

126 FERC ¶ 61,019
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Joseph T. Kelliher, Chairman;
Suedeen G. Kelly, Marc Spitzer,
Philip D. Moeller, and Jon Wellinghoff.

AES Sparrows Point LNG, LLC Docket No. CP07-62-000

Mid-Atlantic Express, LLC Docket Nos. CP07-63-000
CP07-64-000
CP07-65-000

ORDER GRANTING AUTHORITY UNDER SECTION 3
OF THE NATURAL GAS ACT AND ISSUING CERTIFICATES
UNDER SECTION 7 OF THE NATURAL GAS ACT

(Issued January 15, 2009)

1. On January 8, 2007, AES Sparrows Point LNG, LLC, (AES) filed an application in Docket No. CP07-62-000 under 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 liquefied natural gas (LNG) marine import terminal and associated facilities in Baltimore County, Maryland, to include two ship berths, three LNG storage tanks, each with a nominal working volume of approximately 160,000 m³ (1,006,000 barrels equivalent), and regasification facilities able to send out gas at a rate of up to 1.5 billion standard cubic feet per day (bscfd).

2. On the same day, Mid-Atlantic Express, LLC, (Mid-Atlantic)¹ filed an application in Docket No. CP07-63-000 under NGA section 7(c) and Part 157, Subpart A, of the Commission’s regulations for certificate authorization to construct, own, and operate an 88-mile-long, 30-inch-diameter pipeline to transport up to 1.5 billion bscfd of gas from the proposed LNG terminal to Eagle, Pennsylvania, where the proposed pipeline is to interconnect with three existing interstate pipelines.² In addition, Mid-Atlantic seeks

¹ Mid-Atlantic is a wholly-owned subsidiary of AES’s parent company, AES Corporation.

² The proposed pipeline is designed to interconnect with Columbia Gas Transmission Corporation (Columbia), Transcontinental Gas Pipe Line Corporation (Transco), and Texas Eastern Transmission, LP (Texas Eastern).

blanket certificate authorization (1) in Docket No. CP07-64-000, to provide open-access transportation under Part 284, Subpart G, of the Commission's regulations, and (2) in Docket No. CP07-65-000, to perform certain routine construction activities under Part 157, Subpart F, of the Commission's regulations.

3. While AES and Mid-Atlantic filed their applications in January 2007, the project proposal has been under discussion since April 2006, when the Commission's pre-filing process was initiated to provide a forum for state and local government agencies, public officials, non-governmental organizations, and members of the public to present objections and suggest alternatives. Issues identified during the pre-filing process and during the preparation of the draft and final Environmental Impact Statement (EIS) are addressed below in the Environmental Review section. For the most part, the concerns expressed question whether the proposed facilities are needed and whether they might adversely impact public safety or the Chesapeake Bay environment. These issues have been reviewed and responded to in detail in the final EIS issued on December 5, 2008. After considering the information and analysis contained in the EIS, we find that the proposed LNG terminal and pipeline, if constructed and operated in accordance with the EIS's recommended mitigation measures adopted herein, will be consistent with the public interest in meeting the projected energy demands of the region. Therefore, we will grant the requested authorizations subject to the conditions described in this order.

I. Background

A. AES Terminal

4. AES proposes to construct and operate a new LNG import terminal facility on an 80-acre site on the Sparrows Point peninsula east of Baltimore in an area used for industrial and commercial marine operations. AES plans to modify an existing pier to provide for two marine berths, each with the capability to unload one ship at a time at a nominal rate of 55,000 gallons per minute in order to accommodate deliveries from vessels with capacities ranging from 125,000 to 217,000 m³. AES anticipates receiving two to three ships per week; a total of 120 to 150 per year. Imported LNG will be transferred to three containment tanks, each with a capacity of 1,006,000 barrels.³ The proposed terminal's vaporization system is designed to achieve a nominal send out rate of 1.5 bscfd, expandable to 2.25 bscfd, at a maximum pressure of 2,080 psig. Additional terminal facilities include control equipment and facilities for safety and security.⁴

³ AES comments that if future conditions so warrant, its site includes sufficient space to accommodate a fourth storage tank.

⁴ AES states that its parent, AES Corporation, is considering constructing a 300 MW combined cycle co-generation gas-fueled electric generation facility adjacent to

(continued...)

B. Mid-Atlantic Pipeline

5. Mid-Atlantic proposes to construct and operate an 88-mile-long, 30-inch-diameter pipeline that will transport up to 1.5 billion bscfd of regasified LNG from the proposed AES terminal to existing interstate pipelines located near Eagle, Pennsylvania. Mid-Atlantic observes that its pipeline will have the potential to also interconnect with the facilities of nearby local distribution companies and other entities. No compression facilities are planned, as the pressure of the natural gas at the tailgate of the proposed terminal will be sufficient to overcome line pressure drop and still meet interconnecting pipelines' pressure requirements. Mid-Atlantic proposes to install nine mainline valves to enable segments of the new pipeline to be shut down in an emergency or for maintenance. In addition, Mid-Atlantic will install metering systems, a pig launching system, and associated controls for monitoring system parameters. Mid-Atlantic estimates its proposed pipeline will cost approximately \$414,999,000.⁵

6. Mid-Atlantic states that as a result of an open season, it has executed a precedent agreement with AES Mid-Atlantic LNG Marketing, LLC for all of the pipeline's capacity for service under Rate Schedule FTS at the maximum recourse rate. However, as reflected in section 26 of its proposed tariff, Mid-Atlantic requests authority to enter into negotiated rate transactions, stating its intent to make any required filings related to any such agreements.

7. Mid-Atlantic proposes to offer cost-based firm transportation under Rate Schedule FTS, interruptible transportation under Rate Schedule ITS, and interruptible parking and lending service under Rate Schedule PALS on an open-access, nondiscriminatory basis pursuant to Part 284 of the Commission's regulations. The proposed rates reflect an SFV rate design and are calculated using a 25-year levelized cost of service. The annual levelized cost of service is \$56,852,000. The reservation billing determinants total 1,500,000 Dth. Financing has not been finalized, but Mid-Atlantic expects the capital structure of the project to be 70 percent financed, non-recourse debt and 30 percent equity. Mid-Atlantic estimates the cost of long term debt will be 7 percent and proposes a 14 percent return on equity.

AES's proposed LNG terminal. For the purpose of assessing AES's application, we treat this potential power plant as a nonjurisdictional facility, subject to consideration with respect to its environmental impacts under our review pursuant to section 102(2)(c) of the National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. §§ 4321-4370f (2006). We find that the power plant, if constructed and operated in accord with the EIS's recommended mitigation measures adopted herein, will not result in significant adverse impacts on the human environment.

⁵ See Exhibit K of Mid-Atlantic's Application.

8. The proposed maximum cost-based FTS reservation rate is \$3.1585 per Dth. Mid-Atlantic currently does not anticipate having any variable costs, so the proposed FTS usage rate is \$0.00 per Dth. The proposed maximum ITS usage rate is \$0.1038 per Dth, and the same rate is proposed for the PALS rate. The interruptible rate and the parking and loan rate are equivalent to a 100 percent load factor derivative of the FTS rates and are to be charged on a usage basis.⁶ In recognition of the fact that no costs are allocated to the design of interruptible service, Mid-Atlantic proposes an annual crediting mechanism to credit to its recourse, discounted, and negotiated rate shippers any net revenues received for interruptible services and authorized overruns under Rate Schedule FTS.

II. Notice and Interventions

9. Notice of AES's and Mid-Atlantic's applications was issued on January 23, 2007, and published in the *Federal Register* on January 30, 2007.⁷ Timely, unopposed motions to intervene in the AES and Mid-Atlantic proceedings were filed by Baltimore County, Maryland; BP Energy Company; Chesapeake Climate Action Network; Columbia Gas Transmission Corporation; ExxonMobil Gas & Power Marketing Company, a Division of Exxon Mobil Corporation (ExxonMobil); Honeywell International, Inc. (Honeywell); ISG Sparrows Point LLC (ISG Sparrows Point); the LNG Opposition Team, part of the Greater Dundalk Alliance; Maryland Conservation Council; Maryland Department of Natural Resources (DNR); the Maryland Waterfowlers Association; Philadelphia Gas Works; Shell NA LNG LLC; Power Plant Research Program of the Maryland Department of Natural Resources; Statoil Natural Gas LLC (Statoil); and Transco.

10. In addition, late motions to intervene in one or more of the docket numbers in this proceeding were filed by Baltimore Gas and Electric Company (BGE); Bradford Glen Homeowners Association; the Brandywine Conservancy; landowners holding conservation easements granted to the Brandywine Conservancy;⁸ Byers Commercial LP; Dawn and David Cassel; Richard J. and Victoria S. Channell; Consolidated Edison Company of New York, Inc. (Con Edison) jointly with Orange and Rockland Utilities,

⁶ See Exhibit P of Mid-Atlantic's Application.

⁷ 72 Fed. Reg. 4250.

⁸ These landowners include: Emory A. Hamilton, Dr. William Munton, Dorothy A. Matz, Susan and Roger Mustalish, Dr. William and Helen Elkins, Diana Wister, Edward Fitts, William M. W. and Elizabeth Sharp, Rikki and Jesse Saunders, Richard and Carolyn Vermeil, Ronald and Densy Juvonen, Ralph and Suzanne Roberts, James and Mary O'Rourke, William Rubin, and Dr. James and Meriel Brewer.

Inc. (O&R); Andrew and Ann Durkin; East Fallowfield Township in Chester County, Pennsylvania; Exelon Corporation (Exelon); Brian and Suzanne Fenimore; Edmund F. and Crista A. Ford; Michael and Elise Hade; Matthew J. and Deborah W. Helak; Melissa M. Henderson; Jeffery L. March and Carolyn A. Pizagno March; Timothy and Maureen McAleese; Steven and Joanne McNaughton; Eric Newman and Julia Norton; Safety, Agriculture, Villages and Environment, Inc.; Jeffrey and Christine Samsel; John L. and Valerie T. Schmidt; Sean T. Sweeney and Margaret Sweeney; Texas Eastern; Upper Uwchlan Township in Chester County, Pennsylvania; Uwchlan Township in Chester County, Pennsylvania; Weaver's Cove Energy, LLC; West Bradford Township in Chester County, Pennsylvania; West Marlborough Township in Chester County, Pennsylvania; and Laurie Wyche-Abele and Bruce E. Abele. We will grant these late motions to intervene, as we find that to do so at this stage of the proceeding will not cause undue delay or otherwise prejudice the proceeding or other parties.

A. Motion for a Full Evidentiary Hearing

11. ISG Sparrows Point operates a steel manufacturing plant adjacent to the site of the proposed LNG terminal. ISG Sparrows Point requests the Commission initiate a full evidentiary hearing to address “the AES project's impacts on marine activities that support mill operations, roadway access during and after construction, pipeline rights of way, the need for other utility infrastructure to support the LNG operations and disposition of dredge material.”⁹

12. A trial-type evidentiary hearing is necessary only where material issues of fact are in dispute that cannot be resolved on the basis of the written record.¹⁰ Issues regarding the impact of the proposed AES terminal on nearby commercial operations have been raised and reviewed in the pre-filing process and in the course of the development of the EIS.¹¹ Thus, we believe the paper hearing documented by the written record in this proceeding provides an adequate forum for resolving the issues identified by ISG Sparrows Point. Accordingly, we deny the request to initiate a full evidentiary hearing.

B. Motions for a Public Meeting and for Additional Time for Comments

⁹ISG Sparrows Point's Request for Technical Conference at 3 (Feb. 14, 2007).

¹⁰*See, e.g., Southern Union Gas Co. v. FERC*, 840 F.2d 964, 970 (D.C. Cir. 1988); *Cerro Wire & Cable Co. v. FERC*, 677 F.2d 124 (D.C. Cir. 1982); and *Citizens for Allegan County, Inc. v. FPC*, 414 F.2d 1125, 1128 (D.C. Cir. 1969).

¹¹ *See, e.g.,* the final EIS at 4-230 to 4-236.

13. Melissa M. Henderson, David and Dawn Cassel, Tracey and John Clark, Lisa Van Houten, and Timothy and Maureen McAleese ask for additional time to comment on the grounds that there has not been adequate time to review the final EIS and request that a public meeting be held in West Bradford Township in Chester County, Pennsylvania, to address the potential impact of the proposed project on public health, welfare, safety, and the environment. Similarly, Joan Deen; Ronald L. Henry; Carolyn Jones; Gwendolyn S. Layton; Carolyn Mroz; Kathy S. Sweat; Ann C. and H. Robert Solway; Freda Ulman; Harry Wujek, Jr.; the LNG Opposition Team; and Safety, Agriculture, Villages and Environment, Inc. ask for additional time to submit comments and request another public meeting be held “in the Stakeholder States.” The Brandywine Conservancy asks for additional time to submit comments and requests public hearings be held on the final EIS “in each jurisdiction affected by the gas pipeline.” The Chester County Board of Commissioners seeks additional time to submit comments.

14. We believe that since the April 2006 start of the pre-filing process and the January 2007 filing of the applications, the public has been provided with sufficient notice and a reasonable period of time to respond to the matters covered in the December 2008 final EIS. With the exception of certain pipeline routing alternatives, the final EIS was restricted to the reconsideration of issues that were previously addressed in the draft EIS. With respect to potential pipeline routing variations that were proposed after the draft EIS, the public was informed generally – with landowners along each alternative route notified individually – and invited to comment prior to issuance of the final EIS. Because the final EIS did not introduce novel issues, but only discussed aspects of the project that had previously been presented in the draft EIS or in the description of the alternative routes identified after the draft EIS, we find no cause to provide for a period for the receipt of further comments.

15. Three public meetings were held in the two states affected by the project. One was held on June 11, 2008, in the East Brandywine Fire Hall in Downingtown in Chester County, Pennsylvania.¹² Participants at that meeting raised concerns on matters related to public health, welfare, safety, and the environment, and a transcript of that meeting is included in the record in this proceeding. Given that West Bradford Township is separated from East Brandywine Township by Caln Township, a distance of less than two miles, we do not believe it was unreasonable to expect residents of the townships in Chester County to have been able to attend the June 11, 2008 meeting. Consequently, we find the public was not prejudiced by the notice, timing, or location of the public meetings, and deny the requests to hold further meetings.

¹² We note that all the individuals requesting a meeting in West Bradford Township appear to reside in Downingtown, Pennsylvania, and several were in attendance at the June 11, 2008 meeting.

C. Protests

16. Numerous comments were submitted questioning various aspects of the proposed projects. Comments that raise issues regarding the safety, security, and environmental impacts of the proposed projects – including issues raised by members of the state and federal legislatures and governmental entities – have been reviewed and responded to in the draft and final EIS, and we discuss below the recommendations presented in the final EIS. In addition, Philadelphia Gas Works, Honeywell, and BGE have objected to portions of the proposed project. On March 20, 2007, AES and Mid-Atlantic jointly filed an answer that responds to issues raised in comments and protests. Rule 213(a)(2) of the Commission’s Rules of Practice and Procedure prohibits such an answer, unless otherwise ordered by the decisional authority.¹³ We do so in this case, as the answer provides information that assists us in our decision-making process.

Philadelphia Gas Works and Honeywell

17. Philadelphia Gas Works, a local distribution company (LDC) that supplies gas to customers in the City of Philadelphia, and Honeywell, an industrial gas consumer, raise concerns about gas quality standards. Currently, Philadelphia Gas Works receives gas from Transco and Texas Eastern and Honeywell receives gas from Columbia.

18. Philadelphia Gas Works observes that the proposed interconnections between Mid-Atlantic and Transco and Texas Eastern will be located upstream of the Transco and Texas Eastern facilities that it relies on for its gas supplies. Philadelphia Gas Works contends Mid-Atlantic will transport regasified LNG that will not meet Texas Eastern’s gas quality specifications – specifically, an uncombined oxygen content in excess of the two-tenths of one percent by volume maximum specified in section 3.2(f) of the General Terms and Conditions of Texas Eastern’s tariff and a daily average heating value in excess of the 1,100 Btu/ft³ specified in section 3(b) of the General Terms and Conditions of Texas Eastern’s tariff. Philadelphia Gas Works further asserts that because Mid-Atlantic has offered no assurance that the regasified LNG volumes it transports will meet the tariff specifications of downstream pipelines, downstream pipelines and end users risk incurring expenses attributable to transporting and consuming gas that does not conform to the quality specifications their facilities were designed to accommodate. Philadelphia Gas Works views such expenses as compelling captive customers of existing pipelines to subsidize Mid-Atlantic’s proposed pipeline to transport gas from AES’s proposed LNG terminal.

¹³ 18 C.F.R. § 385.213(a)(2) (2008).

19. Honeywell contends that Mid-Atlantic failed to comply with the Commission's *Policy Statement on Provisions Governing Natural Gas Quality and Interchangeability in Interstate Natural Gas Pipeline Tariffs*¹⁴ by failing to explain how the introduction of high Btu gas could adversely impact the operation of downstream pipeline facilities and customers' equipment.

Commission Response

20. The proposed Mid-Atlantic pipeline will terminate at interconnections with Transco, Texas Eastern, and Columbia. AES and Mid-Atlantic state that "[n]o laterals are proposed in the application for other delivery points at this time."¹⁵ Thus, any LNG supplies received by Philadelphia Gas Works or Honeywell will be delivered not by Mid-Atlantic, but by Transco, Texas Eastern, or Columbia. The applicants aver that the regasified LNG volumes that the proposed Mid-Atlantic pipeline will deliver will conform to the gas quality specifications in the existing tariffs of the downstream interconnecting pipelines – a regulatory requirement the Commission stands ready to enforce. In view of this, we do not expect LNG imports to adversely impact the operation of pipeline facilities or the equipment of end users.

21. Consistent with our policy statement on gas quality and interchangeability,¹⁶ (1) the tariffs of Transco, Texas Eastern, and Columbia include general terms and conditions addressing gas quality and interchangeability; (2) Mid-Atlantic has described these interconnecting pipelines' tariff provisions in its application; (3) Mid-Atlantic maintains its proposed gas quality and interchangeability tariff provisions are fully consistent with those of Transco, Texas Eastern, and Columbia,¹⁷ as well as being generally consistent with those of other existing pipelines and recent requests for new pipelines to attach to the tailgates of LNG import terminals; and (4) Mid-Atlantic has presented relevant

¹⁴ 115 FERC ¶ 61,325 (2006).

¹⁵ AES and Mid-Atlantic Answer at 29 (March 3, 2008).

¹⁶ 115 FERC ¶ 61,325 at P 46 directs project sponsors to "include information in their application which demonstrates the compatibility of their imports with the gas quality and interchangeability requirements of all interconnecting pipelines. To the extent service is provided pursuant to Parts 157 or 284 of the Commission's regulations, the applicant should make specific reference to tariff or contract provisions governing gas quality and interchangeability and demonstrate their compliance with this policy statement."

¹⁷ Mid-Atlantic states its intent to adjust its tariff as needed to conform to any future changes in interconnecting pipelines' tariff provisions.

information about the gas supplies it expects to receive.¹⁸ Because all the gas delivered by Mid-Atlantic to downstream pipelines must meet those pipelines' current tariff standards, we do not believe that the gas will result in a "subsidy" by existing pipelines or their captive customers by compelling them to incur expenses to safely accommodate the transportation and consumption of Mid-Atlantic volumes. If Philadelphia Gas Works or Honeywell believe the current gas quality standards of Transco, Texas Eastern, and Columbia are inadequate, such concerns are appropriately addressed to those pipelines.

Baltimore Gas and Electric

22. BGE filed comments claiming the Mid-Atlantic route would impinge on its right-of-way and potentially impact a planned high voltage electric transmission line expansion. Consequently, BGE asked the Commission to reject Mid-Atlantic's application if BGE determines the proposed pipeline route cannot be accommodated due to safety and reliability considerations or incompatibility with BGE's expansion plans. If such concerns are resolved, BGE asks the Commission to condition certificate authorization on Mid-Atlantic's requesting and receiving permission from BGE to occupy its right-of-way, with Mid-Atlantic precluded from relying on eminent domain authority to locate project facilities within or along BGE's right-of-way.

Commission Response

23. A significant portion of the proposed Mid-Atlantic pipeline route overlaps BGE's right-of-way. After BGE filed its comments, the Commission held a technical conference with Mid-Atlantic, BGE, and the public on January 15, 2008 to discuss Mid-Atlantic's construction of its proposed pipeline in or adjacent to BGE's right-of-way and BGE's expansion plans. At the technical conference, BGE and Mid-Atlantic indicated they had signed a Memorandum of Agreement and expressed their intent to reach mutually acceptable contract terms to govern the construction and operation of Mid-Atlantic's facilities in or adjacent to BGE's right-of-way. Based on this agreement, we do not believe Mid-Atlantic's pipeline will present an obstacle to BGE's planned high voltage electric transmission line expansion or impinge on the safety and reliability of BGE's expansion facilities.

III. Discussion

24. Because the proposed AES LNG terminal will be used to import gas in foreign commerce, the siting, construction, and operation of the terminal require Commission authorization under NGA section 3, with the Commission to apply terms and conditions

¹⁸ Since LNG cargos to the proposed AES terminal will not be limited to a sole source, the precise characteristics of the gas Mid-Atlantic will transport are not known.

necessary and appropriate to ensure the proposed project is not inconsistent with the public interest. Because the proposed Mid-Atlantic pipeline will be used to transport natural gas in interstate commerce, the construction and operation of the pipeline requires Commission certificate authorization under NGA section 7, with the Commission to apply terms and conditions necessary and appropriate to ensure the proposed project is required by the public convenience and necessity.

A. Need for the Proposed Project

25. Several commenters question the need for the proposed project. As part of our NEPA review, we evaluated estimates of national and regional energy supply and consumption through 2030.¹⁹ Based on the findings in the final EIS, there is expected to be an increase in energy demand in the region the project is designed to serve²⁰ and the project will constitute a viable means of meeting a portion of this anticipated increase in demand. The final EIS also finds that there is no other practical, environmentally preferable alternative to the proposed project to bring equivalent LNG volumes to the same market. With respect to our NGA review, we find a proposed project is needed when a project sponsor is willing to assume the full financial risk of the new project and the new project's anticipated benefits outweigh its anticipated burdens. AES and Mid-Atlantic will assume the risk of the project's cost in this case, since as new entrants to the natural gas market, neither has existing customers that might subsidize project costs in any way. It has been our experience that our policy of placing the applicant at risk by prohibiting subsidization of new projects by existing customers ensures that an authorized project will not go forward without adequate market support.

