

## EXECUTIVE SUMMARY

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.

### INTRODUCTION

The staff of the Federal Energy Regulatory Commission (FERC or Commission) has prepared this final Environmental Impact Statement (EIS) for the proposed Sparrows Point Liquefied Natural Gas (LNG) Terminal and the Mid-Atlantic Express Pipeline Project (collectively referred to as the proposed Project) to fulfill the requirements of the National Environmental Policy Act (NEPA) and the Commission's implementing regulations under Title 18, Code of Federal Regulations (CFR), Part 380. The purpose of this document is: to inform the public and the relevant federal and state permitting agencies about the potential environmental impacts resulting from the construction and operation of the proposed Project including the use of the marine transit route required to access the proposed terminal; identify and discuss Project alternatives; and recommend practical, reasonable, and appropriate mitigation measures that would avoid or reduce environmental impacts. The U.S Army Corps of Engineers (COE), U.S. Coast Guard (Coast Guard), U.S. Environmental Protection Agency (EPA), and Pennsylvania Department of Conservation and Natural Resources (PDCNR) have acted as cooperating agencies in the development of this EIS.

The FERC is the federal agency responsible for authorizing applications to construct and operate onshore LNG import and interstate natural gas transmission facilities. The Coast Guard is the federal agency responsible for issuing a Letter of Recommendation (LOR) regarding the suitability of the waterway for LNG marine traffic. The Coast Guard exercises regulatory authority over LNG facilities that affect the safety and security of port areas and navigable waterways under Executive Order 10173; the Magnuson Act (50 United States Code (USC) section 191); the Ports and Waterways Safety Act of 1972, as amended (33 USC Section 1221, et seq.); and the Maritime Transportation Security Act of 2002 (46 USC Section 701). The Coast Guard is responsible for matters pertaining to facilities or equipment located in or adjacent to navigable waters up to the first valve within 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 marine traffic in and around the LNG facility.

### PROJECT BACKGROUND

On April 3, 2006, we<sup>1</sup> approved AES Sparrows Point LNG, LLC's (AES) and Mid-Atlantic Express, LLC's (Mid-Atlantic Express) request to use the Commission's Pre-Filing Review Process (pre-filing) for the proposed Project. The purpose of pre-filing is to work in partnership with project sponsors, other federal, state and local agencies, and concerned citizens and non-governmental organizations, to identify and address project-related issues prior to the filing of an application(s) with the Commission.

On January 8, 2007, AES filed an application with the Commission pursuant to section 3(a) of the Natural Gas Act (NGA) and Parts 153 and 380 of the Commission's regulations for authorization to site, construct and operate a LNG receiving terminal and associated facilities. Also on January 8, 2007, Mid-Atlantic Express filed pursuant to Section 7(c) of the NGA and the Commission's regulations an application for a certificate of public convenience and necessity to construct, own and operate an interstate natural gas transmission pipeline and ancillary facilities.

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<sup>1</sup> "We", "us" and "our" refer to the environmental staff of the FERC's Office of Energy Project.

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On April 28, 2008, the draft EIS was issued by the FERC. The period for receiving comments from the public officially ended on June 16, 2008. However, we have continued to accept comments on the draft EIS up until publication of this final EIS. We have responded to these comments in Appendix P. Public comment meetings to hear oral comments on the draft EIS were held in three locations – Dundalk, Maryland; Downingtown, Pennsylvania; and Edgewood, Maryland – on June 9, June 11, and June 12, 2008, respectively.

## **PROPOSED ACTION**

AES proposes to construct and operate the Sparrows Point LNG Terminal in Baltimore County, Maryland to import, store, vaporize, and transport about 1.5 billion cubic feet of natural gas per day (Bcf/d). Specifically, AES proposes to construct and operate the following facilities:

- a ship unloading facility, with two berths, capable of receiving LNG ships with capacities up to 217,000 cubic meters (m<sup>3</sup>);
- three full-containment LNG storage tanks, each with a nominal working volume of approximately 160,000 m<sup>3</sup> (1,006,000 barrels equivalent);
- a closed-loop shell and tube heat exchanger vaporization system; and
- various ancillary facilities including administrative offices, a main control room, and security offices.

