subject to a 30-day rehearing period. Therefore, the FERC could issue its decision concurrently with EPA's NOA.

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## 1.6 NONJURISDICTIONAL FACILITIES

At the time of this EIS, AES is considering building a power plant at the terminal site to power the terminal operations. If constructed, this power plant would be a nonjurisdictional facility under FERC definition. According to AES, the power plant is not necessary for the LNG Terminal, and if the LNG Terminal were not built, there would be no need for the Power Plant. If constructed, the power plant would operate on natural gas and would be sized to produce approximately 300 megawatts (MW) of electrical power. The power plant would be connected to the local utility grid by an overhead electrical power transmission line. In turn, the LNG Terminal could use backup power from the local utility grid. The power plant would be constructed within the limits of the LNG Terminal boundaries. Should AES proceed with construction and operation of the power plant, it would acquire all applicable permits required for such a facility.

Physical aspects of the power plant are described in section 2.0 Description of Proposed Action. Potential impacts of this power plant's construction and operation are in sections 4.11 Air Quality and Noise, 4.9 Socioeconomics, and 4.13 Cumulative Impacts. Since the power generation process and the LNG vaporization process would be integrated with a heat exchange system (that is, waste heat from the power generation process would be sent to supplement the heat needed to vaporize the LNG into gas, and waste cold from the process of vaporization would be used to cool down the power plant processes), there would be no need for a cooling water intake from the Patapsco River, or any other source, for the power plant. Thus the power plant would not have a typical need for cooling water from an ambient source.