B. The AES Terminal

26. AES is a new entrant into the LNG market; thus, there is no issue of subsidization by existing customers, and AES will be at risk for the full costs of its proposed terminal. In addition, the new terminal, by providing access to new sources of natural gas, can be

¹⁹ See the final EIS at 1-3 and 1-4. We have previously commented on the important role that LNG will play in meeting future domestic demand and have found that the public interest is served through encouraging gas-on-gas competition by introducing new imported supplies. See, e.g., *Hackberry LNG Terminal, L.L.C.*, 101 FERC ¶ 61,294, at P 26 (2002). We also have found that LNG imports provide a needed diversification in current gas supplies, as well as a means to compensate for anticipated declines in domestic production and Canadian gas imports. See, e.g., *Broadwater Energy LLC*, 122 FERC ¶ 61,255, at P 31 (2008).

²⁰ Specifically, the States of New York, New Jersey, Pennsylvania, Maryland, Delaware, and Virginia, and the District of Columbia.

expected to boost transportation volumes on the three existing downstream interstate pipelines and expand pipeline customers' purchasing options. We expect the opportunity to import and store LNG will introduce new sources of supply, increase the available gas volumes, enhance competition, promote price stabilization, and contribute to fulfilling current and future market demands. We weigh these public benefits against residual adverse environmental impacts if the project is constructed and operated in accordance with the environmental mitigation and other conditions imposed in this order, and find that the proposed AES terminal will not be inconsistent with the public interest, satisfying the standard in NGA section 3.²¹

27. Consistent with NGA section 3(e)(3), as adopted by section 311(c)(2) of the Energy Policy Act of 2005 (EPAAct 2005),²² the conditions imposed by this order do not (1) require AES's LNG terminal to offer service to customers other than the applicant or any affiliate of the applicant securing the order; (2) regulate the rates, charges, terms, or conditions of service of AES's LNG terminal; or (3) require AES to file schedules or contracts related to the rates, charges, terms, or conditions of service of the LNG terminal.

C. Mid-Atlantic

28. To determine whether Mid-Atlantic's proposed pipeline is required by the public convenience and necessity, we again review the criteria articulated in our 1999 policy statement on new facilities. Our assessment mirrors that for the AES proposal. Mid-Atlantic, like AES, has no existing customers; thus there is no potential for subsidization by existing customers. Like AES's proposed terminal, there is no indication that Mid-Atlantic's proposed pipeline will adversely impact existing pipelines or their customers. Mid-Atlantic's proposed pipeline, in conjunction with AES's proposed terminal, will bring additional gas to a growing market, potentially increasing throughput on Transco,

²¹ Balancing the predicted benefits of a proposed project against its potential adverse impacts on existing customers, existing natural gas transportation service providers, and landowners and communities is the basis of the Commission's *Certification of New Interstate Natural Gas Pipeline Facilities (Policy Statement on New Facilities)*, under which the Commission evaluate proposed facilities subject to section 7 of the NGA. 88 FERC ¶ 61,227 (1999), *orders clarifying policy*, 90 FERC ¶ 61,128 and 92 FERC ¶ 61,094 (2000). While the Policy Statement does not apply specifically to terminal and storage facilities authorized under NGA section 3, the rationale of balancing benefits against burdens to determine the public interest is the same. The residual adverse impacts on the environment of AES's proposal were addressed in the EIS, and are further discussed in the environmental section below.

²² Pub. L. No. 109-58, 119 Stat. 594 (2005).

Texas Eastern, and Columbia, and providing those pipelines' customers with greater reliability and flexibility in contracting for gas supplies.

29. We expect the construction of Mid-Atlantic's pipeline, along with AES's LNG terminal, to result in the introduction of new sources of supply, increase available gas volumes, enhance competition, promote price stabilization, and contribute to fulfilling current and future market demands. We weigh these public benefits against residual adverse environmental impacts if constructed and operated in accordance with the environmental mitigation and other conditions imposed in this order, and find that the proposed Mid-Atlantic pipeline satisfies the Policy Statement on New Facilities and is required by the public convenience and necessity, satisfying section 7 of the NGA.

30. In addition to a case-specific section 7 certificate, we will issue Mid-Atlantic blanket certificates under Part 157, Subpart F of our regulations to undertake certain routine construction, maintenance, and operational activities without the need to file a project-specific application and under Part 284, Subpart G of our regulations to provide open-access firm and interruptible transportation services. Mid-Atlantic declares it will comply with the terms, conditions, and procedures applicable to these blanket certificates.

1. Rates

31. Mid-Atlantic proposes cost-based recourse rates. We find that Mid-Atlantic's proposed cost of service underlying its proposed recourse rates is reasonable for a new pipeline entity. Additionally, we find that Mid-Atlantic's proposal to finance the instant project is consistent with other recent comparable projects approved by the Commission.²³ In these projects, the Commission approved a capital structure of 70 percent debt and 30 percent equity, as well as a return on equity of 14 percent. Accordingly, we will approve Mid-Atlantic's proposed capital structure and rate of return on equity.

32. In the past, we have approved levelized cost-of-service rate designs, finding that they provide just and reasonable rates.²⁴ Such a finding is also appropriate here. Since we have previously approved levelized annuity rate approaches,²⁵ and there are no

²³ See, e.g., *Creole Trail LNG, L.P.*, 115 FERC ¶ 61,331, at P 30 (2006).

²⁴ See, e.g., *AES Ocean Express, LLC (Ocean Express)*, 103 FERC ¶ 61,030, at P 34 (2003) and *Millennium Pipeline Company, L.P.*, 97 FERC ¶ 61,292, at 62,322 (2001).

²⁵ See, e.g., *Ocean Express*, 103 FERC ¶ 61,030 at P 34; *Mojave Pipeline Company (Mojave)*, 58 FERC ¶ 61,074 (1992); and *Mojave*, 81 FERC ¶ 61,150 (1997).

objections raised with respect to the derivation of the rates, we will approve Mid-Atlantic's proposed recourse rates.

33. Having approved appropriate recourse rates, we will grant Mid-Atlantic's request for negotiated rate authority. All service agreements containing a negotiated rate must comply with the Commission's policy statement on negotiated rates²⁶ and the decision in *NorAm Gas Transmission Company (NorAm)*.²⁷ Consistent with *NorAm*, Mid-Atlantic must file either its negotiated rate agreements or numbered tariff sheets at least 30, but not more than 60, days prior to the commencement of service. If the negotiated rate agreements are non-conforming service agreements, Mid-Atlantic must file the non-conforming agreements and clearly delineate the differences between the non-conforming rate agreements and its pro forma service agreement in redline and strikeout. If Mid-Atlantic files numbered tariff sheets, it must state, for each shipper paying a negotiated rate, the exact legal name of the shipper, the negotiated rate, the applicable receipt and delivery points, the volume to be transported, any formula upon which the negotiated rate is designed, the beginning and end dates of the contract term, and a statement that the agreements conform in all material respects with the pro forma service agreement in Mid-Atlantic's tariff.

34. Mid-Atlantic must also disclose all consideration linked to the agreements and must maintain separate and identifiable accounts for volumes transported, billing determinants, rate components, surcharges, and revenues associated with its negotiated rates in sufficient detail so they can be identified in Statements G, I, and J in any future NGA section 4 or 5 rate proceeding.

35. Consistent with Commission precedent, we will require Mid-Atlantic to file a cost and revenue study at the end of its first three years of actual operation to justify its existing cost-based firm and interruptible recourse rates. In the filing, the projected units of service should be no lower than those upon which Mid-Atlantic's approved initial rates are based. The filing must include a cost and revenue study in the form specified in section 154.313 of the Commission's regulations to update the cost-of-service data. After reviewing the data, we will determine whether to exercise our authority to establish just and reasonable rates. In the alternative, in lieu of this filing, Mid-Atlantic may make an

²⁶ *Alternatives to Traditional Cost-of-Service Ratemaking for Natural Gas Pipelines; Regulation of Negotiated Transportation Services of Natural Gas Pipelines*, 74 FERC ¶ 61,076 (1996), *granting clarification*, 74 FERC ¶ 61,194 (1996), *modified*, *Natural Gas Pipeline Negotiated Rate Policies and Practices*, 104 FERC ¶ 61,134 (2003), *order on reh'g and clarification*, 114 FERC ¶ 61,042 (2006), *dismissing reh'g and denying clarification*, 114 FERC ¶ 61,304 (2006).

²⁷ 75 FERC ¶ 61,091 (1996), *order on reh'g*, 77 FERC ¶ 61,011 (1996).

NGA section 4 filing to propose alternative rates to be effective no later than three years after the in-service date for its proposed facilities.

2. Tariff Provisions

36. Mid-Atlantic's pro forma tariff generally complies with Parts 154 and 284 of the Commission's regulations. However, Mid-Atlantic will need to make specific modifications to the statement of rates, General Terms and Conditions of Service (GT&C), and the FTS and ITS pro forma service agreements, as discussed below. Mid-Atlantic shall file revised tariff sheets that reflect the tariff modifications discussed in this order at least 90 days before the in-service date of its facilities.

a. Statement of Rates

37. Mid-Atlantic sets forth its statement of rates for transportation service on pro forma Sheet No. 8. Mid-Atlantic has not proposed an authorized overrun rate. Mid-Atlantic's April 29, 2008 data response indicates that the rate for authorized overrun service will be the 100 percent load factor equivalent of the monthly reservation charge under Rate Schedule FTS, and that Mid-Atlantic will state on Sheet No. 8 the initial rate that is ultimately approved by the Commission. Accordingly, we direct Mid-Atlantic to state the authorized overrun rate when it files revised tariff sheets.

b. Section 12 – Impairment of Service

38. Section 12.3(a) of pro forma Sheet No. 87 states that Mid-Atlantic shall have the unqualified right to interrupt transportation services, "unless such bumping affects transactions on another pipeline." We find Mid-Atlantic's use of the phrase "unless such bumping affects transactions on another pipeline" to be vague and confusing. Mid-Atlantic explains that this phrase is included because Mid-Atlantic will coordinate with the downstream pipeline operator(s) to determine whether the revised nomination that may require bumping will be confirmed by the downstream operator(s) before interrupting service to a Rate Schedule ITS or PALS shipper.²⁸ We note, however, the North American Energy Standards Board (NAESB) standard nomination cycle already requires confirmation by downstream connected parties before a nomination can be scheduled.²⁹ Therefore, it is unnecessary for Mid-Atlantic to specify in section 12.3(a) that it shall have the unqualified right to interrupt transportation services "unless such bumping affects transactions on another pipeline." Accordingly, we direct Mid-Atlantic to remove this language from its tariff.

²⁸ See Mid-Atlantic's April 29, 2008 data response.

²⁹ See NAESB standard 1.3.2; Mid-Atlantic's tariff at section 11.1(b).

39. Section 12.3(d) of pro forma Sheet No. 88 provides that if an event at a specific point causes a curtailment or interruption of service on the pipeline's facilities, then quantities will be curtailed based on the utilization of the point as primary firm, secondary firm, or interruptible, and in the reverse order as scheduled. However, the following sentence in section 12.3(d) states that "all firm transportation service at the specific Point of Receipt or Point of Delivery shall be curtailed pro rata based on MDQ, among all Shippers receiving this service at the specific Point of Receipt or Point of Delivery." These sentences are contradictory, and the first sentence does not reflect Commission policy that makes no distinction between secondary and primary firm service for the purpose of determining priority of curtailment. All firm shippers, whether using capacity on a primary or secondary basis, are to be curtailed pro rata.³⁰ Therefore, we direct Mid-Atlantic to revise the first sentence of section 12.3(d) to state that quantities will be curtailed based on the utilization of a point as "firm or interruptible, and in the reverse order as scheduled" without differentiating between primary firm and secondary firm service.

c. Penalties

40. Section 12.3(f) of pro forma Sheet Nos. 88 and 89 states that a "charge per Dth" shall be assessed for unauthorized receipts and deliveries, described as "[a]ll quantities received and/or taken in violation of... curtailment, [Operational Flow Order], or interruption orders." Section 12.3(f) further provides that the charge "shall be assessed in addition to any other applicable rate, charge, or penalty." In an April 29, 2008 data response, Mid-Atlantic asserts that "any other applicable rate, charge, or penalty" may include the applicable reservation and commodity charges under Rate Schedule FTS, an authorized overrun charge or unauthorized overrun charge under Rate Schedule FTS, or additional cashout charges.³¹ Mid-Atlantic states its belief that these are all rates and charges for service performed and are not penalties, and states that it does not intend to collect multiple penalties for the violation of a shipper of an order under this provision.

41. Commission policy prohibits multiple penalties for the same infraction.³² Section 7 of Rate Schedule FTS, Unauthorized Overrun, states that if a shipper overruns its MDQ

³⁰ *Regulation of Short-Term Natural Gas Transportation Services and Regulation of Interstate Natural Gas Transportation Services*, Order No. 637-B, 92 FERC ¶ 61,062, at 62,013 (2000).

³¹ See Mid-Atlantic's Response No. 8.

³² *Regulation of Short-Term Natural Gas Transportation Services and Regulation of Interstate Natural Gas Transportation Services*, Order No. 637, FERC Stats. & Regs. ¶ 31,091, at 31,314 (2000).

on any day without approval from Mid-Atlantic, such excess quantities will be considered an unauthorized overrun, and subject to an unauthorized overrun charge per Dth, in addition to an authorized overrun charge. Thus, the unauthorized overrun charge is clearly a penalty in addition to the charge for transporting the overrun quantity. Furthermore, GT&C section 33.2(a), Mid-Atlantic's penalty crediting mechanism, includes the unauthorized overrun charge under section 7 of Rate Schedule FTS as a creditable penalty. Therefore, Mid-Atlantic is advised not to assess an additional penalty for the same conduct that is also assessed an unauthorized overrun charge under section 7 of Rate Schedule FTS, and to remove the word "penalty" from the first sentence of section 12.3(f).

42. Section 12.4(e) of pro forma Sheet No. 91 states that Mid-Atlantic has the right to seize and retain unauthorized receipts of natural gas, without any liability whatsoever for such action. In *Colorado Interstate Gas Company*,³³ we determined that a pipeline's confiscation of gas left on its system is an operationally justified deterrent to shipper behavior that could threaten the system or degrade service to firm shippers. However, we also found that the value of such confiscated gas must be credited to existing customers, net of costs. Section 33.2, Mid-Atlantic's penalty crediting mechanism, does not provide for the value of confiscated gas to be credited to existing customers. Therefore, we direct Mid-Atlantic to revise section 33.2 of its tariff to credit the value of any confiscated gas, net of costs, to non-offending shippers.

43. Section 14.1 of pro forma Sheet No. 93 states, in part: "If during any Day of the Month the actual daily quantity received by Shipper, *in aggregate*, at Point(s) of Receipt or the actual daily quantity delivered by Transporter to Shipper, *in aggregate*, at Point(s) of Delivery, varies *in either case* by more than 5 percent (5%) from the scheduled quantities at the applicable points in aggregate, a scheduling charge shall be assessed *in each case* on volumes in excess of 5%" (italics added). We question whether Mid-Atlantic intends to assess a scheduling charge at receipt and delivery points in aggregate or at each point. Mid-Atlantic indicates it will assess a scheduling charge at each point. Specifically, in its April 29, 2008 data response, Mid-Atlantic describes the example of a shipper that nominates a volume of 100 Dth at one delivery point and 100 Dth at another delivery point, and then takes 106 Dth at the first delivery point and 96 Dth at the second delivery point. As described by Mid-Atlantic, based on a tolerance of 5 percent, the shipper will be charged a scheduling penalty on 1 Dth at the first delivery point and no scheduling penalty at the second delivery point. If Mid-Atlantic intends to administer this provision as described in its data response, then it should remove the words "in

³³ 122 FERC ¶ 61,256 at P 102 (2008).

aggregate” from the subject tariff language. If it does not remove these words, then it should further explain how it intends to administer this provision when it files actual tariff sheets.

44. In addition, Mid-Atlantic must revise the penalty under section 14.1. In an April 29, 2008 data response. Mid-Atlantic asserts that section 14.1 provides for a daily scheduling charge, not a penalty, and states that because daily scheduling charges are not penalties, they are not included in the revenue crediting mechanism set forth in its tariff.³⁴ However, this explanation is inconsistent with section 33.2 of pro forma Sheet No. 130, Flow Through of Penalties in Excess of Costs, which states that Mid-Atlantic will flow through to Shippers any penalties in excess of costs collected pursuant to sections 12.3(f), 14.1, 14.2 and 18.5 of the GT&C (*italics emphasis added*). Thus, section 14.1 provides for any revenues collected under that section to be treated as penalty revenue. The scheduling penalty under section 14.1 appears to apply during non-critical periods, since it can be assessed “during any Day of the Month” without further conditions.³⁵ Section 14.1 describes the penalty level as “an additional charge equal to the maximum rate in effect under the [applicable] Rate Schedule.” However, we have held that during non-critical periods, a scheduling penalty equal to the maximum interruptible rate is appropriate to provide an incentive for shippers to schedule accurately.³⁶ Therefore, we direct Mid-Atlantic to revise section 14.1 of its tariff to specify that the scheduling penalty will be equal to the maximum ITS rate.

45. Section 14.3 of pro forma Sheet No. 94 requires a shipper to act to maintain the physical and operational integrity of the pipeline in response to a notice issued by Mid-Atlantic. If the shipper does not reduce its deliveries to Mid-Atlantic within the time period required by the notice, section 14.3 declares that Mid-Atlantic has the right to seize and retain unauthorized receipts of natural gas. As discussed above, we direct Mid-Atlantic to revise its tariff to credit the value of any confiscated gas to non-offending shippers under GT&C section 33.2, net of costs.

d. Section 18 – Operational Flow Orders

46. Section 18.3 of pro forma Sheet No. 98 states that Mid-Atlantic will “attempt to minimize the use of operational flow orders and the declaration of critical periods.” Mid-Atlantic has not defined the term “critical period,” other than to explain that this term

³⁴ See Mid-Atlantic’s Response No. 10.

³⁵ In contrast, sections 14.2 and 14.3 provide for increasingly severe penalties during periods of constraint, operational difficulties, or threats to the system.

³⁶ See, e.g., *Ocean Express*, 111 FERC ¶ 61,291, at P 30 (2005).

refers to circumstances that may merit issuing an operational flow order (OFO).³⁷ We find Mid-Atlantic's use of the term "critical period" imprecise and unnecessary. Section 18.2 of Mid-Atlantic's tariff already offers examples of circumstances that may merit issuing an OFO. Accordingly, we direct Mid-Atlantic to revise section 18.3 of its tariff to remove the reference to "critical periods."

e. Section 19 – Resolution of Imbalances

47. Section 19.1 of pro forma Sheet No. 99 on the resolution of imbalances includes a cross-reference to section 14 on scheduling penalties. Imbalance penalties are assessed on the difference between actual receipt volumes and delivery volumes, whereas scheduling penalties are assessed on the difference between volumes scheduled at a point and the actual receipts or deliveries at the point. We find the cross-reference to section 14 unnecessary and confusing. Therefore, we direct Mid-Atlantic to remove the cross-reference to section 14 from section 19.1.

f. Section 21 – Capacity Release

48. Section 21 of Mid-Atlantic's tariff sets forth requirements for capacity release. Section 21.2(a)(9) indicates that the maximum reservation rate that may be bid for released capacity shall not exceed the maximum rate for the applicable service being released, as set forth in Mid-Atlantic's currently effective tariff sheets. On June 19, 2008, the Commission issued Order No. 712, in order to enhance competition in the secondary capacity release market and to increase shipper gas supply options.³⁸ Specifically, Order No. 712 removed the rate ceiling on capacity release transactions of one year or less and increased flexibility for capacity releases related to asset management agreements. Pipelines are required to file within 180 days of the effective date of Order No. 712 to remove any inconsistent provisions from their tariffs. Accordingly, Mid-Atlantic should remove any inconsistent provisions from its tariff when it files revised tariff sheets to reflect the tariff modifications directed by the Commission in this order.

g. Section 24 – Force Majeure

49. GT&C section 24.1 provides for partial reservation charge crediting to shippers whose service is disrupted due to a force majeure event. This is consistent with the Commission's policy. However, the tariff does not provide for full reservation charge crediting if scheduled service is disrupted due to a non-force majeure event, as required

³⁷ See Mid-Atlantic's April 29, 2008 data response.

³⁸ *Promotion of a More Efficient Capacity Release Market*, Order No. 712, 73 Fed. Reg. 37058 (June 30, 2008), FERC Stats. & Regs. ¶ 31,271 (2008).

by Commission policy. In addition, the Commission requires reservation charge crediting to the extent the shipper does not receive 100 percent of its scheduled service when a force majeure event has not been declared.³⁹ We direct Mid-Atlantic to revise its tariff consistent with this discussion.

h. Section 31 – Transporter’s Use Gas Adjustment

50. On pro forma Sheet No. 8, Mid-Atlantic specifies that the transporter’s use gas percentage is 0.00.⁴⁰ Section 31 of pro forma Sheet No. 126 sets forth the procedures by which Mid-Atlantic will reflect changes in transporters’ use gas percentages. Specifically, section 31.2(b) states that Mid-Atlantic “may file with the Commission to reflect net changes in Transporter’s Use Gas Percentages at least thirty (30) days prior to each November 1 which is the beginning date for the Annual Period, provided that such filing shall be required to the extent that the currently effective percentage has decreased by at least ten (10) percent.”

51. As currently worded, if there is a decrease of nine percent, section 31.2(b) would not require Mid-Atlantic to make a filing to change transporters’ use gas percentage and the customers therefore would not realize a reduction in the fuel use rate. Further, as currently worded, customers will not have any information or knowledge of the change in the transporter’s use gas percentage if Mid-Atlantic determined that it did not need to make a filing under section 31.2(b). To ensure that the customers are aware of any changes in the fuel use percentage or that there will be no change in the percentage on November 1, we will require Mid Atlantic to revise its tariff to provide for an annual transporter’s use gas percentage filing. Such a mechanism will provide for transparency of fuel costs.

i. Section 34 – Crediting of Revenues from Interruptible Services

52. Section 34.1 of pro forma Sheet No. 130 provides for the crediting of 100 percent of all net revenues received for services under Rate Schedule ITS and for authorized overruns under Rate Schedule FTS. Commission policy regarding new interruptible services requires either a 100 percent credit of the interruptible revenues, net of variable costs, to firm and interruptible customers or an allocation of costs and volumes to these

³⁹ See, e.g., *SG Resources Mississippi, L.L.C.*, 122 FERC ¶ 61,180, at P6 (2008).