Mid-Atlantic Express proposes to construct and operate an interstate natural gas pipeline to connect AES's proposed Sparrows Point LNG Terminal with three interstate natural gas pipelines near Eagle, Pennsylvania. Specifically, Mid-Atlantic Express proposes to construct and operate the following facilities:

- approximately 88 miles of 30-inch-diameter natural gas pipeline;
- pig launching and receiving facilities at the beginning and ending of the proposed pipeline, respectively; and
- other ancillary facilities including 10 mainline valves and 3 meter and regulation stations.

## **PUBLIC OUTREACH AND COMMENTS**

On May 16, 2006, the FERC issued a *Notice of Intent to Prepare an Environmental Impact Statement for the Proposed AES Sparrows Point LNG Terminal and Pipeline Project, Request for Comments on Environmental Issues, and Notice of Public Scoping Meetings* (NOI). The NOI was sent to approximately 2,750 interested parties, including: federal, state and local officials; agency representatives; Native American Tribes; conservation organizations; local libraries and newspapers; and property owners within 0.5 mile of the proposed LNG terminal and along the pipeline route. Additionally, as part of our scoping process, we conducted two public site visits and held three public scoping meetings; one near the proposed LNG terminal and two along the proposed pipeline. In response to our NOI, public scoping meetings, and public site visits, we received over 500 comments from potentially affected property owners, concerned citizens, public officials, and government agencies. These comments expressed concern with public safety and security; facility siting alternatives; impacts from dredging and dredged material disposal; impacts on fisheries, wildlife and vegetation; boating and fishing disruption; wetlands and waterbody impacts; socioeconomic impacts; land use, residential and recreational impacts; air quality and noise impacts and cumulative impacts. Transcripts of each scoping meeting and all written comments provided at the meetings as well as all comments provided in response to the NOI have been entered into the public record for the proposed Project. Further, we consulted with several federal and state regulatory agencies to determine the impacts to the environment that would

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result from the construction and operation of the proposed Project and the measures necessary to minimize and mitigate these impacts. The draft EIS was mailed to interested parties and submitted to the EPA for formal public notice of availability.

After the release of the draft EIS on April 28, 2008, the FERC and the COE, the Coast Guard, and the U.S. Department of Transportation (DOT), held joint public comment meetings as noted above. In addition, on August 12, 13 and 14, 2008, we met with affected property owners and other interested parties during site visits along the pipeline route to review potential route variations. We also met with the Chester County Planning Commission and other Chester County, Pennsylvania agencies on August 15, 2008. We received 132 written comment letters on the draft EIS, and had 98 speakers at the public comment meetings. We responded to these comments within the body of this EIS and in Appendix P. On October 29, 2008 we provided property owners potentially affected by certain route variations on the Mid-Atlantic Express pipeline an opportunity to comment on the variations. The comments we received are addressed in the applicable route variation discussions in section 3.3.3.

## **ENVIRONMENTAL IMPACTS AND MITIGATION**

Construction and operation of the proposed Project would result in temporary and/or long-term impacts to: geology and soils; water resources and wetlands; vegetation, wildlife and threatened and endangered species; land use, recreation and socioeconomics; cultural resources; and air and noise quality. Potential impacts to: safety and reliability; and coastal zone use were also considered in our analyses.

### **Geology and Soils**

Geological resources including those found along the proposed marine transit route would not be significantly impacted by the construction and operation of the proposed Project. In general, construction and operation of the proposed LNG terminal and pipeline would not impact any current mineral resource operations and the potential for geologic hazards or flooding events to significantly affect the proposed Project is low. However, sections of the proposed terminal site may contain liquefaction-susceptible sands; therefore we have recommended additional geotechnical investigations at the proposed terminal site prior to the completion of the final foundation design.

There is evidence of soil contamination at the proposed LNG terminal site and along the pipeline route. To minimize potential impacts related to these soils, AES has prepared a *Potentially-Contaminated Soils Management Plan* and, based on our review of this plan, we have recommended that AES submit an amended plan including additional mitigative measures prior to construction. We have also recommended measures to address potential soil contamination near the Back River.