⁴⁰ Mid-Atlantic notes that Transporter’s Use Gas Percentage comprises a lost-and-unaccounted-for gas component only.

services. Therefore, we direct Mid-Atlantic to revise its tariff to also provide for the crediting of 100 percent of all net revenues received for services under Rate Schedule PALS.

j. Form of Service Agreement for Rate Schedule FTS

53. Article 2.2 of the FTS pro forma service agreement states that if a shipper desires to terminate its service agreement prior to the expiration date, Mid-Atlantic “shall be entitled to collect as part of the exit fee that Shipper shall pay for such early termination all, or such lesser portion as Transporter agrees to, of the Reservation Charge otherwise recoverable by Mid-Atlantic from Shipper for the balance of the contractual term absent such early termination.” We have previously determined that an exit fee equal to the net present value of the reservation charges for the remaining portion of the original primary term is appropriate. Accordingly, we direct Mid-Atlantic to revise Article 2.2 to state that it can collect an exit fee only equal to the net present value of the reservation charge for the remaining portion of the original primary term.

54. Article 3.2 of the FTS pro forma service agreement and Article 3.1 of the ITS pro forma service agreement specify that all of the GT&C and Rate Schedule FTS or ITS, as applicable, are “made a part hereof to the extent that such terms and conditions *are not contradicted by any provision herein.*” (Italics added.) The pro forma form of service agreement should be consistent with the applicable rate schedule and the GT&C in all respects. Therefore, Mid-Atlantic must either remove this language or explain how the pro forma form of service agreements are contradictory to the applicable rate schedules and the GT&C and justify any inconsistencies.

3. Accounting Issues

a. Allowance for Funds Used During Construction

55. Mid-Atlantic proposes to calculate its Allowance for Funds Used During Construction (AFUDC) based on its proposed debt and equity capital structure. This approach is consistent with the accounting guidance we have given other newly created companies.⁴¹ Consistent with these precedents, we will require Mid-Atlantic to capitalize the actual costs of borrowed and other funds for construction purposes not to exceed the amount of debt and equity AFUDC that would be capitalized based on the overall rate of

⁴¹ See, e.g., *Cheyenne Plains Gas Pipeline Company*, 105 FERC ¶ 61,095 (2003); *Mill River Pipeline, L.L.C.*, 112 FERC ¶ 61,070 (2005); *Corpus Christi LNG, L.P.*, 111 FERC ¶ 61,081 (2005); and *Ingleside Energy Center, L.L.C.*, 112 FERC ¶ 61,101 (2005).

return approved. This will ensure that the amounts of AFUDC are properly capitalized in this project consistent with our requirements for newly created companies approved in other cases.

b. Origination Cost

56. Mid-Atlantic proposes to defer⁴² a \$2.5 million debt origination cost associated with the permanent financing of the project and amortize it over the life of the debt to which it relates. However, Mid-Atlantic does not provide the specific accounts that would be used. Therefore, consistent with the Commission's Uniform System of Accounts,⁴³ we will require Mid-Atlantic to record the debt origination cost to Account 181, Unamortized Debt Discount and Expense, and amortize it by charges to Account 428, Amortization of Debt Discount and Expense, over the life of the related debt.

IV. Environmental Review

57. Commission staff evaluated the potential environmental impacts of AES's proposed terminal and storage facilities and Mid-Atlantic's proposed pipeline and ancillary facilities in a pre-filing review process⁴⁴ and in a draft and final EIS in compliance with its responsibilities under NEPA.⁴⁵ The United States Coast Guard (Coast Guard), Environmental Protection Agency (EPA), and the United States Army Corps of Engineers (COE) served as cooperating agencies in the preparation of the draft and final EIS.

58. On April 3, 2006, the Director of OEP approved the applicants' request to initiate a pre-filing review. On May 16, 2006, Commission staff issued a *Notice of Intent to*

⁴² See Mid-Atlantic's April 10, 2008 data response.

⁴³ 18 C.F.R. Part 201 (2008).

⁴⁴ NGA section 3A(a) enacted by EPLA 2005 requires that applicants for prospective LNG facilities undergo a pre-filing process. This requirement is implemented by section 157.21 of the Commission's regulations. Section 153.6(c) of the Commission's regulations provides that when a prospective applicant for authorization for LNG terminal facilities, related jurisdictional natural gas facilities or modifications to existing LNG terminal facilities is required by section 157.21(a) to comply with that section's pre-filing procedures, no application for such authorization may be made before 180 days after the date of issuance of the notice of the Director of the Office of Energy Projects (OEP) of the commencement of the prospective applicant's pre-filing process under section 157.21.

⁴⁵ 42 U.S.C. §§ 4321-4370f (2006).

Prepare an Environmental Impact Statement (NOI),⁴⁶ which was sent to affected landowners; federal, state, and local government agencies; elected officials; environmental and public interest groups; Native American tribes; local libraries; newspapers; and other interested parties. In response to the NOI and three public scoping meetings held near the proposed LNG terminal and along the proposed pipeline route, numerous written and verbal comments were directed to the Commission by landowners, concerned citizens, public officials, and government agencies concerning project impacts on land uses and recreation, wetlands and waterbodies, dredging and dredge disposal, water quality, vegetation and wildlife, threatened and endangered species, air and noise quality, future development, property values, cultural resources, socioeconomics, the overall project purpose and need, safety, and potential alternatives to the proposed route and LNG terminal facilities.

59. AES and Mid-Atlantic filed applications on January 8, 2007, and on April 25, 2008, Commission staff issued a draft EIS. Public notice of the availability of the draft EIS was issued on April 25, 2008, and published in the *Federal Register* on May 2, 2008.⁴⁷ The draft EIS was mailed to federal, state, and local government agencies; elected officials; Native American tribes; local libraries and newspapers; intervenors; and other interested parties, including, affected landowners, miscellaneous individuals, and environmental groups that provided scoping comments or asked to remain on the mailing list. The public was given 45 days to review and respond to the draft EIS. Public meetings were held in Baltimore, Maryland, Downingtown, Pennsylvania, and Edgewood, Maryland, on June 9, 11, and 12, respectively, at which a total of 98 individuals presented comments.⁴⁸ In addition, written comments were submitted by six federal agencies (the United States Department of Housing and Urban Development (HUD), COE, EPA, Department of Interior (DOI), Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NOAA Fisheries), and Department of the Interior's Fish and Wildlife Service (FWS)); six state agencies (Maryland's Department of Natural Resources (DNR), Department of Planning, and Department of Business & Economic Development, and Pennsylvania's Department of Environmental Protection (DEP), Department of Conservation and Natural Resources, and Game Commission); 16 local agencies and elected officials; 28 organizations or companies; and approximately 72 affected landowners and other interested parties. The comments express concerns about safety and terrorism, impacts on future developments

⁴⁶ 71 Fed. Reg. 29,941 (May 24, 2006).

⁴⁷ 73 Fed. Reg. 24,276 (May 2, 2008).

⁴⁸ Also, Commission staff attended a meeting sponsored and moderated by United States Representative Joe Pitts in Atglen, Pennsylvania, on August 12, 2008, to discuss his constituents' concerns.

and residential property (including septic systems and wells), socioeconomics, conservation easements, farmland, land values, routing alternatives, endangered species, scenic rivers, state parks, tree clearing, cultural resources, water quality, dredging and dredge disposal, forestland, and wetland mitigation.

60. On December 5, 2008, Commission staff issued a final EIS. Public notice of the availability of the final EIS was issued on December 5, 2008, and published in the *Federal Register* on December 11, 2008.⁴⁹ The final EIS was mailed to the same parties as the draft EIS, as well as to all persons commenting on the draft EIS. The distribution list is provided in Appendix A of the final EIS. The final EIS considers and responds to concerns expressed in comments on the draft EIS. The final EIS concludes that the construction and operation of the proposed terminal and pipeline will result in limited adverse environmental impacts. As described in the final EIS, impacts have been minimized to the extent practicable through the development of mitigation measures proposed by the applicants or recommended by Commission staff or the cooperating agencies. Following the issuance of the final EIS, further comments were submitted. While we find no cause to respond to comments that revisit matters previously raised and fully assessed in the draft and final EIS, comments that raise new issues or present additional material information are addressed below.

A. Notification and Pipeline Routing

61. We disagree with claims that the public received inadequate or untimely information about the proposed project and should be provided additional time to submit comments. We find the applicants have complied with our regulatory obligations governing notice procedures for a proposed project.⁵⁰ Comments point out that the route which was ultimately selected for the pipeline differs from the route that was initially presented. Consequently, while landowners along the route as first planned first received notification in conjunction with the May 2006 start of the pre-filing process, landowners along certain alternative routings were not informed their property could be affected until after the April 2008 draft EIS proposed modifying segments of the original route to instead follow certain alternatives. We acknowledge that landowners located along what was first characterized as an alternative route, and was subsequently selected as the final route, may not have been notified as early as landowners along the initially-designated route that the proposed project would affect their property. Nevertheless, in conformity with our section 157.6(d) requirements, we find a good faith effort was made to provide timely notice to landowners along the alternative segments that the use of their property

⁴⁹ 73 Fed. Reg. 75,427 (December 11, 2008).

⁵⁰ *See* 18 C.F.R. § 157.6 (2008).

for a pipeline was under consideration.⁵¹ The responses received within the time provided were discussed in the final EIS,⁵² and we have taken into consideration further responses submitted by affected landowners after issuance of the final EIS. We believe all affected landowners along the final pipeline route were given adequate notice and provided a reasonable amount of time to review the record in this proceeding and to state any objections. In view of this, we find no cause to provide for additional time to present additional comments.

62. Several submissions subsequent to the final EIS ask that the Commission to refrain from acting on the applications until other state and federal agencies issue all permits and approvals needed for the proposed project.⁵³ As indicated in the EIS,⁵⁴ it is impractical, and sometimes impossible, to complete studies and develop plans to mitigate potential adverse aspects of a project in advance of issuing a final order. This can be because many of the post-authorization conditions require site-specific plans and surveys that cannot be completed until the applicant is able to employ eminent domain to gain access to previously inaccessible land parcels. We stress that this order's authorizations are subject to the applicants' compliance with numerous specific conditions, including the requirement to obtain favorable determinations from other agencies that have jurisdiction over various aspects of the project. Consequently, we find no need to hold our decision in abeyance, given that our authorizations are conditioned to preclude the applicants from commencing construction until all other necessary permits and approvals are granted.

⁵¹ In addition to the conventional landowner notice provided by the applicant, the Commission obtained from Mid-Atlantic, under oath, the name and address of every landowner of record along each route variation, which staff reviewed using online mapping programs. On October 29, 2008, Commission staff sent a letter to these landowners informing them of the route variations being contemplated and inviting their comments.

⁵² For example, in response to November 14, 2008 comments of Thomas R. and Jennie R. McQueen, landowners along route variation 13, we adjusted the alignment of the variation to minimize disruption to planned housing lots (*see* accession number 20081117-0076, final EIS, Appendix P-16, Table P3-1), and in response to November 12, 2008 comments of Bruce and Angela Breton, landowners along route variation 6B, we rejected the proposed variation because it would have had additional impacts on forest conservation areas (*see* accession number 20081112-5051, final EIS, Appendix P-14, Table P3-1).

⁵³ *See, e.g.*, the Brandywine Conservancy's comments of January 2, 2008.

⁵⁴ *See* the final EIS at P1-19 and P1-23.

63. In response to concerns about potential modifications to the approved pipeline route, we clarify that prior to permitting any variation in the approved route, all appropriate environmental surveys – including the identification of wetlands and historic structures – will need to be completed. Environmental Condition 6 allows Mid-Atlantic to make minor modifications to the pipeline route to accommodate a landowner’s needs, provided other landowners or sensitive environmental areas (e.g., wetlands and historic structures) are not affected. In addition, Environmental Condition 55 requires Mid-Atlantic to provide individual site-specific residential plans to the owner of each residence located within 50 feet of construction work areas and to provide the owner one month to review and comment on these plans. Mid-Atlantic will then file these plans with the Commission along with any comments from the property owners.

64. With respect to specific comments on the approved route, Timothy and Maureen McAleese and Lisa Van Houten ask the Commission to consider alternatives to Variation 9. We find the specific alternative route proposed by Lisa Van Houten would require removing a garage, resulting in additional, significant impacts to the garage owner. In addition, while the route proposed by Lisa Van Houten would employ a narrower right-of-way, our review of Variation 9 was based on a minimum construction right-of-way width, which Commission staff determined to be necessary for the safe operation of equipment during construction while minimizing the potential for disruption to the environment. We do not believe a narrower right-of-way would accommodate these needs. Therefore, we find that there is not an environmentally preferable alternative to the selected Variation 9 routing.

65. Andrew Durkin proposes an alternative to Variation 12C that he claims would diminish deforestation; be significantly shorter and straighter; follow an existing pipeline right-of-way for almost its entire length; eliminate impacts on residential properties’ septic systems and wells, as well as the need for new easements on residential property that currently has no pipeline right-of-way; eliminate the impacts on 200 residents currently serviced by the Lakeridge waste water treatment facility; eliminate impacts on commercial lots, businesses, the local tax base and local traffic; and avoid negative impacts of HDDs and the consequences that would follow from a failed HDD. We have reviewed the proposed alternative and find it would not reduce impacts to the congested Hunters Ridge community, which was the main purpose for adopting Variation 12C. Furthermore, there are sharp turns included in the proposed alternative that render it unbuildable. Consequently, we affirm our determination that Variation 12C should be incorporated into the approved route.

B. Active Military Installations

66. In accordance with NGA section 3(f), as enacted by EPLA 2005, we requested that the United States Department of Defense inform the Commission of the proposed LNG terminal’s impacts on any defense or military establishments in the project area.

We had discussions with the Regional Port Operations Officer of the Naval District, Washington, DC, regarding naval facilities at Annapolis and in the Port of Baltimore, and concluded that the proposal will have little effect on these facilities.

67. However, as a result of discussions with an official from the United States Patuxent River Naval Air Station (Patuxent), we determined that LNG ships bound for the proposed terminal could impact 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 LNG terminal, also located along the Chesapeake Bay, currently coordinate with Patuxent on the arrival and departure of LNG ships to avoid affecting operations in Surface Danger Zones. Since the LNG ship traffic related to the proposed terminal will pass through these zones, it would increase the number of days and occurrences for potential conflict with naval operations. Therefore, as recommended in the EIS, we direct AES to coordinate with Patuxent in advance of LNG ship traffic, and when necessary, adjust arrival and departure schedules to avoid interfering with naval operations that require clearance of the Surface Danger Zones. The Department of Defense concurred that these mitigation measures and coordination would reduce potential impacts to manageable levels. This coordination may be in conjunction with or in addition to early notification to the Coast Guard. As stated in its Waterway Suitability Report, any final Coast Guard determination of the waterway suitability is contingent upon AES developing a Transit Management Plan in consultation with the Coast Guard and participating agencies. The Transit Management Plan will include AES's procedures for ensuring ship traffic will not adversely affect naval operations or permitted marine events.⁵⁵ In view of the above, we conclude that the proposed LNG terminal and associated LNG marine traffic will not affect the training or activities of an active military installation.

C. Alternatives

68. Commission staff evaluated alternatives to the proposed project, including taking no action, postponing action, relying on energy conservation, and alternatives specific to the terminal and pipeline. While taking no action would eliminate the short- and long-term environmental impacts identified in the EIS, the purpose of the proposed project would not be realized, and the need to provide a new source of gas to the growing mid-Atlantic market would not be met. While postponing action would defer incurring adverse environmental impacts, it would also delay the day that a new source of gas could be available to meet expected increases in market demand. The EIS considered relying on other non-renewable fuels and renewable energy sources to fulfill the purpose of the proposed project and found such sources could not meet the projected energy

⁵⁵ See section 4.12.5.5 of the final EIS for further discussion of the Transportation Management Plan.

demands of the target markets. We expect renewable energy sources, in conjunction with energy conservation, will play an increasing role in power generation for the regional markets; however, these sources presently represent a small fraction of current market demand, and would not be able to satisfy the projected growth in demand absent the additional energy supply that the proposed project will provide.

69. Regarding AES's portion of the proposed project, the EIS evaluated existing LNG import terminals; other approved, proposed, or planned LNG import projects onshore and in shallow water; deepwater LNG terminals; and the following seven alternative LNG terminal sites in the Chesapeake Bay: (1) a site near Cove Point, Maryland; (2) Calvert Cliffs; (3) Greenbury Point; (4) Fishing Point and other sites within the Baltimore Inner Harbor; (5) Swan Creek immediately south of the Key Bridge; (6) Kent Island; and (7) the Mittal Steel site on the Sparrows Point peninsula.

70. The EIS concluded that the existing, approved, or proposed LNG terminal alternatives would not be able to provide sufficient capacity to handle the proposed project's LNG volumes or would not be able to maintain the proposed project's sendout capacity. Of the various sites considered within the Chesapeake Bay, the Sparrows Point site would be the preferred location, primarily due to its industrial setting, distance from residential areas, and proximity to the intended market. The Mittal Steel site would require less dredging and be located further away from residential areas; however, the current owner has not indicated an interest in selling the property, therefore the site was unavailable for development of an LNG terminal as of December 2008.

71. Offshore terminal alternatives were considered.⁵⁶ The EIS determined that while offshore terminals would avoid impacts associated with the proposed onshore terminal, they (1) would result in additional offshore disturbances, and (2) potential environmental impacts of an offshore terminal and pipeline would be similar to or greater than impacts from the proposed onshore terminal and pipeline, including additional impacts from offshore pipeline construction and a permanent seafloor footprint associated with placement of the offshore terminal and safety and security zones.

72. The EIS also reviewed unloading platform design and location, dredging, and regasification alternatives. The planned unloading platform at the existing Pier 1 appears to be a better location. The proposed vaporization process, using high-temperature fluid heated by hot water, is preferable to the other gas-fired alternatives because selective catalytic reduction can be incorporated to reduce air emissions. With respect to dredging, the EIS determined that to reduce turbidity, total suspended solids, and the release of contaminated sediments into the water, mechanical dredging is preferable to hydraulic dredging. Mechanical dredging alternatives include an enclosed clamshell or a

⁵⁶ See the final EIS at 3-22, section 3.2.4, Offshore Terminal Alternatives.

73. Regarding Mid-Atlantic's portion of the proposed project, the EIS evaluated alternative systems and routes and variations along the proposed route. The EIS concluded that there would be no environmental advantage in relying on existing and proposed gas pipeline systems to satisfy the purpose of the proposed project. There are two pipelines in the general area of Mid-Atlantic's proposed route that could be reached by building a new 20-mile-long line, but the existing pipelines could not accommodate the capacity that Mid-Atlantic's proposed pipeline is designed to carry. Further, looping the existing pipelines would provide no environmental advantage over building the proposed new pipeline. In addition, relying on the existing pipelines would limit backhaul options and reduce the operational flexibility (including gas storage availability) that would otherwise be available via the proposed Columbia, Texas Eastern, and Transco interconnects at Eagle, Pennsylvania. Finally, delivering the gas directly to BGE, and thereby eliminating the need for most of the proposed pipeline, would fail to achieve the aim of the proposal to make a new source of additional gas available to all consumers within the Mid-Atlantic region.

74. After reviewing four major route alternatives and 30 route variations, the EIS recommended 12 route variations: five variations (Variations 1B, 1C, 1D, 2A, and the Chesaco Road Variation) avoid conflicts with the Maryland State Highway Administration controlled access right-of-way for interstate highway I-695, Cove Road, and Chesaco Avenue; Variation 6 addresses concerns of residents within the Saint Anne community; Variation 10A avoids a congested residential area along an existing Columbia pipeline right-of-way; Variation 12C avoids the congested Hunters Ridge subdivision; Kirks Mill Variation A avoids the Kirks Mill Historic District; and three variations avoid forested areas (Romansville Road Variation B) or sensitive resources (Variations 13 and 14). We will require that Mid-Atlantic incorporate these 12 route variations (Environmental Condition 4) into its approved route.

75. Several of these route variations were analyzed in response to comments received on the draft EIS. On October 29, 2008, Commission staff issued a letter informing landowners that they could be affected by these new route variations and requesting comments on the environmental impacts of these new variations. Comments received in response to this letter were addressed in section 3.3.3 and summarized in section P3 of Appendix P of the final EIS. In response to comments received, Route Variation 13 and the Romansville Road Variation B were revised, and Route Variation 6B was not recommended. We will require Mid-Atlantic to incorporate additional mitigation measures (*see* Environmental Conditions 16 through 18 and 20 through 21 of the

appendix to this order) to further minimize the impacts associated with the route variations.

76. The EIS did not recommend five alternatives that were suggested in comments due to environmental reasons, as discussed below. The Saint Anne community suggested Variations 6A and 6B be considered to further minimize impacts to residents. However, these variations would only transfer the impacts from one area (St. Anne Drive) to another (Mine Branch Road). Thus, we conclude the EIS appropriately declined to recommend these variations because they would not reduce environmental impacts, but would create a new corridor through forested habitat and impact a new group of residences.⁵⁷

77. Route Variations 9 and 9A were developed in response to comments from residents of Victoria Crossing. Although it appears that Variation 9 would reduce impacts to residences, it would impact the forested buffer of Beacon Hill Park and would impact a different group of residences, including one residence that would lose all tree screening between the residence and the neighbors. While we concede that the proposed route will have adverse impacts on the area, we concur with the EIS's assessment that Variation 9 would not be significantly better than the approved route.⁵⁸ Variation 9A was developed as a further attempt to avoid the Victoria Crossing area. While Variation 9A would minimize impacts to the residents of Victoria Crossing, it would clear more forest and create a new corridor affecting a new group of residences that are not currently impacted by a pipeline easement; therefore, Variation 9A was not recommended in the EIS.⁵⁹

78. Variation 11 was developed in response to comments from Byers Commercial LP (Byers), to avoid their planned development. While Variation 11 would limit impacts to the proposed Byers development, the impacts would be shifted to adjacent residents on Dartmouth Road, trail users, and vehicular traffic along Graphite Mine Road. The EIS concluded that impacts to the Byers development could be minimized through discussions with Mid-Atlantic concerning the alignment on the property.⁶⁰ Consequently, we do not recommend this variation.

⁵⁷ *See* final EIS at 3-63.

⁵⁸ *Id.* at 3-69

⁵⁹ *Id.* at 3-71.

⁶⁰ *Id.* at 3-77.