### **Water Resources and Wetlands**

Construction of the proposed LNG terminal would require the dredging of approximately 3.7 million cubic yards (CY) of sediment. Associated maintenance would require the dredging of approximately 500,000 CY of sediment about every six years. Proposed dredging activities would cause temporary and localized impacts to aquatic organisms including changes in habitat, potential short-term and seasonal low dissolved oxygen levels, and high turbidity levels. Additionally, construction of the proposed LNG terminal would impact the water quality of the Patapsco River. To ensure that potential impacts related to proposed dredging activities are minimized, we have recommended that AES prepare a final Consolidated Dredge Plan through consultation with the appropriate agencies. We believe that with the application of the appropriate mitigation measures, and the proposed monitoring and handling of the dredged material, the proposed dredging can be done with minimal environmental impacts to water quality and other aquatic resources.

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Forty-one private water supply wells were identified within 150 feet of the Project. In order to minimize or avoid direct impacts to wells, we have recommended Mid-Atlantic Express confirm and file distances to wells prior to construction and a report identifying all water supplies damaged by construction and how they were repaired. Construction would have no long-term impact on groundwater and drinking wells.

Blasting activities may be required along the Mid-Atlantic pipeline route. To minimize impacts resulting from potential blasting activities of the pipeline, we have recommended a project-specific Blasting Plan, prior to initiating any blasting activities.

Construction of the proposed pipeline would cross 171 surface waterbodies. Mid-Atlantic Express proposes to use horizontal directional drills (HDD) for crossing three waterbodies and we have recommended the HDD crossing method for four additional crossings. We have also recommended HDD contingency plans in the event of HDD failure and in the event of potential frac-outs. No wetlands would be affected by the construction or operation of the proposed LNG terminal. Construction of the proposed pipeline would impact approximately 19.43 acres of wetlands. About 4.46 acres of forested wetlands would be permanently converted to scrub/shrub or emergent wetlands. To confirm acreages of wetland impacts, we have recommended Mid-Atlantic Express file final wetland delineation reports, prior to construction. To minimize impacts to waterbodies and wetlands, Mid-Atlantic Express would implement measures outlined in its Environmental Construction Plan (ECP) including topsoil segregation and erosion control practices. We have recommended that Mid-Atlantic Express develop an agency-reviewed Aquatic Resources Mitigation Plan (ARMP) and revise its ECP and Exotic and Invasive Species Control Plan to address mitigation to minimize impacts to these and other aquatic resources. Other than temporary increases in suspended solids or turbidity of the water, no permanent impacts are expected to waterbodies or water quality.

An LNG release along the marine transit route would not significantly affect water quality in any of the Zones of Concern (defined in section 4.12.5 and depicted in Appendix K) as the product would vaporize rapidly and thus would not leave any residual contaminants in the water column. An LNG release would significantly, though temporarily, affect water temperature to a limited depth under the LNG pool. Because the LNG would vaporize and is a cryogenic liquid, we concluded that the greatest threat to aquatic resources and aquatic life from an LNG spill would be short-term thermal stress.

### **Vegetation, Wildlife, and Threatened and Endangered Species**

Impacts to terrestrial or aquatic vegetation at the proposed LNG terminal site or along the proposed pipeline route would mostly be minimal with the exception of long-term impacts to forested areas. To minimize potential impacts to sensitive wildlife habitat including Maryland Designated Critical Areas, Forest Interior Dwelling Bird Habitat, and, the State Line Barrens we have recommended that Mid-Atlantic Express develop a habitat management/mitigation plan for the sensitive habitats affected by the construction of the pipeline, as identified above. We have recommended additional mitigation for minimizing impacts to oysters and waterfowl habitat near the LNG terminal.

The draft EIS contained our Biological Assessment (BA) to the U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS) which was provided on April 24, 2008. The FWS provided comments on the BA along with additional information on the distribution of Indiana bat in Maryland and Pennsylvania, and on the applicant's bog turtle surveys. We also received additional comments from the FWS, Virginia Field Office regarding the northeastern beach tiger beetle and the bald eagle along the vessel transit route. We have addressed the concerns and are requesting that the FWS and NMFS consider this final EIS as our revised BA for the proposed Project and vessel transit. We determined that the proposed Project would have no effect, or is not likely to adversely affect 12 species provided that AES and Mid-Atlantic Express comply with our recommendations in Section 4.7.