79. Subsequent to issuance of the final EIS, we received comments that repeat previously-raised concerns regarding previously-reviewed routing variations, which we find no cause to revisit. We also received comments that argue for additional route variations. With respect to suggested new routes, we note that Environmental Condition 6 allows Mid-Atlantic to make minor modifications to its pipeline's route per landowner needs, as long as other landowners or sensitive environmental areas such as wetlands are not affected. Mid-Atlantic may also request new route alignments and other modifications.

D. Geologic Setting and Hazards

80. We find that construction and operation of the proposed AES LNG terminal will have minimal impact on geological resources. Further, the potential for geological hazards or flooding events to significantly impact the terminal is low, provided our required design measures are implemented, in particular, Environmental Conditions 98 to 108, which direct AES to submit a final engineering design that includes detailed seismic specifications and other measures to mitigate the impacts of seismic hazards. The final engineering design will be subject to final review and written approval by the Director of OEP prior to the authorization of construction. The environmental conditions ensure the final design will comply with the seismic design requirements of National Fire Protection Association 59A-2001 and the Commission's Draft Seismic Design Guidelines and Data Submittal Requirements for LNG Facilities.

81. The proposed LNG terminal site and pipeline route are in an area of relatively low potential for seismic activity, and no mapped surface faults or active surface faults are known to exist. Site-specific analyses was undertaken to assess the seismic potential of the terminal site. Design spectra were prepared and will be utilized in the final design of the LNG terminal structures. A subsurface exploration program evaluated the characteristics of the formations underlying the area and the potential for seismic soil liquefaction. Preliminary results from site-specific ground motion analyses indicate that limited areas at the proposed terminal site may have liquefaction-susceptible sands; therefore, Environmental Condition 98 requires additional subsurface exploration in these areas to confirm the presence of the loose sand layer and collect additional data proximate to the planned LNG tank locations prior to the completion of the final foundation design. If a liquefiable sand layer is present, then the potential effects of liquefaction must be factored into the pile design of the LNG tank foundations to compensate for potential settlements due to liquefaction.

82. AES intends to employ steel H-piles topped with a pile cap for tank support, which will be used for deep foundations to limit settlement due to the variability of the soil profile at the site, to avoid existing foundation structures and obstructions within the proposed development footprint, and to limit construction spoil. In addition, AES does not plan to raise the ground surface within the bermed area surrounding the LNG tanks so

as to limit possible down drag forces on the foundation pile of the tanks. Instead, AES proposes to construct the tank slab on top of a layer of geo-foam (expanded polystyrene).

83. The proposed terminal's coastal setting is subject to tidal fluctuations, flooding, and major storm events, including hurricanes. However, the Federal Emergency Management Agency's Flood Insurance Rate Map indicates the 500-year flood limits do not encroach onto the proposed terminal site. In addition, the grade of the terminal site will be raised during construction and a bulkhead installed at the waterline, which will further reduce the potential for any flooding impacts at the terminal site. As described in its application, AES will build an 8-foot earthen floodwall around the LNG tanks and process area. We will require AES to incorporate appropriate flood control design elements, including establishment of shore protection features, to protect against hurricane flooding, and site storm water collection and drain systems, to allow collection and removal of rain and flood waters from the terminal site.⁶¹

84. Blasting is not needed at the proposed LNG terminal site. However, blasting may be required during excavation activities along the proposed pipeline route due to shallow bedrock conditions. To minimize impacts resulting from potential blasting activities, Environmental Condition 22 requires Mid-Atlantic to file a site-specific Project Blasting Plan prior to initiating any blasting. Construction and operation of the proposed terminal and pipeline will not impact any active or inactive mineral resource extraction operations.

E. Soils

85. The terminal site is an approximately 45-acre brownfield parcel within the existing Sparrows Point Industrial Complex, 32 acres of which was built up by spoil material from nearby excavations and hydraulic fill from historic harbor and channel deepening. At the terminal site and at some locations along the proposed pipeline route, there is evidence of contaminated soils and sediments. Due to these existing soil conditions, AES submitted a Potentially-Contaminated Soils Management Plan. Environmental Condition 23 requires AES to file an amended Potentially-Contaminated Soils Management Plan to ensure that potentially contaminated soils are properly managed during construction. To minimize the impacts of potentially contaminated soils along the proposed pipeline route, Environmental Condition 24 requires Mid-Atlantic to file a report containing the results of sediment quality testing, a risk assessment, and a site-specific crossing plan for a contaminated area near the intended route across the Back River.

86. Mid-Atlantic's proposed pipeline will disturb approximately 1,603.4 acres of land during construction, and approximately 544.6 acres will be maintained within the permanent right-of-way during operations. About 0.7 acre of soils classified as prime

⁶¹ See Environmental Condition 1 and the final EIS at 2-20, section 2.3.1.2, LNG Storage and Process Facilities, Site Preparation.

farmland or farmland of statewide importance will be temporarily affected by construction of the proposed pipeline, with aboveground mainline valves and meter stations permanently impacting about 0.2 acre of such farmland in Maryland and about 0.15 acre in Pennsylvania. The three meter stations will not be on such farmland.

87. Mid-Atlantic's pipeline's construction will disturb about 160 acres of hydric soils. The impacts on these soils will be minimized by the implementation of Mid-Atlantic's best management practices in its Environmental Construction Plan and by conducting topsoil segregation in wetlands with unsaturated soils.

F. Water Resources

1. Groundwater

88. Potential impacts on groundwater associated with the use of oils, lubricants, and other hazardous substances during construction and operation of the proposed terminal will be minimized by AES's compliance with federal regulations related to fuel transport, handling, and spill response procedures, and AES's implementation of its Spill Prevention, Control and Countermeasure Plan (SPCC Plan). AES will conduct limited environmental monitoring, sampling, and analyses during the geotechnical investigation to characterize the groundwater quality at the LNG terminal.

89. Two public water wells are within 400 feet of construction workspaces for the proposed pipeline, and the route crosses two wellhead protection areas in Maryland. In order to protect these wells, Mid-Atlantic must not store fuel, or refuel vehicles or equipment, within the wellhead protection areas. The proposed terminal and pipeline do not affect any of the EPA-designated sole source aquifers.

90. The EIS identified 41 private water supply wells within 150 feet of the proposed construction right-of-way. Mid-Atlantic must monitor the quality and yield of all public or private wells within 150 feet of its workspace before and after construction. Because there are some properties that Mid-Atlantic does not yet have access to, Environmental Condition 25 requires Mid-Atlantic to file a revised table after it surveys all affected property parcels to confirm the location of all wells within 150 feet of its construction work areas, including the distance and direction from the construction right-of-way. Environmental Condition 26 also specifies that within 30 days of placing its pipeline in service, Mid-Atlantic must file a report with the Secretary of the Commission (Secretary) identifying all water supply wells/systems damaged by construction and how they have been repaired. This report should describe the well yield or quality and how each problem was resolved as well as any public or private water supply disruptions and how repairs were accomplished and service restored.

91. Mid-Atlantic must characterize groundwater quality along its pipeline's route during final construction design, prior to the start of construction. If drinking water wells

are impacted by construction, Mid-Atlantic must provide a temporary potable water source until water quality or yield has been restored. Mid-Atlantic is to file its project-specific version of its SPCC Plan prior to construction.

2. Surface Water Resources

92. Once constructed, the LNG terminal's impact on water quality will primarily result from site storm water runoff, given that LNG vessels will withdraw minimal volumes of water for engine cooling and ballast and there will be neither water intakes (except emergency fire water pump intakes) nor process water generated by operating the LNG facility. However, certain construction activities will adversely impact water quality of the Patapsco River. Comments focus on the potential impacts of dredging and dredge disposal.

93. The primary impact from dredging will be the resuspension of sediment into the water column. Additionally, the suspension of organic materials and sediments from dredging and prop wash could cause an increase in biological and chemical use of oxygen, resulting in a decrease of dissolved oxygen concentrations in the affected area, which could be detrimental to benthic organisms in the affected area. In general, these impacts will be temporary and confined to the near vicinity of the dredging activities. AES proposes to use a mechanical (clamshell) dredge and has committed to use an environmental bucket for dredging the soft, top-most sediments (approximately 810,000 cubic yards, or 22 percent, of the total dredging). This measure will minimize suspended solids and turbidity and, in turn, reduce the risk of water impacts due to exposure to contaminants in the dredged sediments. In addition, AES must follow best business practices in its Environmental Construction Plan to minimize and localize turbidity.

94. Dredging of the approach channel is expected to generate about 3.7 million cubic yards of sediment, with about 10,000 cubic yards of material to be removed daily during a dredging season anticipated to be 243 working days per year over 21 months. Maintenance dredging of the access channel, the turning basin, and sediments adjacent to the unloading pier is expected to generate about 500,000 cubic yards about every six years. Dewatering of dredge spoils will occur at the Dredged Materials Recycling Facilities (DMRF) located on five acres of terminal site. The raw dredged materials will be transformed into processed dredged material (PDM), then transported to a 10-acre temporary PDM storage area south of the terminal site or to a 20-acre temporary equipment laydown and storage yard north of the site.

95. AES proposes to ship PDM offsite at an average rate of approximately 5,000 cubic yards per day, 365 days per year, and will implement a contingency plan if it is unable to remove PDM at this rate. AES's current schedule shows that the PDM stock pile will be removed from the site within 31 months, i.e., 11 months after dredging ends. After the PDM is processed, it should be suitable for beneficial reuse. The PDM will be tested by AES at the temporary storage area – in accordance with Maryland's Department of the

Environment's specifications and the draft Consolidated Dredge Plan (CDP) – before being cleared for any reuse. The CDP addresses disposition of the PDM; the capacity of the temporary placement areas onsite; daily PDM takeaway capacity; the number, probable routes, and impact of trucks to haul the PDM; and a contingency plan to dispose of the PDM in approved landfills in Virginia if there are no buyers for the PDM. No PDM can be disposed of within wetlands or waterbodies. Water from the dewatering process will be treated and discharged back to the harbor in accordance with a Maryland Department of the Environment Industrial Water Discharge permit. In order to incorporate commitments that AES has made since the draft CDP, and to confirm that concerns raised by Commission staff and other agencies are fully addressed in the final CDP, Environmental Condition 27 requires that prior to construction, AES file the final CDP, along with any comments or seasonal restrictions from the COE, EPA, or Maryland Department of the Environment regarding the CDP, with the Secretary, for review and written approval by the Director of OEP.

96. Storm water discharged from the proposed terminal will be pumped from site impoundments and pass through an oil-water separator prior to flowing into a water treatment system. All storm water will be treated prior to discharge to Baltimore County's publicly owned treatment works. Discharges will be monitored and tested. In addition, runoff from the DMRF will be subject to an individual National Pollutant Discharge Elimination System facility permit under section 402 of the Clean Water Act.⁶²

97. The proposed pipeline route will cross 171 waterbodies, and in response to issues raised by the COE, Environmental Condition 15 requires Mid-Atlantic to revise its Environmental Construction Plan to acknowledge it will need to have written, site-specific COE authorization prior to using riprap as a stream bank stabilization method. To mitigate the impacts of an accidental spill of oil, gasoline, or lubricants during construction or operation, we direct Mid-Atlantic to comply with its SPCC Plan.

98. Mid-Atlantic proposes to cross the Susquehanna River, Back River, Little Gunpowder Falls, and an associated wetland via a horizontal directional drill (HDD). Prior to construction, Mid-Atlantic must file final geotechnical data to support the feasibility of HDD crossings at these sites. In response to comments on the draft EIS from local and state agencies, Environmental Condition 28 requires Mid-Atlantic to cross White Marsh Run, Winters Run, Octoraro Creek, and West Branch Brandywine Creek using the HDD construction method, and Environmental Condition 29 requires Mid-Atlantic to file its HDD Monitoring and Contingency Plan, which must specify procedures to be followed in the event of a failure of the HDD, for review and written approval by the Director of OEP prior to construction. If an HDD crossing is

⁶² 33 U.S.C. § 1342 (2006).

unsuccessful, Environmental Condition 30 directs Mid-Atlantic to file an alternative crossing plan for review and written approval by the Director of OEP, and to concurrently submit an application to the COE for a permit to construct using the alternative plan.

99. Mid-Atlantic must obtain appropriate permits/authorizations to use the Susquehanna River as a water source and discharge location for hydrostatic testing of the pipeline. To minimize potential impacts on aquatic resources, the Maryland DNR and NOAA Fisheries determined that water withdrawals should be avoided from April 21 through June 15, when the Conowingo Dam fish lift operations and potential anadromous fish spawning occur in the Conowingo Pool, and surface water withdrawals should be coordinated with the Susquehanna River Basin Commission. To this end, Environmental Condition 31 requires that Mid-Atlantic submit the results of its consultation with the Susquehanna River Basin Commission on permits for water use from the Susquehanna River. In addition, we direct Mid-Atlantic to use energy dissipaters on the pipeline hydrotest discharges to minimize the erosive forces of the water and to truck in potable water for hydrostatic testing of the pipe for the Back River and Little Gunpowder Falls HDD sections.

100. Although prop wash from operation of the LNG vessels and escorts/tugs may result in minor resuspension of bottom sediments, we expect the impact to be temporary and localized. Similarly, although surface water withdrawals for LNG vessel engine cooling and ballast could affect aquatic species, we expect the incremental burden of LNG shipments, added to an already heavily used transit corridor, should be minor and temporary. We do not anticipate any significant impacts on water quality from an unignited release of LNG, as it is not soluble in water and the cryogenic liquid would vaporize rapidly upon contact with the warm air and water, leaving no chemical residue or long-term temperature disturbances. An LNG spill, whether ignited or unignited, at the terminal or along the transit route, should not result in significant impacts on surface water quality. In view of the above, we conclude that construction and operation of the proposed project will not have a significant impact on surface water resources.

3. Wetlands

101. No wetlands will be affected by the proposed LNG terminal. The proposed pipeline will impact 19.43 acres of wetlands, with 13.64 acres permanently maintained as right-of-way and 4.46 acres altered from forested wetland to scrub-shrub or emergent wetlands. Mid-Atlantic has submitted its wetland delineation reports for areas where survey access was available to the Commission and the COE. The EIS found the survey reports to be acceptable. After property access issues are resolved, and prior to construction, Environmental Condition 32 directs Mid-Atlantic to submit final delineation reports for previously unsurveyed properties.

102. Upon completing construction, Mid-Atlantic must conduct annual monitoring of

wetlands being restored in accordance with its Environmental Construction Plan for a minimum of three years or until 85 percent of adjacent cover is established. Invasive species will be monitored during this time, and measures taken to inhibit their establishment along the pipeline. Environmental Condition 35 requires that prior to construction, Mid-Atlantic must file its final Exotic and Invasive Species Control Plan, developed in consultation with the COE and other federal and state agencies, for review and written approval by the Director of OEP. In addition, Environmental Condition 33 requires Mid-Atlantic to monitor the status of all affected wetlands for a period of at least five years and to revise its Exotic and Invasive Species Control Plan, Aquatic Resources Mitigation Plan, and Environmental Construction Plan accordingly. This five-year period is more stringent than the Commission staff's Wetland and Waterbody Construction and Mitigation Procedures provision for three years of monitoring.

103. Where unavoidable wetland impacts occur, agencies require measures to mitigate the impacts. AES and Mid-Atlantic filed a revised Aquatic Resources Mitigation Plan which the COE is currently reviewing, and which it must find acceptable before issuing a permit under section 404 of the Clean Water Act. We find that the implementation of these plans and compliance with our environmental conditions will render long-term impacts on forested wetlands and on emergent and scrub-shrub wetlands temporary and insignificant.

G. Vegetation

104. Because the proposed LNG terminal will be located in an industrial area with little native vegetation, terrestrial vegetation should not be adversely impacted. Construction of the proposed pipeline will impact 1,603.4 acres of land; its operation and ancillary facilities will permanently impact 546.7 acres. The proposed LNG terminal and portions of the proposed pipeline will be within areas regulated by Maryland's Critical Area Act. The Maryland Forest Conservation Act prioritizes areas adjacent to streams or wetlands, on steep or erodible soils, and within or adjacent to large contiguous blocks of forest or wildlife corridors. Environmental Condition 34 requires Mid-Atlantic to consult with the Maryland DNR Forest Service and/or appropriate local authorities to develop a Forest Conservation Plan and determine the need for a Forest Stand Delineation. The Forest Conservation Plan should be submitted to the Maryland DNR for review when the sediment and erosion control plan or grading plan is submitted, and Mid-Atlantic should file with the Commission the results of these consultations and the final Forest Conservation Plan. We believe that with the implementation of these plans, impacts on forested vegetation will be long term and impacts on other vegetative communities will be short term.

H. Wildlife

1. Terrestrial Species

105. The proposed facilities will affect a variety of terrestrial wildlife habitats resulting in both short term and permanent impacts. However, most of the wildlife species associated with the affected habitats are expected to readily utilize adjacent unaffected habitats. No state game refuges, state wildlife management areas, or National Wildlife Refuges are located within 0.25 mile of the proposed project area. However, the proposed pipeline will cross portions of what the Chesapeake Bay Critical Area Protection Program defines as the Maryland Designated Critical Area, the Forest Interior Dwelling Species Bird Habitat, and the Nontidal Wetland of Special State Concern. The proposed terminal is about 1.1 miles from the Fort Carroll Island waterbird colony, about 0.7 mile from the Sparrows Point waterbird colony, and about 1.1 miles from a peregrine falcon nest on the Francis Scott Key Memorial Bridge.

106. Long-term impacts on wildlife habitat will be minimized by adherence to Mid-Atlantic's Environmental Construction Plan, and natural revegetation of temporarily cleared areas should also mitigate the construction impacts. To address potential impacts on sensitive wildlife habitats, Environmental Conditions 38 and 39 require Mid-Atlantic to consult with the appropriate Forest Interior Dwelling Species habitat management entities in Maryland, and with the Pennsylvania Game Commission regarding the State Line Barrens Important Bird Area, and file with the Commission the results of these consultations, including any agency-recommended habitat mitigation plans.

107. Historical and current wintering waterfowl concentration and staging areas that are present within the vicinity of the terminal area could be impacted by construction and by LNG ship traffic. Therefore, Environmental Condition 37 requires that prior to construction, AES must consult with the Maryland DNR to develop final best management practices to minimize harm to waterfowl and protect waterfowl habitat, and file with the Commission the results of this consultation, including any agency-recommended habitat mitigation plans. Potential detrimental effects from lights at the proposed terminal will be minimized by using down-shielding and low-level lights, and reducing light duration. To further reduce potential impacts on birds, Environmental Condition 36 requires AES to file a bird strike/impact minimization plan prior to construction of the LNG terminal with the Commission. We believe that with the implementation these plans, impacts on most terrestrial species will not be significant and best management practices for waterfowl habitat will minimize the long-term disturbances to wintering waterfowl near the proposed terminal.

2. Aquatic Species

108. Impacts on aquatic organisms – including changes in habitat, potential short-term and seasonal low dissolved oxygen conditions, and temporary high turbidity conditions – will be primarily from dredging activities. Currently, the area to be dredged is dominated by pollution-tolerant polychaete worms, a pioneering species that can be expected to quickly recolonize the benthic substrates after dredging. With respect to oysters, Environmental Condition 41 requires AES to consult with the Maryland DNR to determine if the oyster population at Fort Carroll is productive, and if it is, to determine if time-of-year restrictions on dredging is needed. To date, no other timing restrictions for dredging activities have been identified by resource agencies.

109. High turbidity and low oxygen conditions directly related to dredging should be temporary and localized, and consequently are not expected to have a significant impact on habitat and aquatic life in the area. Because of the potential for seasonal low oxygen conditions to persist in the deep waters of the Patapsco River shipping channel, Environmental Condition 40 requires AES to continue to consult with NOAA Fisheries, the Maryland DNR, and the Atlantic States Marine Fishery Commission on the matter, and prior to construction, file with the Commission the results of the consultation and any agency-recommended mitigation plan(s).

110. Other impacts on aquatic organisms could result from pressure or sound waves associated with pile driving activities during pier construction. Environmental Condition 42 requires AES, prior to construction, to file with the Commission a construction plan for the unloading dock that incorporates NOAA Fisheries' and the Maryland DNR's comments on the use of existing pilings and these agencies' recommended pressure and sound wave mitigation measures. Impacts on aquatic species will be considered rare, short-term, and/or minor, or will be addressed via agency-reviewed mitigation measures.

111. Dredging and pile driving activities during construction of the proposed terminal have the potential to adversely impact aquatic species, including freshwater fisheries. As noted, AES will use mechanical dredging buckets, and use an environmental bucket for dredging the soft, top-most sediments, which should minimize suspended solids and turbidity, and in turn to reduce the risk of water impacts due to exposure to contaminants in the dredged sediments. To further reduce the risk of these impacts, AES will also implement its Consolidated Dredge Plan and Aquatic Resources Mitigation Plan. We believe that with the implementation of these plans, impacts will not be long-term or significant.

112. Mid-Atlantic's Environmental Construction Plan includes measures pertaining to seasonal activity restrictions and erosion/sediment controls to mitigate impacts on fisheries, including streams crossed by the pipeline that may support spawning by anadromous fishes. Suspended sediment concentrations are expected to return to preconstruction levels in each stream soon after construction is completed. Mid-Atlantic will complete in-stream construction within a 24-hour period at each minor waterbody to minimize the duration and extent of disturbance. Hydrostatic test water intakes will be

screened to prevent fish entrainment, and discharges will utilize energy dissipaters to reduce erosive forces. We find that with the implementation of these measures, and the above-noted HHD crossings, the impact of construction on fish and other aquatic organisms will be localized and short-term.

3. Essential Fish Habitat

113. The NOAA Fisheries identified essential fish habitat for two finfish species – bluefish and summer flounder – that are found in brackish and salt waters in the vicinity of the proposed terminal. NOAA Fisheries also identified several forage fish – river herring (also called alosine species, a collective term that includes American shad, hickory shad, alewife, and blueback herring), white perch, and yellow perch – which are prey for the bluefish and summer flounder that may be found in the vicinity of the proposed terminal and in fresh waters crossed by the proposed pipeline. Based on the essential fish habitat assessment in the EIS, we do not expect the project to have permanent impacts on these species or their habitats. AES has agreed to adopt mitigation measures recommended by NOAA Fisheries to reduce the potential impacts from construction on marine and anadromous fish.