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However, we have determined that the proposed pipeline may affect the federally-listed Indiana bat and bog turtle. At the writing of this final EIS, Mid-Atlantic Express has not completed its surveys for the bog turtle or Indiana bat, nor has the Commission staff completed its required section 7 consultation with the agencies regarding these species. Surveys for the Indiana bat are planned for next spring (during the appropriate time window for survey). Completion of bog turtle surveys are required on properties where access has been denied and Mid-Atlantic Express must develop a final bog turtle management plan in consultation with the FWS. Based on the information presently available, we are initiating formal consultation with the FWS for these two species. If this project is approved by the Commission, the Director of OEP would have the authority to review and approve minor route variations to avoid Indiana bat or bog turtle habitats or individuals, as necessary, to avoid or further minimize overall impacts.

We believe that Essential Fish Habitat (EFH) would not be significantly affected by the proposed Project. NMFS provided conservation recommendations in response to our EFH Assessment in the draft EIS.

Impacts to aquatic organisms near the LNG terminal site could result from pressure waves associated with pile driving activities during pier construction, decreases in dissolved oxygen levels, vessel strikes from LNG ship traffic, and entrainment and impingement of organisms during water withdrawals for hydrostatic testing of LNG tanks and for ballast water and engine cooling water for LNG ships. These impacts would be addressed via implementation of agency-reviewed mitigation measures or are considered to be short-term and/or minimal.

Normal operations of the LNG ships would not have a significant impact on vegetation, wildlife, or threatened and endangered species. If an associated fire were to occur with the release of LNG, wildlife and vegetation within the vicinity of the fire would likely experience mild to severe impacts, including injury (burns) or death. A release of LNG with or without ignition could cause thermal shock to aquatic organisms that come into contact or that are in the vicinity of the LNG pool in Zone 1, with impacts decreasing outward through Zones 2 and 3.

### **Land use, Recreation, and Socioeconomics**

Construction of the proposed Project would temporarily impact about 1,801.4 acres of land. There are no existing residences within one mile of the proposed LNG terminal site. The proposed pipeline would cross within 50 feet of 179 residences and 56 other buildings. Mid-Atlantic Express has filed site-specific plans for residences within 25 feet of construction (see Appendix U). We have found these plans to be lacking in detail and containing insufficient mitigation. Pipeline construction could also affect wells and septic systems; therefore, we have recommended that Mid-Atlantic Express file site-specific plans for residences within 50 feet of the pipeline construction workspace as well as measures for mitigating impacts to wells, septic systems, and other utilities. We are recommending several mitigation measures which would increase the protection of newly-identified residential properties, complete construction activities in a week on any property and monitor foundations within 50 feet of construction, reduce and mitigate impacts associated with construction and traffic disturbances, and provide instruction on the details the Commission staff finds is necessary for inclusion in reviewing the site-specific plans for residences and the Victoria Crossing HOA properties. Finalized site specific plans would be required for the Director of OEP's review and written approval prior to construction. We have also recommended that final site-specific plans be prepared to minimize disruptions to schools, trails, parks, camps, schools, churches, and other public use or conservation areas.

Over half of the land that would be crossed by the Project is agricultural. Because of the amount of agricultural land that would be disturbed and the pressure on this land from regional development, we are recommending the Mid-Atlantic Express develop, prior to construction, an Agricultural Impact Mitigation Plan for the Project which would contain specific measures for protecting the soil for future crop production.

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The viewshed of the LNG facility portion of the proposed Project would be altered from its present condition, though the tanks would be consistent in size and nature with existing industrial facilities within the Sparrows Point Industrial area. The viewsheds of points along the proposed pipeline could be affected during construction and operation of the pipeline, particularly in the riparian zones of some of the more forested segments, such as along Octoraro and Brandywine Creeks where trees would be cleared for construction, and an herbaceous cover would be maintained during operation. We have recommended plans for these crossings to minimize visual impacts.

Along the marine transit route, potential impacts, though short-term, could be significant to boaters and fishermen by interfering with their normal and accustomed practices of using the Chesapeake Bay and the Patapsco River. If the Coast Guard finds the waterway suitable for LNG vessel traffic, the Coast Guard would, as a condition to the Letter of Recommendation (LOR), promulgate a regulation for a Regulated Navigation Area. Inbound LNG ship transit (with the traveling safety/security zone) may impact special marine events. AES would coordinate with the Port of Baltimore and with special boating interest groups to minimize disruption of scheduled annual maritime events. Coordination with the Coast Guard's Marine Event Permit office would be necessary since events may require LNG vessels to adjust their transit so as not to interfere with scheduled marine events. We have also recommended that AES work with the Coast Guard and the Patuxent River Naval Air Station during development of its Transit Management Plan.