4. Special Status Species

114. The draft EIS contained the biological assessment (BA) to FWS and NOAA Fisheries. FWS commented on the BA and added information on the distribution of the Indiana bat in Maryland and Pennsylvania and the applicants' bog turtle surveys. The Virginia Field Office commented on the northeastern beach tiger beetle and the bald eagle along the LNG vessel transit route. FWS and NOAA Fisheries identified a total of 14 federally listed endangered or threatened species that may potentially occur in the proposed project area and along the marine transit route. The final EIS responded to the concerns raised, and in compliance with section 7 of the Endangered Species Act, we are requesting that FWS and NOAA Fisheries consider the final EIS as our revised BA. We conclude that the proposed project will have no effect, or is not likely to adversely affect, 12 species, provided AES and Mid-Atlantic abide by Environmental Conditions 43 through 45, which include: implementing NOAA Fisheries' guidance for vessel strike avoidance of whales and sea turtles; implementing NOAA Fisheries' approved training and monitoring program for shortnose sturgeon; and consulting with NOAA Fisheries on sea turtle construction windows and monitoring.

115. With respect to the remaining two species, the federally listed Indiana bat and bog turtle, bat surveys are planned for next spring (during the appropriate time window for survey), and bog turtle surveys have yet to be undertaken on property where access has been previously denied, thus the final bog turtle management plan is yet to be completed. Commission staff has requested FWS-initiated formal consultation for these two species, based on the assumption that the species occur at known potential habitats along the

proposed pipeline route. Environmental Conditions 46 and 47 require that Mid-Atlantic, prior to construction, complete the appropriate and outstanding surveys in consultation with FWS, the Maryland DNR, the Pennsylvania Fish and Boat Commission, and the Pennsylvania Game Commission, and develop a FWS-accepted Indiana bat survey plan and bog turtle management plan. Commission staff will continue to work with the applicants and FWS to supplement the BA to update findings and determinations of effect as necessary, as Mid-Atlantic continues to verify the species' presence or absence. The Director of OEP can review and approve minor route variations to avoid Indiana bat or bog turtle habitats or to otherwise minimize overall impacts.

116. Environmental Condition 48 requires that no construction occur until consultation with the FWS and NOAA Fisheries is complete. To further safeguard state protected species, Environmental Conditions 49 through 51 require that Mid-Atlantic complete surveys for state listed butterfly, moth, and plant species; consult with the Maryland DNR and FWS to develop mitigation measures for the logperch; and implement the FWS's May 2007 National Bald Eagle Management Guidelines and nest survey protocol.

117. The effects of an ignited LNG spill along the marine transit route for LNG carriers could potentially impact federally listed species, including the northeastern beach tiger beetle and the state listed bald eagle. An ignited spill could produce radiant heat or fire causing injury or death to any species it comes into contact with; however, the marine transit safety and security measures make the probability of an LNG vessel spill extremely unlikely. Because of this, the EIS determined that the proposed project is not likely to adversely affect the northeastern beach tiger beetle or bald eagle. Environmental Condition 52 requires that, prior to construction, AES will continue to consult with the Virginia field offices of the FWS for species anticipated to occur along the vessel transit route.

118. In a January 6, 2009 letter, the Department of the Interior stated that FWS had determined "that there are unanswered questions related to federally listed, endangered and threatened species that may be affected by this project" and requested we withhold certification until the concerns expressed are resolved. The environmental conditions described herein will ensure that no construction can commence until FWS is satisfied that the project will not result in any unacceptable impacts. Thus, we do not believe that the authorizations issued by this order, which are subject to the applicants' compliance with the environmental conditions described herein, are inconsistent with the provisions protecting threatened and endangered species.

I. Land Use, Recreation, and Visual Resources

119. Construction of the proposed terminal and pipeline will affect about 1,801.4 acres of land and water: for the terminal, a total of 198 acres – 45 acres of industrial uplands, 35 acres of near-shore riparian rights (bay bottom for the ship berths), 35 acres of temporary workspace for the dredged material recycling facility and pipeyard/contractor

yards, and 83 acres for areas dredged for the approach channel and the turning basin; for the pipeline, a total of 1,603.4 acres – 1,243.1 acres for the construction right-of-way (including additional temporary workspace), 42.9 acres for temporary and permanent access roads, and 315 acres for pipe and contractor yards. Operation of the new facilities will require about 589.6 acres of land: 45 acres for the terminal, with the remainder for permanent pipeline right-of-way, access roads, and mainline valves and interconnect meter station sites.

120. There are no existing residences within one mile of the proposed terminal or LNG storage area. The nearest residential area, Turner Station, is 1.1 miles northwest of the end of the proposed unloading dock. The proposed terminal's most prominent visual features will be three LNG storage tanks, each 170 feet above the current grade and 270 feet in diameter. While these LNG storage tanks will be quite visible, they will be consistent in size and nature with existing industrial facilities within the Sparrows Point Industrial area.

121. Under normal operations, LNG vessels transiting the Chesapeake Bay waterway will have no significant impacts on current land uses or visual resources. Recreational vessels drifting or anchored in the path of an oncoming moving safety/security zone will be required to relocate and remain outside the moving safety/security zone while it passes. Although this is a temporary impact – an estimated 40 to 120 minutes per occurrence, two or three times per week – it may cause an impact on typical fishing and boating routines in and near the LNG ships' transit channel. The impact of LNG ships and the accompanying security zone on recreational vessels will be minor and of short duration when present, but will occur periodically for the life of the proposed project. The estimated 120 to 150 LNG vessels per year constitute a five to seven percent increase in existing large vessel traffic to the Port of Baltimore.

122. Comments question the extent of impacts on recreational boaters and on fisherman. Impacts will vary, depending on the number of boats near the transit channel area during the two or three LNG cargos each week, as well as on several other variables, such as the size of the Coast Guard-imposed safety and security zones. To minimize potential impacts on other marine traffic, the Coast Guard intends to modify the LNG security zone described in its current regulations⁶³ and to alert mariners of the security zones in effect. AES is expected to schedule the transit of LNG tankers for times less likely to affect recreational boaters and special marine events such as regattas. Further, Environmental Condition 169 requires that AES work with the Coast Guard and the Patuxent River Naval Air Station to develop the Transit Management Plan to establish procedures to coordinate arrival and departure of LNG tankers to avoid interfering with naval operations.

⁶³ See 33 C.F.R. §§ 165.500 and 165.503 (2008).

123. The proposed pipeline will cross within 50 feet of 179 residences and 46 other buildings. The proposed pipeline route follows existing utility and pipeline corridors through Edgemere, North Point, and other Baltimore neighborhoods, and through suburban communities in Maryland and Pennsylvania, and traverses congested residential, commercial, and industrial areas in numerous locations. Construction will cause temporary disruption for some landowners and a permanent disruption of landscaping and restricted surface use for others. Construction could also affect wells and septic systems along the pipeline right-of-way.

124. Comments raise concerns regarding economic and safety impacts on residential areas. Mid-Atlantic has submitted site-specific plans for construction near many of the affected residences. The EIS found these plans lacked detail and did not include sufficient mitigation measures. To ensure Mid-Atlantic incorporates appropriate mitigation measures, Environmental Conditions 53 through 57, and 61, mandate planning, construction, and restoration actions intended to lessen the impact on residential properties, including newly identified properties and those affected by routing variations. These conditions specify that Mid-Atlantic is to complete all construction related activities (clearing through restoration) within one week on any property, weather permitting; monitor foundations within 50 feet of construction; reduce and mitigate impacts associated with construction and traffic disturbances; and provide instruction on the details Commission staff finds necessary for inclusion in reviewing the site-specific plans for residences and for the Victoria Crossing home owners association properties.

125. Comments question the proposed project's potential impact on water supplies, septic systems, and other utilities. Because Mid-Atlantic has yet to gain access to the entire route, it has yet to complete all required surveys and present plans for affected septic systems. The EIS deemed Mid-Atlantic's septic system mitigation plan too general to ensure adequate protection during construction. Therefore, Environmental Condition 58 requires that prior to construction, Mid-Atlantic file with the Commission, for review and written approval by the Director of OEP, a revised Septic System Contingency Plan that includes specific measures for the restoration or replacement of septic systems damaged by construction. Environmental Conditions 59, 60, and 79 require Mid-Atlantic to adopt mitigation measures to protect the Chester Water Authority public water mainlines, to file a report identifying other utilities damaged during construction and how they were repaired, and maintain access to businesses and schools.

126. The pipeline will cross 29 parks, trails, and other special interest areas. The EIS found that Mid-Atlantic did not provide sufficiently detailed information on how these parks would be crossed. Accordingly, Environmental Conditions 62 through 69, 74 through 78, and 80 set forth specific mitigation measures to avoid or reduce impacts on parks and trails, a golf course, and an animal shelter. Environmental Conditions 70 through 73 provide for additional mitigation measures to reduce impacts on three camp

properties in the path of the proposed pipeline route.

127. Over half of the land the proposed pipeline will cross is agricultural. Comments point out that pressure on this land from regional development is great. In response, Environmental Condition 84 requires that before commencing construction, Mid-Atlantic must develop and file with the Commission an Agricultural Impact Mitigation Plan with measures to safeguard the fertility of the soil, protect and repair drain tiles, restore fields, and monitor future crop success. Environmental Condition 83 requires Mid-Atlantic to consult with all landowners with property in conservation easements to identify mitigation to protect the land. Environmental Conditions 85 and 86 imposes mitigation measures for areas with horse pastures and areas within state-designated Critical Areas.

128. Viewsheds along the proposed pipeline route could be affected, particularly in the riparian zones of some of the more forested segments, including Gunpowder Falls and Little Gunpowder Falls, Deer Creek, the Susquehanna River, Conowingo Creek, Octoraro Creek, Doe and Buck Runs, and Brandywine Creek. General plans for crossing these areas have been prepared, but measures to preserve forest where practicable have not yet been finalized with the input of land management agencies or conservancy groups. Environmental Condition 82 directs Mid-Atlantic to consult with the Pennsylvania Department of Conservation and Natural Resources, the Octoraro Creek Watershed Association, Chester County Parks and Recreation Department, the Pennsylvania Fish and Boat Commission, and the Brandywine Conservancy, to develop construction and mitigation plans for the Octoraro River and each of the four crossings of the Brandywine Creek system that minimize tree clearing within the riparian zones of the waterbodies, impacts on recreational and boating access during construction, and impacts on the viewshed along these waterbodies. Also, Environmental Condition 81 requires Mid-Atlantic to consult with the Deer Creek Advisory Board, NOAA Fisheries, and the Maryland DNR to develop plans that minimize impacts on Deer Creek. Finally, Environmental Condition 87 requires Mid-Atlantic to develop plans for each crossing of the Gunpowder Crossing Scenic Byway that details the types of vegetation to be removed and how to minimize expansion of the cleared crossing.

129. We concur with the EIS' assessment that provided the proposed project is constructed and operated as described in the applications, and in conformity with our required environmental conditions, impacts on special interest lands, land use, and visual resources will be minimized. However, there will be some long term and permanent impacts, particularly in forested residential and park areas where trees will not be allowed to regrow on the permanent right-of-way. Because the pipeline route follows existing pipeline easements through subdivisions, the increase of the width of the permanent easements in yards will limit landowners' use of that portion of their property. In other areas, the proposed pipeline route crosses areas of planned development. While maintained rights-of-way have been incorporated as open green spaces in several of these developments, the permanent easement could affect the developer's plotted plans and

may reduce the amount of developable land available.

130. Parts of the proposed project – including the LNG terminal, the LNG transit route, and the initial portion of the pipeline – are within designated coastal zone management areas of Maryland and Virginia.⁶⁴ On July 9, 2007, Maryland’s Department of the Environment concluded that the proposal was not consistent with its coastal zone management plan. AES appealed, and on June 26, 2008, the Secretary of Commerce found that the proposed project would be consistent with the objectives of the CZMA and further the national interest in a significant and substantial manner, that the national interest furthered by the project outweighed its adverse coastal effects, and that there is no reasonable alternative available for the project.⁶⁵

J. Socioeconomics

131. Construction and operation of the proposed terminal and pipeline will result in a nominal addition to the local population and have minimal impact on the availability of housing, local schools, or social services. The localities where the project will be built should benefit economically from the employment of local workers, the expenditure of payroll money, the purchase of local materials and supplies, and the addition of monies via one-time expenditures and ongoing annual tax revenues.

132. Comments were raised regarding traffic. Service studies on the I-695 ramps at Exit 43 near the proposed terminal site concluded that additional traffic from commuting construction workers and material and supply deliveries will not exceed the capacity of the roadways. AES filed a Construction Traffic Management Plan, with comments from interested employers at Sparrows Point. We adopt the EIS’ finding that this plan addresses and minimizes potential problems with worker access to other employment centers on Sparrows Point. In order to account for any changes in local employers since development of the initial plan, Environmental Condition 88 requires that AES update the plan prior to the start of construction to ensure it accounts for current traffic conditions.

133. Pipeline construction activities along I-695 will be coordinated with the Maryland Department of Transportation (DOT) and be conducted in accordance with permit requirements. Because construction will move sequentially along the route, any transportation impacts will be temporary on any given roadway, and the transportation system should be minimally impacted by construction. To ensure this, Environmental Condition 89 requires that Mid-Atlantic continue to consult with the Maryland DOT

⁶⁴ See the Coastal Zone Management Act of 1972 (CZMA), 16 U.S.C. §§ 1451-1464 (2006).

⁶⁵ See [http://www.ogc.doc.gov/czma.nsf/3C230F7CA5E314E28525747400780BE7/\\$File/AES+Sparrows+Point+Decision.pdf?OpenElement](http://www.ogc.doc.gov/czma.nsf/3C230F7CA5E314E28525747400780BE7/$File/AES+Sparrows+Point+Decision.pdf?OpenElement).

regarding construction along I-695 and the development of any site-specific traffic plans where road closures are required.

134. Once in operation, two or three LNG ships per week, or approximately 150 ships per year, will arrive at the terminal dock. Impacts from the LNG vessels on commercial shipping interests, including cruise ships, are expected to be consistent with existing marine shipping traffic and associated impacts. The Coast Guard will minimize the disruption to other waterway users by its control of the LNG vessel. The Maryland Pilots Association indicates that any potential disruption associated with the passage of LNG ships in the Port of Baltimore could be effectively managed by means of appropriate scheduling and spacing between ships. Local fishing operations will be affected when required to relocate outside of the moving security zone of an LNG vessel. Because commercial fishermen are only permitted to fish during certain hours under the regulation of the Maryland DNR, they may not be able to recover time lost to a passing LNG ship. To address concerns expressed regarding impacts on shipping and fishing, Environmental Condition 90 requires AES to continue to consult with the Port of Baltimore and other major shipping and commercial and recreational fishing interests along the marine transit route in order to develop specific operational and communication guidelines for LNG vessels. The Port of Baltimore could see benefits from improved infrastructure associated with LNG vessel transit, including more powerful new tugs with firefighting capabilities, which are currently unavailable in the area, and increased investment in the Port of Baltimore as a result of increased maritime activity.

135. Landowners speculate the proposed project may diminish their property values. We concur with the EIS's determination that (1) the proposed terminal will not have a significant effect, positive or negative, on property values, and (2) the proposed pipeline's potential impact on property values depends on many factors, including: the size of the parcel; the parcel's current value; land use; proximity of the parcel to, or location on the parcel of, existing utilities or rights-of-way; and the value of other nearby properties. Where the installation of the pipeline removes, or precludes replacement of, landscaping or hardscaping (e.g., mature trees, mature perennial gardens, ponds, decks, pools, and patios), property values could be adversely impacted. Similarly, the imposition of a right-of-way easement on property may place constraints on the property's use, and thereby diminish its value. We expect the potential for the project to affect property values to be reflected in the terms of agreements between landowners and Mid-Atlantic, and if negotiations are unsuccessful, in the outcome of a court's decision in an eminent domain proceeding.

136. Commenters ask us to identify and address any disproportionately high and adverse human health or environmental effects of the proposed project on minorities and

low-income populations.⁶⁶ The proposed terminal location lies within an existing industrial area where heavy industry manufacturing facilities are currently operating. Development of the terminal is consistent with the location's existing character and does not represent a new or inconsistent use with respect to existing environmental conditions. Consequently, we reject the assertion put forth in comments that the terminal could adversely impact surrounding communities.

137. The proposed LNG vessel transit corridor transects areas of varying socioeconomic character. Socioeconomics played no role in determining how LNG ships might reach the site of the proposed terminal, since the transit corridor was planned and put in place long before the project was contemplated. Also, but for the transit corridor specified for this proposed project, there are no other available shipping routes.

138. The pipeline route was selected to minimize adverse impacts by maximizing the use of existing utility and highway rights-of-way. However, due to the population density in parts of the proposed project area, it was not possible to avoid residential areas entirely. While the proposed route will affect residents in a wide range of income levels and ethnic backgrounds, we find no indication that any area or community will be disproportionately impacted. We note that most of the environmental impacts associated with construction will be temporary.

K. Cultural Resources

139. The proposed project will impact cultural resources. Within the LNG terminal site, five aboveground architectural resources have been identified, of which three are eligible for listing in the National Register of Historic Places as components of the Sparrows Point Shipyard Historic District. In consultation with the Maryland State Historic Preservation Office (SHPO) and the Commission, AES will develop an appropriate mitigation plan for potential impacts on this historic property. In accordance with the National Historic Preservation Act,⁶⁷ the Commission informed the Advisory Council on Historic Preservation of the proposed terminal's potential impact on historic

⁶⁶ In effect, such comments urge the Commission to comply with Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, 59 Fed. Reg. 7629 (February 11, 1994). This Executive Order applies only to federal agencies specified in section 1-102 of the order, and the Commission is not among those agencies. Nevertheless, we incorporate consideration of a project's impacts on minority and low-income populations into our consideration of a project's impacts on the public in general. In this case, we found no disproportionate impacts on those specified populations.

⁶⁷ 36 C.F.R. Part 800.6(a)(1) (2006).

properties. To mitigate the effects on cultural resources, a programmatic agreement will be completed in consultation with the Maryland and Pennsylvania SHPOs, the Advisory

Council on Historic Preservation, and AES. The programmatic agreement will outline the measures that will be taken to mitigate project adverse effects to properties on or eligible for listing on the National Register of Historic Places.

140. While it will potentially affect the Sparrows Point Shipyard Historic District, the proposed terminal will have no impact on terrestrial or submerged archaeological sites. Environmental Condition 92 requires that AES not construct or begin demolition activities at the Sparrows Point Shipyard Historic District until consultation with the Maryland SHPO and the Commission is completed and AES develops an appropriate mitigation plan for potential adverse impacts on this historic property.

141. Along the proposed pipeline route, 29 archaeological sites may be eligible for listing on the National Register of Historic Places. Environmental Condition 91 requires that prior to construction, Mid-Atlantic must complete all remaining cultural surveys, provide these results to the Maryland and Pennsylvania SHPOs, and file with the Commission the final reports of these surveys for review and written approval by the Director of OEP. In addition, ten aboveground historic properties are located in or near the proposed pipeline route. The programmatic agreement will include the process for developing and implementing appropriate measures to be taken to avoid or mitigate any adverse impacts on these historic properties.

L. Air Quality and Noise

142. We accept the EIS's conclusion that air emissions from construction activities will be short term in most areas and will not significantly affect air quality in the region. AES must implement best available control technology for primary pollution control for its facilities' operations. The proposed terminal site is in an area of nonattainment for ozone and particulate matter having an aerodynamic diameter of 2.5 microns or less (PM_{2.5}), as are several counties along the pipeline route. Consequently, a draft General Conformity Determination was prepared and issued for public comment on October 2, 2008. A final General Conformity Determination will be prepared and issued, which will contain responses to comments received. Applicants expect to meet air quality requirements using a combination of mitigation measures and offsets, and Environmental Condition 94 requires the applicants to file with the Commission documentation of the offsets obtained and evidence these offsets equal the amount required under the final General Conformity Determination.

143. Along the LNG shipping corridor, LNG vessel and escort vessel emissions affecting any one localized area will be temporary and transient, and occur at distances

allowing for considerable dispersion before reaching any sensitive receptors. Several counties along the shipping route are designated as nonattainment for ozone and PM_{2.5}. These emissions were addressed in the draft General Conformity Determination referenced above.

144. In order to provide a thorough evaluation of the potential impacts on air quality in the vicinity of the proposed terminal, AES conducted a quantitative assessment of predicted project air emissions. The assessment included air dispersion modeling analyses to predict off-site (i.e., ambient) concentrations in the vicinity of the terminal site for criteria air pollutants resulting from emissions associated with terminal operations to compare to federal and Maryland air quality standards. The result was that the predicted impacts attributable to terminal operations – including emissions from unloading, the nonjurisdictional power plant, hoteling, tugs and security escorts, and Coast Guard security boats in a moored safety zone – when added to monitored ambient background concentrations in the vicinity of the proposed project, will fall below the maximum impacts of the applicable ambient air quality standards. To further address construction impacts on air quality, Environmental Condition 93 requires that before commencing construction, AES and Mid-Atlantic prepare and file with the Commission a Fugitive Dust Control Plan for review and written approval by the Director of OEP.

145. Noise impacts from operation of the proposed terminal will be below ambient noise standards. A quantitative noise analysis demonstrated that noise levels resulting from the operation of the terminal and optional power plant will have negligible increases in ambient noise above existing levels. To verify that the actual terminal noise comes within acceptable limits, Environmental Condition 96 requires that within 60 days of placing the new terminal in service, AES file noise surveys with the Commission demonstrating that noise attributable to the operation of the terminal and power plant do not exceed permitted levels at the closest noise sensitive area (NSA).⁶⁸

146. Noise impacts at three proposed HDD locations were assessed, taking into account that HDD activities are planned to proceed on a 24-hour schedule. Mid-Atlantic modeled the anticipated noise impacts at the nearest NSAs for the three locations, considering impacts both with and without sound barriers. The results of this analysis indicate that by installing noise barriers, noise associated with HDD activities will remain below levels allowed by the Commission and Maryland, with the exception of the Susquehanna River HDD entrance location. Mid-Atlantic has committed to use sound dampening barriers and other mitigation measures at all HDD entry or exit sites within 0.5 mile of NSAs and to conduct noise monitoring at the Susquehanna River HDD entrance and Little Gunpowder Falls HDD exit locations to determine if the noise levels exceed the permitted maximum. Environmental Condition 95 requires additional noise analyses for

⁶⁸ Currently, the closest NSA to the terminal is more than a mile away.

the HDD crossings of White Marsh Run, Winters Run, Octoraro Creek, and West Branch Brandywine Creek. We expect Mid-Atlantic to implement noise controls as needed, and note that the duration of each HDD should be measured in days, not weeks, so that drilling noise should cease within a relatively short period of time.