Construction and operation of both the LNG terminal and the pipeline would have minimal impact on the availability of housing, local schools or social services. To ensure that potential traffic impacts are minimized, we recommended that AES minimize impacts on traffic from construction and the removal of processed dredged material (PDM) by the preparation and implementation of a final Construction Traffic Management Plan.

Since the issuance of the draft EIS, the Secretary of Commerce has issued a finding that the Project, if approved, would be consistent with the Coastal Zone Management Program. The Coast Guard would ensure compliance with the Coastal Zone Management Act, as necessary for the establishment of the safety and security zones for LNG marine traffic affecting Maryland and Virginia waters.

### **Cultural Resources**

The Project would have an effect on cultural resources. Within the LNG terminal lease area, five aboveground architectural resources have been identified, of which three are components of the National Register of Historic Places (NRHP) eligible Sparrows Point Shipyard Historic District. In consultation with the Maryland State Historic Preservation Officer (MD-SHPO) and FERC, AES would develop an appropriate mitigation plan for potential adverse impacts to this historic property. In accordance with 36 CFR Part 800.6(a)(1), the FERC has informed the Advisory Council on Historic Preservation (ACHP) of the Project's potential effect on historic properties. To mitigate the effects on cultural resources, we will complete a Programmatic Agreement (PA) in consultation with the Maryland and Pennsylvania SHPOs, ACHP, and AES. The PA will outline the measures that would be taken to mitigate project adverse effects to properties on or eligible for the NRHP.

While it would potentially affect the Sparrows Point Shipyard Historic District, the LNG terminal would have no impact on terrestrial or submerged archaeological sites. Along the pipeline route, 29 archaeological sites may be eligible for the NRHP. We have recommended that, prior to construction, Mid-Atlantic Express complete all remaining cultural surveys, provide these results to the Maryland and Pennsylvania SHPOs, and file the final reports of these surveys with the Secretary for review and written approval by the Director of OEP.

Also for the pipeline route, 10 aboveground historic properties are located in or near the Project area. These include two sites in Harford County, Maryland; one site in Lancaster County, Pennsylvania; and 4 sites in

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Chester County, Pennsylvania. The PA will also outline the process for developing and implementing appropriate measures that would be taken to avoid and/or mitigate any project adverse effects to these historic properties.

We evaluated potential cultural resource effects from LNG ship transit for an expanded area based on the corridor through which the ships could pass rather than just the linear preferred route of transit. There are 254 terrestrial archaeological sites within the transit Zones of Concern. Thirteen are located in Virginia and 241 are located in Maryland. Almost all of these (246 sites) are located in the Low Impact Zone on or near the shoreline in Zone 3. Additionally, 134 aboveground historic resources are located within the Zones of Concern. Twenty-six are listed on the NRHP, three are eligible for listing on the NRHP, and two may be eligible for inclusion on the NRHP. Terrestrial archaeological sites are below ground resources and would not be expected to be adversely affected by a fire associated with an event. Aboveground cultural resources such as historic buildings and other structures could be adversely affected by an LNG release. These effects include physical destruction or damage from radiant heat or fire.

Within the expanded search area, AES identified 379 submerged cultural resources and possible cultural resources within the transit route Zones of Concern. These include 376 shipwrecks and other submerged obstructions like submerged barrel wells, and three inundated historic and prehistoric archaeological sites. The effects of an LNG release, including fire and radiant heat, would be greatly reduced for all cultural resources below the water surface. No significant additional impacts to archaeological sites are expected due to LNG vessel traffic along the waterway. The Virginia-SHPO concurs with this assessment (letter of October 8, 2008). The Maryland SHPO has requested additional information about potentially affected sites in Maryland waters. No national historic landmarks or tribal land/fishing areas are located within the proposed transit route or Zones.

### **Air and Noise Quality**

The proposed LNG terminal site is within an area that has been categorized by EPA as nonattainment for ozone (O<sub>3</sub>) and particulate matter with a diameter of 2.5 micrometers or less (PM<sub>2.5</sub>), which means that additional mitigation may be needed to reduce emissions and offset any impacts of future projects. With implementation of the mitigation and offsets and adherence to the applicable permit requirements, impacts to regional air quality during operation of the Project would comply with the National Ambient Air Quality Standards (NAAQS) and would continue for the life of the Project.