M. Reliability and Safety

147. The EIS evaluated the safety of the proposed terminal and LNG ship traffic. As part of this evaluation, a cryogenic design and technical review of the proposed terminal's design and safety systems was performed. The review was conducted in order to assess the design and operational measures for addressing potential events which could create an off-site hazard and impact public safety. Section 4.12 of the EIS recommended design changes relating to the reliability, operability, and safety of the proposed design. These recommendations are reflected in Environmental Conditions 98 through 108; AES must comply with these conditions prior to initial site preparation, or construction of the final design, or commissioning, or commencement of service, as appropriate. Information detailing compliance with these conditions must be filed for review and written approval by the Director of OEP. We believe, based on the EIS analysis, that appropriate features and modifications will be incorporated into the facility design to enhance the safety and operability of the proposed terminal.

148. Commission staff examined the radiant heat and flammable vapor dispersion exclusion zones required by federal, and we find the proposed terminal complies with the U.S. Department of Transportation's siting requirements.⁶⁹

N. Waterway Suitability

149. The Coast Guard reviewed the maritime aspects of the proposal and provided the Commission with a preliminary determination on the suitability of the waterway for LNG vessel traffic. As part of its review, the Coast Guard used criteria developed by the Department of Energy's Sandia National Laboratories to define the outer limits of the hazard zones for assessing potential risks from LNG marine traffic. These Zones of Concern provide guidance to the Coast Guard in developing the operating restrictions for LNG carrier movements in the waterway, as well as in establishing potential impact areas for emergency response and evacuation planning.

150. As discussed in section 4.12.5.4 of the EIS, no communities or populated areas along the waterway, except the industrial area in the immediate vicinity of the proposed terminal site, are located within Zone 1. Zone 2 encompasses part of Sandy Point State Park, land at both Hawkins Point and Soller Point, the causeway north of Key Bridge to

⁶⁹ See 49 C.F.R. Part 193 (2008).

Turner Station, Key Bridge, the western half of the Sparrows Point peninsula, a small portion of Fort Story north of Virginia Beach, a portion of the western shore from Cove Point to Long Beach, and part of the western edge of Kent Island. Zone 3 overlaps the communities of Rivera Beach, Orchard Beach, part of Arundel on the Bay, Highland Beach, Bay Ridge, parts of Kent Island and Broadneck Peninsula, Cape St. Claire, Turner Station, the Hawkins Point industrial area, part of Edgemere, part of Virginia Beach, most of Fort Story, the portion of the eastern shore west of Eastville to the west of Bridgetown, the eastern edge of Tibitha to Dameron, Barren Island to James Island, part of the Patuxent Naval Air Test Center, and that part of the Sparrows Point industrial area that is not within Zone 1 or 2.

151. The Coast Guard reviewed AES's proposal to assess the navigation safety and maritime security risks posed by LNG marine traffic and identify and impose measures needed to responsibly manage these safety and security risks. In its Waterway Suitability Report, the Coast Guard advised the Commission that to make the Chesapeake Bay suitable for LNG marine traffic, specific risk mitigation measures are necessary. These measures are described Appendix J of the EIS and include requiring: operational conditions related to development of a Coast Guard-approved Transit Management Plan; safety/security zones for LNG vessels during transit and docking; the designation necessary regulated navigation area(s); the use of safety measures such as security boardings, shoreline and waterway monitoring, underwater pier security sweeps, and vessel escorts; LNG vessel transit restrictions with high capacity passenger vessels; annual Coast Guard inspections of LNG vessels and facilities; and the presence of tug escorts and towing vessels for LNG vessels. The Coast Guard's Waterway Suitability Report also recommended additional facilities and infrastructure to make the waterway suitable for LNG marine traffic, including: electronic surveillance systems; a 70-ton bollard pull commercial tractor tug with firefighting capability; development of regional communication plans between the LNG vessel and all participating agencies and first responders; a notification system and procedures for the public; and drills and training for first responders. Environmental Condition 168 requires AES to ensure that LNG vessels transiting to and from its proposed terminal comply with all requirements set forth by the Coast Guard, including all risk mitigation measures described in its Waterway Suitability Report.

152. Organizations and individuals expressed reservations regarding emergency response procedures and the cost to local communities for ensuring the security and emergency management of the proposed terminal and ship traffic. As stated in the section 4.12.6 of the EIS, and in accordance with the EPA 2005, Environmental Condition 110 requires AES to develop an Emergency Response Plan in consultation with the Coast Guard, local fire and police departments, emergency responders, and other applicable agencies, which must be filed with the Commission and reviewed and approved by the Director of OEP prior to any project-related construction. Commission staff will ensure that appropriate state and local agencies have been involved in preparing

the Emergency Response Plan and that the Coast Guard has been consulted and concurs. In situations where resource gaps are identified, Environmental Condition 111 requires AES to provide a Cost Sharing Plan identifying the mechanisms for funding capital costs associated with security/emergency management expenses and equipment and personnel expenses. In the absence of appropriate security/emergency response resources or funding, the Emergency Response Plan and the Cost Sharing Plan will not be approved and construction will not begin.

V. Conclusion

153. For the reasons set forth above, and subject to the conditions herein, including the specified environmental measures and conditions to mitigate the limited adverse environmental impacts identified by the EIS, we find that AES's proposed LNG terminal facilities are not inconsistent with the public interest under NGA section 3 and that Mid-Atlantic's proposed pipeline and ancillary facilities are required by the public convenience and necessity under NGA section 7(c). Therefore, we grant the applicants' requested authorizations.

154. Any state or local permits issued with respect to the jurisdictional facilities described herein must be consistent with the conditions of AES's section 3 authorization and Mid-Atlantic's section 7 certificate. We encourage cooperation between interstate pipelines and local authorities. However, this does not mean that state and local agencies, through application of state or local laws, may prohibit or unreasonably delay the construction or operation of facilities approved by this Commission.⁷⁰

155. At a hearing held on January 15, 2009, the Commission, on its own motion, received and made part of the record in these proceedings all evidence, including the application and exhibits thereto, as supplemented, submitted in support of the authorizations sought herein, and upon consideration of the record,

The Commission orders:

(A) In Docket No. CP07-62-000, under NGA section 3, AES is authorized to site, construct, and operate its proposed LNG terminal, as more fully described in this order and the application as supplemented.

(B) In Docket No. CP06-63-000, under NGA section 7, a certificate of public

⁷⁰ 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.*, 52 FERC ¶ 61,091 (1990) and 59 FERC ¶ 61,094 (1992).

convenience and necessity is issued to Mid-Atlantic authorizing it to construct and operate an approximately 88-mile-long, 30-inch-diameter pipeline, as more fully described in this order and the application as supplemented.

(C) In Docket No. CP06-64-000, under NGA section 7, a blanket construction certificate is issued to Mid-Atlantic under subpart F of Part 157 of the Commission's regulations.

(D) In Docket No. CP06-65-000, under NGA section 7, a blanket transportation certificate is issued to Mid-Atlantic under subpart G of Part 284 of the Commission's regulations.

(E) The certificate issued in Ordering Paragraph (B) above is conditioned on Mid-Atlantic's compliance with all of the applicable regulations under the NGA, particularly the general terms and conditions set forth in Parts 154, 157 and 284, and paragraphs (a), (c), (e), and (f) of section 157.20 of the Commission's regulations.

(F) The construction of the proposed LNG terminal and pipeline facilities shall be completed and made available for service within five years of the date of this order in accordance with section 157.20(b) of the Commission's regulations.

(G) Mid-Atlantic's initial rates and proposed tariff are approved, as conditioned and modified in this order.

(H) Mid-Atlantic shall file actual tariff sheets consistent with the modifications required by this order at least 90 days prior to commencing service.

(I) Mid-Atlantic must file either its negotiated rate agreements or numbered tariff sheets at least 30, but not more than 60, days prior to the commencement of service. If the negotiated rate agreements are non-conforming service agreements, Mid-Atlantic must file the non-conforming agreements and clearly delineate the differences between the non-conforming rate agreements and its pro forma service agreement in redline and strikeout. If Mid-Atlantic files numbered tariff sheets, it must state, for each shipper paying a negotiated rate, the exact legal name of the shipper, the negotiated rate, the applicable receipt and delivery points, the volume to be transported, any formula upon which the negotiated rate is designed, the beginning and end dates of the contract term, and a statement that the agreements conform in all material respects with the pro forma service agreement in Mid-Atlantic's tariff.

(J) Within three years after its in-service date, Mid-Atlantic shall make a filing to justify its existing cost-based firm and interruptible recourse rates. In its filing, the projected units of service shall be no lower than those upon which Mid-Atlantic's initial rates are based. The cost and revenue study shall be in the form specified in section

154.313 of the Commission's regulations to update cost-of-service data. In the

alternative, in lieu of such filing, Mid-Atlantic may make an NGA section 4 filing to propose alternative rates to be effective no later than three years after the in-service date for its proposed facilities.

(K) Mid-Atlantic shall comply with the accounting requirements set forth in the body of this order.

(L) AES and Mid-Atlantic shall comply with the environmental conditions set forth in the appendix to this order.

(M) AES shall include page 520 of FERC Form No. 2 as part of the semi-annual operational report it must file with the Secretary.

(N) AES and Mid-Atlantic shall notify the Commission's environmental staff by telephone, e-mail, and/or facsimile of any environmental non-compliance identified by other federal, state, or local agencies on the same day that such agency notifies AES and Mid-Atlantic. AES and Mid-Atlantic shall file written confirmation of such notification with the Secretary within 24 hours.

(O) The untimely motions to intervene are granted.

(P) The request for a full evidentiary hearing is denied.

(Q) The requests to provide for additional time to submit comments are denied.

(R) The requests to hold additional public meetings are denied.

By the Commission. Commissioner Wellinghoff dissenting with a separate statement attached.

(S E A L)

Kimberly D. Bose,
Secretary.

Appendix

Environmental Conditions for the AES Sparrows Point LNG Terminal Project in Docket No. CP07-62-000 and for the Mid-Atlantic Pipeline Project in Docket Nos. CP07-63-000, CP07-64-000, and CP07-65-000

1. AES Sparrows Point LNG, LLC (AES) and Mid-Atlantic Express, L.L.C. (Mid-Atlantic) shall follow the construction procedures and mitigation measures described in the applications, supplemental filings (including responses to Commission staff data requests), and identified in the environmental impact statement (EIS), unless modified by the Commission order. AES and Mid-Atlantic must:
 - a. request any modification to these procedures, measures, or conditions in a filing with the Secretary of the Commission (Secretary);
 - b. justify each modification relative to site-specific conditions;
 - c. explain how each modification provides an equal or greater level of environmental protection than the original measure; and
 - d. receive approval in writing from the Director of the Office of Energy Projects (OEP) before using each modification.
2. For pipeline facilities, the Director of OEP has delegated authority to take whatever steps are necessary to ensure the protection of all environmental resources during construction and operation of the AES Sparrows Point LNG terminal project. This authority shall allow:
 - a. the modification of conditions of the Commission order; and
 - b. the design and implementation of any additional measures deemed necessary (including stop-work authority) to assure continued compliance with the intent of the environmental conditions as well as the avoidance or mitigation of adverse environmental impact resulting from project construction and operation.
3. For LNG facilities, the Director of OEP has delegated authority to take all steps necessary to ensure the protection of life, health, property, and the environment during construction and operation of the project. This authority shall include:
 - a. stop-work authority and authority to cease operation; and
 - b. the design and implementation of any additional measures deemed necessary to assure continued compliance with the intent of the conditions of the Commission order.

4. Mid-Atlantic shall adopt all of the Commission staff's recommended route variations described in section 3.3.3 of the EIS, which include: Route Variations 1B, 1C, 1D, 2A, 6, 10A, 12C, 13, and 14; the Kirk Mills Variation A; the Romansville Road Variation B; and the Chesaco Avenue Variation.
5. The authorized facility locations shall be as shown in the EIS, as supplemented by filed alignment sheets and shall include all of the Commission staff's route variations identified in section 3.3.3 of the EIS. As soon as they are available and before the start of construction, AES and Mid-Atlantic shall file with the Secretary revised detailed survey alignment maps/sheets at a scale not smaller than 1:6,000 with station positions for all facilities approved by the Commission order. All requests for modifications of environmental conditions of the order or site-specific clearances must be written and must reference locations designated on these alignment maps/sheets.

Mid-Atlantic's exercise of eminent domain authority granted under section 7(h) of the Natural Gas Act (NGA) in any condemnation proceedings related to the Commission order must be consistent with these authorized facilities and locations. Mid-Atlantic's right of eminent domain granted under NGA section 7(h) does not authorize it to increase the size of its natural gas pipeline to accommodate future needs or to acquire a right-of-way for a pipeline to transport a commodity other than natural gas.

6. AES and Mid-Atlantic shall file with the Secretary detailed alignment maps/sheets and aerial photographs at a scale not smaller than 1:6,000 identifying all route realignments or facility relocations, and staging areas, pipe storage yards, new access roads, and other areas that will be used or disturbed and that have not been previously identified in filings with the Secretary. Approval for each of these areas must be explicitly requested in writing. For each area, the request must include a description of the existing land use/cover type, documentation of landowner approval, whether any cultural resources or federally listed threatened or endangered species could be affected, and whether any other environmentally sensitive areas are within or abutting the area. All areas shall be clearly identified on maps/sheets/aerial photographs. Each area must be approved in writing by the Director of the OEP before construction in or near that area.

This requirement does not apply to extra workspace allowed by the AES and Mid-Atlantic project-specific plans, or to minor field realignments per landowner needs and requirements, which do not affect other landowners or sensitive environmental areas such as wetlands.

Examples of alterations requiring approval include all route realignments and facility location changes resulting from:

- a. implementation of cultural resources mitigation measures;
- b. implementation of endangered, threatened, or special concern species mitigation measures;
- c. recommendations by state regulatory authorities; and
- d. agreements with individual landowners that affect other landowners or could affect sensitive environmental areas.

7. **Within 60 days of the acceptance of the certificate and authorization and before construction of the respective project components**, AES and Mid-Atlantic shall each file with the Secretary, for review and written approval by the Director of OEP, an initial Implementation Plan. AES and Mid-Atlantic must file revisions to the respective plans if schedules change. Each plan shall identify:

- a. how AES and Mid-Atlantic will implement the construction procedures and mitigation measures described in their application, as supplemented (including responses to data requests), identified in the EIS, and required by the order;
- b. how these requirements will be incorporated into the contract bid documents, construction contracts (especially penalty clauses and specifications), and construction drawings so that the mitigation required at each site is clear and comprehensible to onsite construction and inspection personnel;
- c. the number of environmental inspectors (EIs) assigned per spread, and how AES and Mid-Atlantic will each ensure that sufficient personnel are available to implement the environmental mitigation;
- d. company personnel, including EIs and contractors, who will receive copies of the appropriate material;
- e. the training and instructions AES and Mid-Atlantic will give to all personnel involved with construction and restoration (initial and refresher training as the project progresses or as personnel change), with the opportunity for OEP staff to participate in the training session(s);
- f. the company personnel (if known) and the specific portion of the AES and Mid-Atlantic organizations having responsibility for compliance;
- g. the procedures (including use of contract penalties) AES and Mid-Atlantic will follow if noncompliance occurs; and
- h. for each discrete facility, a Gantt or PERT chart (or similar project scheduling diagram), and dates for:
 - (1) the completion of all required surveys and reports;
 - (2) the mitigation training of onsite personnel;
 - (3) the start of construction; and
 - (4) the start and completion of restoration.

8. Mid-Atlantic shall develop and implement an environmental complaint resolution procedure for at least three years following the completion of construction that provides landowners with clear and simple directions for identifying and resolving their environmental mitigation problems/concerns during construction and restoration of the right-of-way.
 - a. in its letter to affected landowners, Mid-Atlantic shall:
 - (1) provide a local contact that the landowners should call first with their concerns, and indicate how soon to expect a response;
 - (2) instruct the landowners that if they are not satisfied with the response, they should call Mid-Atlantic's Hotline, and indicate how soon to expect a response; and
 - (3) instruct the landowners that if they are still not satisfied with the response from Mid-Atlantic's Hotline, they should contact the Commission's Enforcement Hotline at (888) 889-8030 or at hotline@ferc.gov.
 - b. in addition, Mid-Atlantic shall include in its weekly status reports (*see* Environmental Condition 11) a copy of a table that contains the following information for each problem/concern:
 - (1) the identity of the caller and the date of the call;
 - (2) the identification number from the certificated alignment sheet(s) of the affected property and the location by milepost (MP);
 - (3) the description of the problem/concern; and
 - (4) an explanation of how and when the problem was or will be resolved or why it remains unresolved.
9. AES shall employ at least one EI and Mid-Atlantic shall employ a team of EIs per construction spread. The EIs shall be:
 - a. responsible for monitoring and ensuring compliance with all mitigation measures required by the Commission order and by other grants, permits, certificates, or other authorizing documents;
 - b. responsible for evaluating the construction contractors' implementation of the environmental mitigation measures required in the respective contracts (*see* Environmental Condition 7 above) and any other authorizing document;
 - c. empowered to order the correction of acts that violate the environmental conditions of the order and any other authorizing document;
 - d. a full-time position, separate from all other activity inspectors;
 - e. responsible for documenting compliance with the environmental conditions of the order, as well as any environmental conditions/permit requirements imposed by other federal, state, or local agencies; and
 - f. responsible for maintaining status reports.

10. **Prior to any construction of the respective project components**, AES and Mid-Atlantic shall each file with the Secretary affirmative statements, certified by a senior company official, that all company personnel, EIs, and contractor personnel will be informed of the EI's authority and have been or will be trained on the implementation of the environmental mitigation measures appropriate to their jobs **before** becoming involved with construction and restoration activities.
11. Mid-Atlantic shall file with the Secretary updated status reports prepared by the head EI on a weekly basis until **all construction and restoration activities are complete**. On request, these status reports will also be provided to other federal and state agencies with permitting responsibilities. Status reports shall include:
 - a. the current construction status of the each pipeline spread, work planned for the following reporting period, and any schedule changes for stream crossings or work in other environmentally sensitive areas;
 - b. a listing of all problems encountered and each instance of noncompliance observed by the EIs during the reporting period (both for the conditions imposed by the Commission and any environmental conditions/permit requirements imposed by other federal, state, or local agencies);
 - c. a description of corrective actions implemented in response to all instances of noncompliance and their cost;
 - d. the effectiveness of all corrective actions implemented;
 - e. a description of any landowner/resident complaints which may relate to compliance with the requirements of the Commission order, and the measures taken to satisfy their concerns; and
 - f. copies of any correspondence received by AES or Mid-Atlantic from other federal, state, or local permitting agencies concerning instances of noncompliance, and the respective response.
12. Mid-Atlantic must receive written authorization from the Director of OEP **before commencing service from the pipeline**. Such authorization will only be granted following a determination that rehabilitation and restoration of the right-of-way and other areas of project-related disturbance are proceeding satisfactorily.
13. AES must receive written authorization from the Director of OEP **before commencing service from the LNG terminal**. Such authorization will only be granted following a determination that the facilities have been constructed in accordance with Commission approval, with applicable standards, and can be expected to operate safely as designed, and that the rehabilitation and restoration of areas affected by the project are proceeding satisfactorily.

14. **Within 30 days of placing the facilities in service**, both AES and Mid-Atlantic shall each file with the Secretary an affirmative statement, certified by a senior company official:
 - a. that the facilities have been constructed in compliance with all applicable conditions, and that continuing activities will be consistent with all applicable conditions; or
 - b. that identifies the conditions in the order that AES and Mid-Atlantic have complied with or will comply with. This statement shall also identify, if not previously identified in filed status reports, any areas affected by the project where compliance measures were not properly implemented and state the reason for the noncompliance.
15. **Prior to construction**, Mid-Atlantic shall obtain prior, written, site-specific authorization from the United States Army Corps of Engineers (COE) to use riprap as a stream bank stabilization method and revise note No. 4 on Figure 22 of its Environmental Construction Plan to indicate this.
16. **Prior to construction of route variations 1B, 1C, 1D, and 12C**, Mid-Atlantic shall file final site-specific plans for crossing the developed commercial tracts near each of these route segments. The plans shall include depictions of all roads, parking lots, and utilities (water, sewer, storm sewer, electric service, and telecommunications cables) that will be crossed, and describe how Mid-Atlantic will ensure safe access to businesses by the employees and the public during construction.
17. Mid-Atlantic shall restrict its construction activity on Mine Branch Road to that directly associated with construction of the pipeline crossing of the road, and shall not use Mine Branch Road for general access or equipment parking. If Mid-Atlantic uses the open-cut method to construct across Mine Branch Road, the crossing shall be completed within 24 hours and access to residences shall be maintained at all times.
18. **Prior to construction of Route Variation 10A**, Mid-Atlantic shall file with the Secretary, for review and written approval by the Director of OEP, a site-specific construction and restoration plan for construction through the Downing Forge community. This plan shall address limiting tree clearing and restoration of proper drainage.
19. **Prior to construction**, Mid-Atlantic shall consult with Byers Commercial LP to discuss site-specific measures or minor realignments that could be implemented to

minimize disruption to the planned development at MP 85.9, as identified in figure 3.3.3-10 of the EIS. Mid-Atlantic shall file with the Secretary the results of this consultation and any revised plans.

20. **Prior to construction of Route Variation 12C**, Mid-Atlantic shall develop for the Lakeridge Wastewater Treatment Facility site, a plan in consultation with Upper Uwchlan Township and the Pennsylvania Department of Environmental Protection (DEP) to reduce/mitigate compaction on the site during and after construction so that the area can be recertified as a community drip field. If the area cannot be recertified, Mid-Atlantic shall provide a replacement disposal method for the residents of Lakeridge. The plan and all associated correspondence shall be filed with the Secretary.
21. **Prior to construction of the Kirks Mill Route Variation A**, Mid-Atlantic shall file with the Secretary, for review and written approval by the Director of OEP, a site-specific mitigation plan developed in consultation with the affected landowner, describing how Mid-Atlantic will protect horses during construction and restoration in the vicinity of the Marker property. Mid-Atlantic shall also provide the landowner with a copy of the plan.
22. **Prior to initiating any blasting activities**, Mid-Atlantic shall file with the Secretary, for review and written approval by the Director of OEP, a site-specific Project Blasting Plan.
23. **Prior to construction**, AES shall file with the Secretary an amended Potentially-Contaminated Soils Management Plan. This amended plan shall be developed in consultation with the appropriate agencies and include:
 - a. ranges of detected concentrations of semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and metals;
 - b. use of an 11.7eV probe photo-ionization detector (or organic vapor monitor with flame ionization detector);
 - c. use of field test kits to detect low concentrations of SVOCs, PCBs, and metals in soils (or laboratory analysis to characterize excavated, segregated or stockpiled soils); and
 - d. a commitment that all soils from areas with documented exceedances shall be handled as contaminated.
24. **Prior to crossing the Back River**, Mid-Atlantic shall file with the Secretary, for review and written approval by the Director of OEP, a report containing:

- a. the results of sediment quality testing at the Back River pipeline crossing for SVOCs, PCBs, and metals (i.e., known contaminants from the 68th Street Dump);
 - b. an assessment of the risk of crossing this waterbody with either horizontal directional drill (HDD) or open-cut crossing methods; and
 - c. a site-specific crossing plan for this location that minimizes disturbances of the above-mentioned contaminants for both types of crossing methods. If historical data are available from this stretch of the river, that are less than five years old, these data may be interpreted and the risks assessed from the historical data.
25. **Prior to construction**, Mid-Atlantic shall file revised table 4.3.1-1 that confirms the location of wells within 150 feet of the construction work areas, including the distance and direction from the construction right-of-way. Any changes in alignment shall be clearly identified on revised alignment sheets and filed with the Secretary, for review and written approval by the Director of OEP.
26. **Within 30 days of placing the pipeline facilities in service**, Mid-Atlantic shall file a report with the Secretary and appropriate water management agencies identifying all water supply wells/systems damaged by construction and describing how they were repaired. The report shall include a discussion concerning the well yield or quality and how each problem was resolved. It shall also include discussion of any public or private water supply disruptions and how repairs were accomplished and how service was restored.
27. **Prior to construction**, AES shall file with the Secretary, for review and written approval by the Director of OEP, the final Consolidated Dredge Plan, along with any comments from the COE, the United States Environmental Protection Agency (EPA), or the Maryland Department of the Environment regarding the Consolidated Dredge Plan.
28. Mid-Atlantic shall cross White Marsh Run (MP 14.38), Winters Run (MP 27.47), Octoraro Creek (MP 56.31), and West Branch Brandywine Creek (MP 74.19) using the HDD method. **Prior to construction**, Mid-Atlantic shall complete geotechnical investigations for the three crossings and file the following with the Secretary for review and approval by the Director of OEP:
- a. final site-specific plans and construction drawings for each of these crossings, including hydrostatic test water sources;
 - b. for the White Marsh Run crossing, a traffic control plan for locating the laydown area across Reames Road;
 - c. for the Octoraro Creek crossing, documentation that the Chester Water Authority has concurred with the HDD crossing design; and

- d. for the West Branch Brandywine Creek crossing, an assessment of the access (by private road) to the HDD surface workspace to the east of the creek.
29. **Prior to construction**, Mid-Atlantic shall file its final version of the HDD Monitoring and Contingency Plan with the Secretary, for review and written approval by the Director of OEP. This plan shall:
 - a. address specific procedures to be followed in the event of a failure of the HDD method at any of the waterbody crossings where a HDD is proposed; and
 - b. restrict any tree clearing between the HDD entrance workspace and the HDD exit workspace to clearing, by hand, no more than a three-foot-wide path for the tracking wires.
 30. In the event of an unsuccessful HDD crossing of a waterbody during construction, Mid-Atlantic shall file with the Secretary an alternative crossing plan for that waterbody. This shall be a site-specific plan that includes scaled drawings identifying all areas that will be disturbed by construction. Mid-Atlantic shall file this plan concurrent with the submission of its application to the COE for a permit to construct using this plan. The Director of OEP must review and approve this plan in writing prior to construction of the crossing using an alternative method.
 31. **Prior to construction**, Mid-Atlantic shall file with Secretary the results of consultation with the Susquehanna River Basin Commission regarding permits required for water use from the Susquehanna River.
 32. **Prior to construction**, Mid-Atlantic shall file its final wetland delineations for all proposed facilities, including construction workspaces, pipe yards/staging areas, and temporary access roads.
 33. **Prior to construction**, AES and Mid-Atlantic shall:
 - a. file with the Secretary a final Aquatic Resources Mitigation Plant (ARMP) developed in consultation with the COE, the National Marine Fisheries Service (NOAA Fisheries), the United States Fish and Wildlife Service (FWS), United States Environmental Protection Agency (EPA), Maryland Department of the Environment, and Pennsylvania DEP. The final ARMP shall describe impacts on wetlands, waterbodies, essential fish habitat, and other aquatic resources; evaluate potential dredged material placement area sites; and describe specific restoration, mitigation, and monitoring measures; and

- b. revise its Exotic and Invasive Species Control Plan, ARMP, and Environmental Construction Plan to include monitoring the success of all affected wetlands for a period of at least five years. If revegetation is not successful after five years for a non-forested wetlands and 10 years for a forested wetland, a remedial revegetation plan should be developed in consultation with a professional wetland ecologist and submitted to the appropriate permitting agencies for review.
34. Mid-Atlantic shall consult with the Maryland Department of Natural Resources (DNR) Forest Service and/or appropriate local authority(-ies) to develop a Forest Conservation Plan (FCP) and determine the need for a Forest Stand Delineation. The FCP shall be submitted to the Maryland DNR for review when the sediment and erosion control plan or grading plan is submitted for review. The results of these consultations and the final FCP shall be filed with the Secretary.
35. **Prior to construction**, Mid-Atlantic shall file with the Secretary, for review and written approval by the Director of OEP, its finalized Exotic and Invasive Species Control Plan, developed in consultation with the COE and other federal and state agencies.
36. **Prior to construction**, AES shall file with the Secretary, for review and written approval by the Director of OEP, a facility bird strike/impact minimization plan, developed in consultation with FWS and the Maryland DNR, and operational procedures established to minimize impacts on birds. This plan shall include, at a minimum, the requirement that:
 - a. AES downshield all lighting sources at the terminal site, including lighting used during construction activities;
 - b. AES paint the LNG storage tanks and the entirety of any structures 150 feet tall or taller (above ground level) with non-reflective paint; and
 - c. on any structures 200 feet tall or taller (above ground level), AES use the minimum amount of pilot warning and obstruction avoidance lighting required by the Federal Aviation Administration (FAA), using only white (preferable) or red strobe lights at night, unless otherwise required by the FAA, and employ the minimum number and minimum intensity of flashes per minute (longest duration between flashes) permitted by the FAA.
37. **Prior to construction**, AES shall consult with the Maryland DNR to develop final best management practices to minimize harm to waterfowl and protect waterfowl habitat within the vicinity of the project area, and file with the Secretary the results of this consultation, including any agency-recommended habitat mitigation plans.

38. **Prior to construction**, Mid-Atlantic shall consult with the appropriate Forest Interior Dwelling Species (FIDS) habitat management entities in Maryland and file with the Secretary the results of this consultation, including any agency-recommended FIDS habitat mitigation plans.
39. **Prior to construction**, Mid-Atlantic shall consult with Pennsylvania Game Commission regarding the State Line Barrens Important Bird Area (IBA) and file the results of this consultation with the Secretary including any mitigation measures recommended by the Pennsylvania Game Commission.
40. AES shall continue to consult with the NOAA Fisheries, the Maryland DNR, and the Atlantic States Marine Fishery Commission (ASMFC) on the potential for depressed dissolved oxygen in the Patapsco River resulting from its dredging and maintenance of the ship channel. **Prior to construction**, AES shall file the results of this consultation and any agency-recommended mitigation plan(s) with the Secretary.
41. **Prior to construction**, AES shall consult with the Maryland DNR to verify whether the oyster population at Fort Carroll is productive, and if so, whether time-of-year restrictions on dredging activities are needed. The results of this consultation shall be filed with the Secretary.
42. **Prior to construction**, AES shall file a construction plan with the Secretary for the unloading dock developed in consultation with the NOAA Fisheries and the Maryland DNR. The plan shall incorporate any NOAA Fisheries and the Maryland DNR comments on the use of existing pilings and these agencies' recommended pressure and sound wave mitigation measures.
43. **Prior to construction**, AES shall file with the Secretary its final Vessel Strike Avoidance Plan, developed in coordination with NOAA Fisheries, along with documentation of NOAA Fisheries' concurrence. This plan shall take into account the volume of vessel traffic that will originate outside of the Chesapeake Bay and transit the mouth of the bay, as well as the types, sizes, speeds, routes, and other characteristics of those other vessels. It also shall include information on how AES will ensure that LNG vessels are aware of the latest right whale sightings and the actions LNG vessels will take to avoid impacts on right whales and other whale species.
44. **Prior to construction**, AES shall:
 - a. complete its ongoing consultation with the NOAA Fisheries to determine appropriate seasonal construction windows for sea turtles and file the results of that consultation with the Secretary;

- b. provide construction and engineering specifications on its proposed dredging to NOAA Fisheries; and
 - c. finalize its Sea Turtle Monitoring Training Program in consultation with NOAA Fisheries and file the NOAA Fisheries-approved program with the Secretary, for review and written approval by the Director of OEP.
45. **Prior to construction**, AES shall file with the Secretary, for review and written approval by the Director of OEP, a NOAA Fisheries-approved training and monitoring program for shortnose sturgeon that includes dredging specifications.
46. **Prior to construction**, Mid-Atlantic shall file the following with the Secretary, for review and written approval by the Director of OEP:
- a. completed bog turtle survey report, including any Phase II surveys performed during the 2009 bog turtle survey season (April 15 to June 15), surveys at all previously unsurveyed sites with potential bog turtle habitat, and surveys at any sites where FWS recommends resurveying; and
 - b. a bog turtle management plan developed in consultation with FWS, the Maryland DNR, and the Pennsylvania Fish and Boat Commission that includes agency recommended mitigation measures.
47. **Prior to construction**, Mid-Atlantic shall continue to consult with FWS and the Pennsylvania Game Commission regarding the Indiana bat to develop a final survey plan that outlines the site-specific survey parameters and specific locations along the pipeline route and a schedule for completing the surveys. Mid-Atlantic shall file the final survey plan with the Secretary and conduct the appropriate Indiana bat surveys. Mid-Atlantic shall file with the Secretary, for review and written approval by the Director of OEP, the results of the Indiana bat surveys, documentation of its consultations with FWS, and any agency-recommended mitigation plans.
48. AES and Mid-Atlantic **shall not begin construction** of the proposed project facilities until:
- a. Commission staff completes any necessary consultations with FWS and NOAA Fisheries; and
 - b. AES and Mid-Atlantic have received written notification from the Director of OEP that construction and/or use of mitigation (including implementation of conservation measures) may begin.

49. **Prior to construction**, Mid-Atlantic shall:
- a. conduct an additional nest occupancy survey of the bald eagle nest near MP 44.8 to confirm the presence or absence of nestlings and file the results of that survey with the Secretary, the Maryland DNR, and FWS (these surveys should be conducted during the nesting season immediately prior to construction);
 - b. incorporate the FWS May 2007 *National Bald Eagle Management Guidelines* into its Environmental Construction Plan;
 - c. contact FWS to determine the appropriate size and shape of buffers, timing of project related activities, and distance of activities from the bald eagle's nest; and
 - d. file with the Secretary, for review and written approval by the Director of OEP, documentation of any mitigation plans developed in consultation with FWS.
50. **Prior to construction**, Mid-Atlantic shall consult with the Maryland DNR and FWS to develop mitigation measures to minimize impacts on logperch, then file the results of those consultations, including any Maryland DNR and/or FWS recommended mitigation measures, with the Secretary.
51. **Prior to construction**, Mid-Atlantic shall:
- a. complete surveys for state-listed endangered, threatened, rare, and special concern plants and moths between MPs 48.5 and 49 where the landowner has currently denied access; and
 - b. file with the Secretary (1) documentation of its state-listed plant and moth species consultations with the Maryland DNR and the Pennsylvania Department of Conservation and Natural Resources (DCNR) and (2) mitigation plans developed in consultation with the Maryland DNR and the Pennsylvania DCNR regarding these species. The species consultations and mitigation plans shall address the eastern serpentine barrens crossed by the proposed pipeline route along the Maryland/Pennsylvania border.
52. **Prior to construction**, AES shall continue consultation with the FWS Virginia Field Office regarding the potential presence of the northeastern beach tiger beetle and bald eagle along the LNG vessel transit route or within the *Zones of Concern* and file the results of its consultation with the Secretary.
53. For any residence which requires a site-specific plan, Mid-Atlantic shall complete all construction related activities (clearing through restoration) within one week on any property, weather permitting. Once a property is restored it shall not be used as a travel lane.

54. For each residence which requires a site-specific plan, Mid-Atlantic shall offer to monitor the foundation of every permanent structure within 50 feet of the construction work area for damage from construction.
55. **Prior to construction**, Mid-Atlantic shall provide individual site-specific residential plans to the owner of each residence located within 50 feet of construction work areas and provide one month for the owner to review and comment on these plans. Mid-Atlantic shall file these plans, along with any comments presented by property owners, with the Secretary, for review and written approval by the Director of OEP. Mid-Atlantic shall describe how it will keep a property owner of a residence informed of the progress of construction near the residence, and provide evidence of an owner's concurrence if construction areas will be located within 10 feet of the residence. The site-specific residential plans shall include:
- a. a dimensioned site plan that clearly shows:
 - i. the location of the residence in relation to the new pipeline and any other existing gas or oil pipelines or utilities (including water, sewer, and septic systems);
 - ii. the boundaries of all permanent and temporary construction work areas;
 - iii. other nearby structures and residential features (including decks, pools, swings, fences, driveways, etc), indicating which will be removed and which will be subject to restrictions after construction;
 - iv. trees and other landscaping, identifying the vegetation that will be removed, and indicating where trees will not be allowed after construction;
 - v. the location of topsoil and subsoil storage piles;
 - vi. equipment travel lanes;
 - vii. safety fencing and other safety features; and
 - viii. the distances between construction work areas and permanent structures;
 - b. a detailed description of the construction techniques that will be used (such as reduced pipeline separation, centerline adjustment, use of stove-pipe or drag-section techniques, working over existing pipelines, pipeline crossover, bore, utility crossing, etc.);
 - c. an estimation of the amount of time required for construction;
 - d. a description of restoration and revegetation measures and procedures for the property; and

- e. a detailed description of the measures Mid-Atlantic will implement to ensure public safety during construction activities and to minimize and mitigate impacts from dust, noise, and vibration.

Mid-Atlantic shall not exercise eminent domain authority granted under NGA section 7(h) to acquire permanent rights-of-way on these properties until the required site-specific residential construction plans have been reviewed and approved in writing by the Director of OEP.

56. **Prior to construction**, Mid-Atlantic shall file with the Secretary, for review and written approval by the Director of OEP, a Residential Access and Traffic Mitigation Plan that identifies potential road closures and those measures that Mid-Atlantic will implement to minimize construction traffic impacts on affected residents. This plan shall identify procedures for notifying residents about planned road closures and disturbances and specifically address each subdivision crossed by the project.
57. **Prior to construction**, Mid-Atlantic shall continue to consult with the Victoria Crossing at Bradford Glen homeowners association (Victoria Crossing) and file with the Secretary, for review and written approval by the Director of OEP, documentation of this consultation and all drawings or plans regarding:
 - a. replanting trees damaged by construction or removed from the temporary work areas within the Victoria Crossing common areas;
 - b. specifics about native tree and shrub species to be used in restoring the Victoria Crossing common areas; and
 - c. tree and shrub density to be used for restoration, and how this restoration will be monitored and assessed
58. **Prior to construction**, Mid-Atlantic shall file with the Secretary, for review and written approval by the Director of OEP, a Septic System Contingency Plan, to be developed through consultation with the local planning commissions, that describes the steps Mid-Atlantic will take in constructing its pipeline to avoid disturbing septic systems, mitigate damage to septic systems, and restore or replace damaged septic systems. Any temporary repair or mitigation shall take into account *all* waste water that would normally be handled by the septic system. The Septic System Contingency Plan shall also discuss proposed mitigation if a septic system must be relocated.
59. **Prior to construction**, Mid-Atlantic shall develop and implement a site-specific plan for crossing the Chester Water Authority mains based on updated as-built plans from the Chester Water Authority and file this plan with the Secretary.

60. **Within 30 days of placing the pipeline facilities in service**, Mid-Atlantic shall file a report with the Secretary that identifies all utilities – including communication cables and water, sewer, and electric systems – damaged by construction, discusses each utility disruption, and describes the steps taken to restore the utility to preconstruction conditions.
61. **Prior to construction**, Mid-Atlantic shall identify any new residences (i.e., any residence not listed in Appendix F of the EIS) located within 50 feet of the construction work areas (i.e., a construction right-of-way and extra temporary work space) and file this information in its initial Implementation Plan. For all residences 50 feet or closer to a construction work area, Mid-Atlantic shall file a site-specific plan with the Secretary, for review and written approval by the Director of OEP.
62. **Prior to construction between MP 18.2 and MP 18.4**, Mid-Atlantic shall file with the Secretary, for review and written approval by the Director of OEP, a detailed site-specific plan developed in consultation with the Maryland DNR for the first crossing of Gunpowder Falls State Park. This plan shall include:
 - a. a scaled and detailed diagram of the route, indicating the areas to be disturbed, the permanent right-of-way, and storage areas for spoil;
 - b. a detailed explanation, with diagrams, of the construction method and the equipment that will be used and the duration of the crossing;
 - c. a refueling plan for equipment;
 - d. a detailed plan for trench dewatering;
 - e. a site-specific blasting plan, if required;
 - f. a detailed restoration/revegetation plan, including a diagram showing areas where trees will be removed and not allowed after construction;
 - g. a representation of the viewshed from the trail after construction;
 - h. a detailed plan for maintaining public access and safety along the trail and any restrictions to water-related activities during construction; and
 - i. any comments from the Maryland DNR and any additional state-imposed timing/construction restrictions.
63. **Prior to construction between MP 22.06 and MP 22.78**, Mid-Atlantic shall file with the Secretary, for review and written approval by the Director of OEP, a detailed site-specific plan developed in consultation with the Maryland DNR for the second crossing of Gunpowder Falls State Park. This plan shall include:
 - a. a scaled and detailed diagram of the crossing, indicating the areas to be disturbed, the permanent right-of-way, and storage areas for spoil;
 - b. a detailed explanation, with diagrams, of the construction method, including the equipment that will be used and the duration of the crossing;

- c. detailed restoration/revegetation plan, including a diagram showing areas where trees will be removed and not allowed after construction;
 - d. a representation of the viewshed from the trail after construction;
 - e. a site-specific frac-out plan that includes patrolling the path of the drill on a regular basis;
 - f. a commitment to restrict tree clearing between the HDD entrance workspace and the HDD exit workspace to clearing, by hand, no more than a three-foot-wide path for the tracking wires; and
 - g. any comments from the Maryland DNR and any additional state-imposed timing/construction restrictions.
64. **Prior to construction in Batavia Park**, Mid-Atlantic shall file with the Secretary, for review and written approval by the Director of OEP, a detailed site-specific plan for crossing this park. This plan shall include:
- a. a scaled and detailed diagram of the crossing, indicating the areas to be disturbed, the permanent right-of-way, and storage areas for spoil;
 - b. a detailed explanation, with diagrams, of the construction method, including the equipment that will be used and the duration of the crossing;
 - c. a detailed restoration/revegetation plan, including a diagram showing areas where trees will be removed and not allowed after construction;
 - d. a representation of the viewshed from the park after construction;
 - e. a detailed plan for maintaining public access and safety in the park; and
 - f. comments from the park administration.
65. **Prior to construction in Race Road Park**, Mid-Atlantic shall file with the Secretary, for review and written approval by the Director of OEP, a detailed site-specific plan for crossing this park. This plan shall include:
- a. a scaled and detailed diagram of the crossing, indicating the areas to be disturbed, the permanent right-of-way, and storage areas for spoil;
 - b. a detailed explanation, with diagrams, of the construction method, including the equipment that will be used and the duration of the crossing;
 - c. a detailed restoration/revegetation plan, including a diagram showing areas where trees will be removed and not allowed after construction;
 - d. a representation of the viewshed from the park after construction;
 - e. a detailed plan for maintaining public access and safety in the park; and
 - f. comments from the park administration.
66. **Prior to construction in Beacon Hill Park**, Mid-Atlantic shall file with the Secretary, for review and written approval by the Director of OEP, a detailed site-specific plan for crossing this park. This plan shall include:

- a. a scaled and detailed diagram of the crossing, indicating the areas to be disturbed, the permanent right-of-way, and storage areas for spoil;
 - b. a detailed explanation, with diagrams, of the construction method, including the equipment that will be used and the duration of the crossing;
 - c. a detailed restoration/revegetation plan, including a diagram showing areas where trees will be removed and not allowed after construction;
 - d. a representation of the viewshed from the park after construction;
 - e. a detailed plan for maintaining public access and safety in the park; and
 - f. comments from the park administration.
67. **Prior to construction in Dowlin Struble Forge Park**, Mid-Atlantic shall file its final plan for crossing this park. This plan shall be developed in consultation with Uwchlan Township and the Chester County Parks and Recreation Department (CCPRD), and include minimization of tree clearing, avoidance and/or minimization of conflict with park use, park user safety issues, and specific restoration and revegetation plans. The plan shall provide for continuous use of park trails, including detours where necessary. The final plan for crossing the park, along with Uwchlan Township and park administration correspondence, shall be filed with the Secretary, for review and written approval by the Director of OEP.
68. **Prior to construction in Hickory Park**, Mid-Atlantic shall file with the Secretary, for review and written approval by the Director of OEP, a detailed site-specific plan for crossing this park. This plan shall include:
- a. a scaled and detailed diagram of the crossing, indicating the areas to be disturbed, the permanent right-of-way, and storage areas for spoil;
 - b. a detailed explanation, with diagrams, of the construction method, including the equipment that will be used and the duration of the crossing;
 - c. a detailed restoration/revegetation plan including a diagram showing areas where trees will be removed and not allowed after construction;
 - d. a representation of the viewshed from the park after construction;
 - e. a detailed plan for maintaining public access and safety in the park; and
 - f. comments from the park administration.
69. **Prior to construction in the West Bradford Township land at MP 77.75**, Mid-Atlantic shall file with the Secretary, for review and written approval by the Director of OEP, a detailed site-specific plan for crossing this property. This plan shall include:
- a. a scaled and detailed diagram of the crossing, indicating the areas to be disturbed, the permanent right-of-way, and storage areas for spoil;
 - b. a detailed explanation, with diagrams, of the construction method,