The draft General Conformity Analysis (GCA) was released for public review and comment on October 2, 2008. This draft GCA was prepared for the proposed Project to show how the proposed Project would be constructed and operated in conformance with the Maryland, Virginia, and Pennsylvania state implementation plans under the current 1-hour ozone standard, insofar as it applies in the future. We have recommended documentation of the availability of appropriate offsets to comply with General Conformity. The final GCA will be prepared and issued in accordance with the conformity implementing regulations when it is completed. A copy of the draft GCA is included in Appendix R.

Operation of the proposed LNG terminal and pipeline should not create a significant noise impact at the nearest noise sensitive areas (NSAs). Mid-Atlantic Express has committed to use sound dampening barriers at all HDD sites that are within 0.5-mile of an NSA. We have recommended additional noise analyses for the three recommended HDD crossings.

### **Safety and Reliability**

As a result of our technical review of the proposed design and installation of the AES facilities, we identified a number of concerns relating to the reliability, operability, and safety of the proposed design. We have made

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specific recommendations to address a number of issues in the next phase of project development. Thermal radiation and vapor dispersion exclusion zones were calculated and were determined to be in compliance with 49 CFR Part 193. However, the exclusion zones for the 1,600 and 3,000 British thermal units (Btu)/ft<sup>2</sup>-hr incident fluxes from the storage tanks would extend beyond the property line of the LNG terminal site. AES has entered into an option to lease agreement with SPS Limited Partnership LLLP (SPS) (the owner of the terminal site) restricting SPS from permitting the use or occupancy of land within 3,000 feet of the LNG terminal site boundary in any manner that would conflict with the prohibited uses under the provisions of National Fire Protection Association (NFPA) 59A, 2001 edition. Therefore, we have recommended that AES file a finalized copy of the option-to-lease agreement with the Secretary prior to initial site preparation.

The Coast Guard's February 25, 2008 Waterway Suitability Report (WSR) for AES's proposal identifies specific risk mitigation measures which must be in place to responsibly manage the maritime safety and security risks of the proposed LNG facility. Accordingly, we have recommended that the proposed facility comply with all requirements set forth by the Coast Guard.

We identified 17 existing, approved, or proposed activities/projects that could potentially result in cumulative impacts when considered with the Project. Cumulatively, the proposed Project would result in more frequent impacts on the water quality and aquatic habitat of the Patapsco River; however, we expect these would be minimal and localized. With AES's implementation of Best Management Practice (BMP) and an ARMP, the Project's contribution to cumulative impacts to the waters crossed by the Project would be minor.

## **ALTERNATIVES CONSIDERED**

This EIS addresses alternatives to the proposed actions before the FERC, Coast Guard, and the COE. The proposed action before the FERC is to consider issuing AES a Section 3 authorization for construction of the LNG facility and for a Section 7 Certificate of Public Convenience and Necessity for the Mid-Atlantic Express pipeline and aboveground facilities. The proposed action for the Coast Guard is issuance of a LOR finding the waterway suitable for LNG marine traffic to the Sparrows Point facility. The proposed action before the COE is to consider issuing AES and Mid-Atlantic Express permits pursuant to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899.

We considered several alternatives to the proposed action including: Coast Guard alternatives; the no-action and postponed action alternatives; LNG system alternatives, LNG terminal site alternatives; and pipeline system and route alternatives. We evaluated four major pipeline route alternatives and 30 pipeline route variations. We have recommended incorporation of 12 pipeline route variations to avoid conflicts with restricted highway rights-of-way, address concerns of congested residential communities, and avoid an historic district, forested areas and sensitive resources.

Based on our review of the proposed Project, we have determined that the proposed Project, as modified by our recommended mitigation measures, route variations, and AES's and Mid-Atlantic Express's proposed mitigation, is the preferred alternative that can meet the Project objectives.

The Coast Guard's preferred alternative is the issuance of a LOR determining that the waterway is suitable with conditions and limitations as discussed in the WSR dated February 25, 2008, and with follow up risk mitigation measures as agreed to between the Coast Guard and AES (see Appendix J). In some cases, a reasonable alternative for the Coast Guard is the issuance of an LOR without conditions. For the Project to proceed as proposed, the Coast Guard must issue an LOR finding that the Patapsco River/Chesapeake Bay/territorial seas waterway is suitable for the LNG marine traffic that would be associated with the proposed LNG terminal facility, with or without conditions. Alternatives to this action include the issuance of a LOR finding the waterway unsuitable or postponement of the issuance of an LOR. According to the Coast Guard's WSR they have found the waterway currently not suitable for LNG vessel traffic, but can be made suitable.

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AES would need to develop a cost-sharing and Transit Management Plan along with the Coast Guard, state, and local entities to ensure the necessary resources are available to make the waterway suitable for increased LNG vessel traffic. The Coast Guard may issue an LOR with conditions finding the waterway suitable for LNG vessel traffic or if the LOR still determines the waterway unsuitable, but can be made suitable, the applicant can request reconsideration of the finding once all conditions have been met.

## CONCLUSIONS

We have determined that if the Project is constructed and operated in accordance with AES's and Mid-Atlantic Express's proposed mitigation measures, our recommended mitigation measures and route variations presented in section 5.2 of this final EIS, and the Coast Guard's safety and security measures, construction and operation of the proposed facilities and the related LNG marine traffic would have mostly limited adverse environmental impact. The primary reasons for our decision are:

- AES would construct its LNG terminal within an industrial port setting and the proposed pipeline facilities would follow existing, maintained rights-of-way for about 84.8 percent of the proposed pipeline route;
- AES and Mid-Atlantic Express would minimize impacts on soils, wetlands, and waterbodies by implementing their ECPs;
- AES and Mid-Atlantic Express would be required to develop with federal and state agencies an acceptable ARMP and CDP, which would compensate for impacts to wetland and waterbody resources and address dredge material disposal;
- The Coast Guard's Waterway Suitability Report has preliminarily determined that the Patapsco River/Chesapeake Bay and territorial seas can be made suitable for LNG marine traffic to the proposed LNG terminal site, provided additional Recommended Mitigation Measures necessary to responsibly manage the maritime safety and security risks are put into place;
- AES would incorporate appropriate features and modifications, as specified by staff's recommendations, into the facility design to enhance the safety and operability of the proposed LNG facility;
- The proposed facility would comply with the siting requirements of Title 49, CFR, Part 193;
- AES would be required to develop and implement an Emergency Response Plan that would include involvement by state and local agencies and municipalities; include a Cost-Sharing Plan and a Transit Management Plan; and meet the requirements of the Commission, the Coast Guard, and other federal agencies;
- Consultation with the SHPOs and the Advisory Council on Historic Preservation, as required by Section 106 of the National Historic Preservation Act, and with the FWS and NMFS, as required by Section 7 of the Endangered Species Act, would be completed before beginning construction;
- AES and Mid-Atlantic Express would obtain all federal permits and authorizations and would follow the applicable permitting requirements of the States of Maryland and Pennsylvania; and
- The environmental inspection and mitigation monitoring program would ensure compliance with the mitigation measures that would become conditions to any authorizations of the proposed Project issued by the Commission.

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However, our analysis did identify the following resource areas where we have concluded that construction and operation of the Sparrows Point LNG Terminal and Mid-Atlantic Express Pipeline Project could potentially result in adverse impacts:

- The proposed pipeline facilities could have an adverse impact on several residential areas, including permanent impacts to landscaping and, in limited instances, permanent impacts to structures. There is also a potential for adverse impacts to septic systems and private wells.
- In areas where construction of the pipeline facilities removes and may preclude replacement of landscaping and hardscaping, (such as: mature trees, ponds, pools, decks, patios, and to some extent mature perennial gardens) the pipeline may result in an adverse impact on property values if the potential buyer places value on such items. In addition, restrictions on the property caused by pipeline easements may be off-putting to some potential buyers depending on their plans for the property.
- The construction of the pipeline could adversely impact several camps, parks and trails. Many of the construction impacts would be temporary; however some scenic viewsheds would be permanently impacted.
- The bog turtle and Indiana bat could potentially be adversely affected. We will continue to work with the applicants and FWS to update findings and determination of effect, as the applicants continue to verify the presence and/or absence of these species. We have recommended that no construction occur until consultation with the FWS and NMFS has been completed.
- There could be an adverse impact on recreational waterfowl hunting practices near the Sparrows Point LNG terminal, and existing duck blinds would be permanently removed during operation of the terminal. The impact to waterfowl concentration areas near the terminal would be minimal.