- c. including the equipment that will be used and the duration of the crossing;
 - c. a detailed plan for maintaining public access and safety on this property; and
 - d. comments from West Bradford Township.
70. **Prior to construction in the Indian Lake Christian Service Camp**, Mid-Atlantic shall file with the Secretary, for review and written approval by the Director of OEP, detailed site-specific final plans for the HDD crossing of the Susquehanna River and related activities on camp property, along with documentation of the results of consultations with the camp officials. These plans should include:
- a. a detailed restoration/revegetation plan, including a diagram showing areas where trees will be removed and not allowed after construction;
 - b. a representation of the viewshed from the river and camp after construction;
 - c. a site-specific frac-out plan that includes patrolling the path of the drill on a regular basis;
 - d. a commitment to restrict clearing between the HDD entrance workspace and the HDD exit workspace to clearing, by hand, no more than a three-foot-wide path for the tracking wires;
 - e. a schedule of construction activities around camp activities;
 - f. measures to protect camper safety; and
 - g. any comments from the Maryland DNR or camp officials and any additional state-imposed timing/construction restrictions.
71. **Prior to construction in Camp Conowingo**, Mid-Atlantic shall file with the Secretary, for review and written approval by the Director of OEP, detailed site-specific final plans for the HDD crossing of the Susquehanna River and related activities on camp property, along with documentation of the results of consultations with the Girl Scouts of Central Maryland. These plans shall include:
- a. a detailed restoration/revegetation plan, including a diagram showing areas where trees will be removed and not allowed after construction;
 - b. a representation of the viewshed from the river and camp after construction;
 - c. a site-specific frac-out plan that includes patrolling the path of the drill on a regular basis;
 - d. a commitment to restrict tree clearing between the HDD entrance workspace and the HDD exit workspace to clearing, by hand, no more than a three-foot-wide path for the tracking wires;
 - e. a schedule of construction activities around camp activities;
 - f. measures to protect camper safety;
 - g. security measures to protect the Bell Manor facilities from potential adverse affects; and

- h. any comments from the Maryland DNR or the Girl Scouts of Central Maryland and any additional state-imposed timing/construction restrictions.
72. Mid-Atlantic shall not store materials (including pipe) at Camp Conowingo except during the period of active construction on the camp property.
73. **Prior to construction in Camp Tweedale**, Mid-Atlantic shall file with the Secretary, for review and written approval by the Director of OEP, a detailed site-specific plan for crossing and minimizing impacts to activities and facilities at the camp. This plan shall include:
- a. a scaled and detailed diagram of the crossing, indicating the areas to be disturbed, the permanent right-of-way, and storage areas for spoil;
 - b. a detailed explanation, with diagrams, of the construction method, including the equipment that will be used and the duration of the crossing;
 - c. a detailed restoration/revegetation plan, including a diagram showing areas where trees will be removed and not allowed after construction;
 - d. a representation of the viewshed from the camp after construction;
 - e. a schedule of construction activities around camp activities;
 - f. measures to protect camper safety; and
 - g. any comments from the Girl Scouts of Eastern Pennsylvania.
74. **Prior to any blasting within 5 miles of the Marsh Creek State Park and dam**, Mid-Atlantic shall provide at least 72 hours notice of the impending blasting to the Park Manager.
75. **Prior to the start of the HDD for the Susquehanna River**, Mid-Atlantic shall develop and file with the Secretary a plan to allow safe passage for users along the Mason-Dixon Trail during the HDD operation.
76. **Prior to construction across the Brandywine Trail**, Mid-Atlantic shall file with the Secretary, for review and written approval by the Director of OEP, a detailed site-specific plan for crossing the trail. This plan shall include:
- a. a scaled and detailed diagram of the crossing, indicating the areas to be disturbed, the permanent right-of-way, and storage areas for spoil;
 - b. a detailed explanation, with diagrams, of the construction method, including the equipment that will be used and the duration of the crossing;
 - c. a construction schedule that avoids the annual Brandywine Trail End-to-End Hike;
 - d. a detailed restoration/revegetation plan, including a diagram showing areas where trees will be removed and not allowed after construction;
 - e. a representation of the viewshed from the trail after construction;

- f. a detailed plan for maintaining public access and safety along the trail; and
 - g. any comments from the Wilmington Trail Club.
77. **Prior to construction across the Uwchlan Township Walking Path**, Mid-Atlantic shall file with the Secretary, for review and written approval by the Director of OEP, a detailed site-specific plan for crossing the path. This plan shall include:
- a. a scaled and detailed diagram of the crossing, indicating the areas to be disturbed, the permanent right-of-way, and storage areas for spoil;
 - b. a detailed explanation, with diagrams, of the construction method, including the equipment that will be used and the duration of the crossing;
 - c. a detailed restoration/revegetation plan, including a diagram showing areas where trees will be removed and not allowed after construction;
 - d. a representation of the viewshed from the path after construction;
 - e. a detailed plan for maintaining public access and safety along the path; and
 - f. any comments from Uwchlan Township.
78. **Prior to construction at the Gunpowder Falls Golf Course**, Mid-Atlantic shall develop and file with the Secretary a detailed site-specific plan for crossing the golf course at MP 19.05. This plan shall include:
- a. a scaled and detailed diagram of the crossing, indicating the areas to be disturbed, the permanent right-of-way, and storage areas for spoil;
 - b. a detailed explanation, with diagrams, of the construction method, including the equipment that will be used and the duration of the crossing;
 - c. a detailed restoration/revegetation plan, including a diagram showing areas where trees will be removed and not allowed after construction;
 - d. a representation of the viewshed from the golf course after construction;
 - e. a detailed plan for maintaining access and safety along the course;
 - f. a schedule of construction activities to limit impacts to golfers; and
 - g. any comments from the Gunpowder Falls Golf Course.
79. **Prior to construction**, Mid-Atlantic shall file with the Secretary a detailed site-specific plan, developed in consultation with the school administrator, for each school listed in table 4.8.1-3 of the EIS as “crossed or adjacent.” Each plan shall include provisions to:
- a. mitigate construction noise if construction occurs during regular school hours;
 - b. provide security for equipment left on school property overnight;
 - c. backfill or cover open trenches on school property at night or on days construction is shut down;

- d. schedule construction to minimize disruption to school activities; and
 - e. provide for comments from school administrators.
80. **Prior to construction on the Humane Society of Harford County land**, Mid-Atlantic shall file with the Secretary, for review and written approval by the Director of OEP, site-specific mitigation plans, developed in consultation with the Humane Society, describing how Mid-Atlantic will protect the shelter animals and maintain public access during construction and restoration.
81. **Prior to construction across Deer Creek**, Mid-Atlantic shall develop, in consultation with the Deer Creek Advisory Board, NOAA Fisheries, and the Maryland DNR, a construction and mitigation plan for Deer Creek to address minimizing tree clearing, potential fisheries impacts, the method of construction, and effects on the scenic river status. Mid-Atlantic shall file the plan with the Secretary, for review and written approval by the Director of OEP.
82. **Prior to construction**, Mid-Atlantic shall develop, in consultation with the Pennsylvania DCNR, the Octoraro Creek Watershed Association, the Chester County Parks Recreation Department, the Pennsylvania Fish and Boat Commission, and the Brandywine Conservancy, construction and mitigation plans for the Octoraro Creek (MP 56.3) and each of the four crossings of the Brandywine Creek system (MPs 72.14, 74.25, 76.54, and 82.31). Mid-Atlantic shall file the plans with the Secretary, for review and written approval by the Director of OEP. These plans shall address:
- a. minimizing tree clearing within the riparian zones of the waterbodies;
 - b. potential measures to ensure safety and reduce impacts to recreational users, including fishermen and boaters; ensure boating access during construction, including measures to provide a means for boaters to bypass the immediate construction area; and provide for notification to users regarding construction activities; and
 - c. effects on the viewshed along these waterbodies.
83. **Prior to construction**, Mid-Atlantic shall identify all properties with conservation easements and the type of the easements, then consult with landowners to develop measures to mitigate impacts on protected resources. Mid-Atlantic shall file with the Secretary a summary of the results of this consultation.
84. **Prior to construction**, Mid-Atlantic shall develop an Agricultural Impact Mitigation Plan (AIMP) in consultation with the pertinent state and county agricultural agencies. Mid-Atlantic shall file with the Secretary the AIMP and copies of all related correspondence with the agencies. The AIMP shall include provisions for:

- a. at least one agricultural inspector for the project;
 - b. top soil segregation (indicating the depth of segregation) and for allowing the landowner to choose trench-plus-working-side or full right-of-way;
 - c. identification and marking of drain tiles, including providing the landowner and tenant with the location of the drain tiles;
 - d. depth of cover to avoid interference with drain tiles;
 - e. repair (temporary and permanent) of drain tiles by a qualified local drain tile expert;
 - f. drain tile replacement and/or additional drain tile installation in areas where drainage is adversely affected by construction of the pipeline;
 - g. rock and debris removal;
 - h. restoration methods for compaction and rutting;
 - i. land leveling;
 - j. backfill profile and trench crowning;
 - k. erosion control;
 - l. repair of damaged soil conservation practices;
 - m. control of trench washouts, water piping, and blowouts;
 - n. interference with irrigation systems;
 - o. access through fields;
 - p. weed control;
 - q. trench dewatering;
 - r. advanced notice of access; and
 - s. monitoring and remediation, including the length of post-restoration crop monitoring.
85. **Prior to construction between MP 67.3 and MP 78.3**, Mid-Atlantic shall file with the Secretary, for review and written approval by the Director of OEP, site-specific mitigation plans, developed in consultation with affected landowners, describing the measures Mid-Atlantic will implement to minimize impacts on the horses during construction and restoration. Mid-Atlantic shall provide affected landowners with a copy of the approved plan.
86. AES and Mid-Atlantic shall consult with appropriate state and local agencies regarding Maryland-designated Critical Areas and any mitigation plans to be implemented during the construction and operation of the project. AES and Mid-Atlantic shall file any resulting mitigation plans with the Secretary and copies of correspondence with state and local agencies.
87. **Prior to construction**, Mid-Atlantic shall file with the Secretary, for review and written approval by the Director of OEP, site-specific plans, developed in consultation with the appropriate agency, for each crossing of the Gunpowder

Crossing Scenic Byway, including details regarding the types of vegetation to be removed and plans to minimize any necessary expansion of the width of the crossing area to be cleared and maintained.

88. **Prior to construction**, AES shall continue consultation with Severstal Steel and other major employers at Sparrows Point, and prepare a final Construction Traffic Management Plan that addresses and minimizes potential problems with worker access to other employment centers of the Sparrows Point industrial complex; addresses total vehicular traffic at the construction site, including the volume of traffic from employers and their schedule of shift changes; and describes potential restrictions on AES construction traffic during shift changes, as necessary. The final plan shall be filed with the Secretary and updated to address any changes in traffic conditions since the draft plan was developed.
89. **Prior to construction**, Mid-Atlantic shall work with the appropriate authorities to develop site-specific traffic and safety plans wherever road closures or restrictions may be required. These plans and documentation of consultation with appropriate authorities shall be filed with the Secretary.
90. **Prior to construction**, AES shall continue its discussions with the Port of Baltimore and other major shipping and commercial and recreational fishing interests along the marine transit route and develop specific operational and communication guidelines for LNG vessels. These guidelines shall address concerns raised regarding impacts on shipping and fishing interests, including the effects on marine traffic and congestion along the LNG vessel transit route and within the Port of Baltimore. These guidelines shall take into account the recommendations provided in the Waterway Suitability Assessment and the Waterway Suitability Report and shall be filed with the Secretary.
91. Mid-Atlantic shall **not begin construction of the pipeline facilities until**:
 - a. Mid-Atlantic files with the Secretary, for review and written approval by the Director of OEP, the results of the historic architecture field investigations along the proposed pipeline route and the comments of the appropriate State Historic Preservation Officer (SHPO);
 - b. Mid-Atlantic completes the outstanding cultural resources surveys of the pipeline corridor and ancillary use areas;
 - c. Mid-Atlantic files with the Secretary all additional required cultural resources survey reports and any treatment plans, and the Maryland and Pennsylvania SHPOs' comments on all reports and plans, including comments on the pipeline's crossings of the Lower Deer Creek Valley Historic District, Doe's Run Historic District, Kirks Mills Historic District, John Hanna Farm, Fairview School, and Mortonville Bridge, in order to

identify any appropriate mitigation measures to protect these National Register of Historic Places listed resources from pipeline installation and operation; and

- d. the Director of OEP reviews and approves in writing all cultural resources reports and plans and notifies Mid-Atlantic in writing that it may proceed with treatment measures or construction.

All material filed with the Secretary containing location, character, and ownership information about cultural resources must have the cover and any relevant pages therein clearly labeled in bold lettering: "CONTAINS PRIVILEGED INFORMATION - DO NOT RELEASE."

92. AES shall **not construct or begin demolition activities at the Sparrows Point Shipyard Historic District until** it files with the Secretary all additional required cultural resources reports, treatment plans, and progress reports, and the Maryland SHPO's comments on all reports and plans, and the Director of OEP reviews and approves in writing all cultural resources reports and plans and notifies AES in writing that it may proceed with treatment measures or construction or demolition activities.

All material filed with the Secretary containing location, character, and ownership information about cultural resources must have the cover and any relevant pages therein clearly labeled in bold lettering: "CONTAINS PRIVILEGED INFORMATION - DO NOT RELEASE."

93. **Prior to construction of their respective project components,** AES and Mid-Atlantic shall prepare and file a Fugitive Dust Control Plan with the Secretary, for review and written approval by the Director of OEP, that includes the following measures:

- a. contractors will meet all air quality requirements and employ equipment that meets relevant emission standards;
- b. water or dust suppressants will be applied to disturbed areas;
- c. open-hauling trucks will be covered as needed;
- d. paved roads will be used when practical;
- e. vehicle speeds will be limited;
- f. disturbed areas will be stabilized upon completion of construction; and
- g. a description of when and how each measure will be implemented.

94. **Prior to construction, AES and Mid-Atlantic shall file:**

- a. the following information for the issuance of a final General Conformity Determination:

- (1) updated documentation showing a more specific range of the availability of nitrogen oxides (NO_x) and/or volatile organic compound (VOC) offsets to comply with General Conformity requirements in Maryland; and
 - (2) documentation from the Pennsylvania DEP demonstrating that the total direct and indirect emissions from the portion of the proposed action to which the general conformity review applies, together with all other emissions in the nonattainment area, will not exceed the emissions budgets specified in the approved state implementation plan;
 - b. provide a record of NO_x and/or VOC offsets obtained and demonstrate that this amount is equal to the amount required under the final General Conformity Determination; and
 - c. obtain and submit letters from the Maryland Department of the Environment and the EPA concurring that offset requirements for the project have been met.
95. **Prior to construction**, Mid-Atlantic shall file with the Secretary, for review and written approval by the Director of OEP, a noise analysis for the HDD crossings of White Marsh Run, Winters Run, Octoraro Creek, and West Branch Brandywine Creek. This analysis shall identify any noise sensitive areas (NSAs) within one-half mile of each HDD entry or exit location and the proposed duration of each HDD. The analysis shall also include background noise levels and estimated drilling noise contributions at the NSAs, along with any measures Mid-Atlantic will implement to control noise from the HDDs.
96. AES shall make all reasonable efforts to ensure its predicted noise levels from the LNG terminal, and if constructed, the power plant, are not exceeded at the nearest NSAs. AES shall file noise surveys with the Secretary **no later than 60 days after placing the LNG terminal in service**; however, if noise attributable to the operation of the LNG terminal or the power plant, or both facilities operating in tandem, exceed 55 decibels on the A-weighted scale (dBA) day-night sound level (Ldn) at any NSA, AES shall file a report on what changes are needed and shall install additional noise controls to meet the level **within 1 year** of the facility's in-service date. AES shall confirm compliance with these requirements by filing a second noise survey with the Secretary **no later than 60 days** after it installs the additional noise controls.
97. **Until commencement of service**, AES shall **annually** review its waterway sustainability assessment relating to LNG marine traffic for the project; update the assessment to reflect changing conditions which may impact the suitability of the waterway for LNG marine traffic; provide the updated assessment to the cognizant Captain of the Port/Federal Maritime Security Coordinator for review and

validation, and if appropriate, further action by the Captain of the Port/Federal Maritime Security Coordinator relating to LNG marine traffic; and provide a copy to Commission staff.

Recommendation numbers 98 through 108 shall apply to the AES LNG terminal and storage facilities' design and construction details. Information pertaining to these specific recommendations shall be filed with the Secretary, for review and written approval by the Director of OEP prior to: initial site preparation; final design; commencing construction; or commissioning, as indicated by each specific condition. All detailed design documents (drawings, calculations, specifications, etc.) and design submittals shall satisfy the requirements of section 4, Part II of the Commission's January 2007 draft Seismic Design Guidelines and Data Submittal Requirements for LNG Facilities (draft Seismic Design Guidelines). This information shall be filed a minimum of 30 days before approval to proceed is requested.

98. AES shall perform at least one additional boring and two additional cone penetration tests to a depth of at least 75 feet at the location of each tank and provide the resulting new geotechnical test data **prior to construction**. The cone penetration tests shall not be predrilled. The purpose of these additional tests is to provide definitive data on the liquefaction potential at the site.
99. AES shall perform shear wave velocity measurements at the site to a depth of at least 200 feet determined by actual geophysical tests and provide the resulting shear wave velocity measurement data **prior to construction**.
100. Using the additional boring, cone penetration tests, shear wave velocity data, and the peak ground acceleration for the Safe Shutdown Earthquake of 0.15 gravity, AES shall provide revised liquefaction calculations using the procedures outlined in Youd and Idriss (2001) **prior to construction**.
101. If it is determined in response to Environmental Condition 100 that the soils will liquefy, AES shall provide the following **prior to construction**:
 - a. calculations and estimates of liquefaction associated settlements and pile down drag loads;
 - b. details of the liquefaction mitigation method(s) procedures, plan extent, and verification methods proposed to verify mitigation of liquefaction potential; and
 - c. detailed calculations of seismic slope stability and lateral movements anticipated after the liquefaction mitigation is implemented in order to verify the stability of critical structures for the project design earthquake motions.

102. AES's LNG storage tank and foundation final design shall comply with Part I of the draft Seismic Design Guidelines. Submittals that demonstrate compliance shall be provided after the final pile design has been selected and **prior to initial site preparation**. Details of the types of piles finally selected for supporting the LNG storage tanks and results of indicator pile program, including load tests, shall be submitted for review and approval **prior to construction/pile installation**.
103. The Quality Control and Assurance procedures, as described in section 3.11 of Part II of the draft Seismic Design Guidelines, that AES will use for design shall be submitted for review **prior to construction**.
104. **Prior to final design**, AES shall submit seismic specifications to be used in conjunction with the procuring equipment, as described in section 3.10 of Part II of the draft Seismic Design Guidelines.
105. **Prior to construction**, AES shall submit all other items identified in the filed geotechnical/seismic reports that were proposed to be addressed during the detailed design.
106. **Prior to construction**, AES shall submit final foundation design recommendations, including pile foundation design and/or liquefaction mitigation measures (if it is determined that soils will liquefy) for all other structures.
107. AES shall provide a seismic instrumentation plan as described in section 3.12 of Part II of the draft Seismic Design Guidelines **prior to commissioning**.
108. AES shall provide the results of the hydrostatic load tests on its LNG storage tanks, including settlement data as described in section 7.4.1 of the draft Seismic Design Guidelines **prior to commissioning**.

The following measures (109 through 163) shall apply to the AES LNG terminal and storage facilities. Information pertaining to these specific recommendations shall be filed with the Secretary, for review and written approval by the Director of OEP prior to: initial site preparation; commencing construction; commissioning; or being placed in service, as indicated by each specific condition. Specific engineering, vulnerability, or detailed design information meeting the Commission criteria of critical energy infrastructure information (CEII), including security information, shall be submitted as CEII pursuant to 18 C.F.R. 388.112. *See Critical Energy Infrastructure Information*, Order No. 683, 71 Fed. Reg. 58,273 (October 3, 2006), FERC Stats. & Regs. ¶ 31,228 (2006). Information pertaining to items such as offsite emergency response, procedures for public notification and evacuation, and construction and operating reporting requirements

will be subject to public disclosure. All information shall be filed a minimum of 30 days before approval to proceed is requested.

109. **Prior to initial site preparation**, AES shall file finalized documentation of the lease agreement which demonstrates that the exclusion zones extending offsite comply with sections 193.2007 and 193.2057 of the Department of Transportation's regulations. *See* 49 C.F.R. §§ 193.2007 and 193.2057 (2008).
110. AES shall develop an Emergency Response Plan (including evacuation) and coordinate procedures with the Coast Guard; state, county, and local emergency planning groups; fire departments; state and local law enforcement; and appropriate federal agencies. This plan shall include at a minimum:
 - a. designated contacts with state and local emergency response agencies;
 - b. scalable procedures for the prompt notification of appropriate local officials and emergency response agencies based on the level and severity of potential incidents;
 - c. procedures for notifying residents and recreational users within areas of potential hazard along the LNG vessel transit route;
 - d. evacuation routes/methods for residents and other public use areas that are
 - e. within any transient hazard areas along the LNG vessel transit route;
 - f. locations of permanent sirens and other warning devices; and an "emergency coordinator" on each LNG vessel to activate sirens and other warning devices.

The Emergency Response Plan shall be filed with the Secretary, for review and written approval by the Director of OEP, **prior to initial site preparation**. AES shall notify Commission staff of all planning meetings in advance and report progress on the development of its Emergency Response Plan at **3-month intervals**.

111. The Emergency Response Plan shall include a Cost-Sharing Plan identifying the mechanisms for funding all project-specific security/emergency management costs that will be imposed on state and local agencies. In addition to the funding of direct transit-related security/emergency management costs, this comprehensive plan shall include funding mechanisms for the capital costs associated with any necessary security/emergency management expenses and equipment and personnel expenses. The Cost-Sharing Plan shall be filed with the Secretary, for review and written approval by the Director of OEP, **prior to initial site preparation**.
112. Complete plan drawings and a list of the hazard detection equipment shall be filed with the Secretary **prior to initial site preparation**. The list shall include the instrument tag number, type and location, alarm locations, and shutdown functions

of the proposed hazard detection equipment. Plan drawings shall clearly show the location of all detection equipment.

113. AES shall provide a technical review of its proposed facility that:
- a. identifies all combustion/ventilation air intake equipment and the distances to any possible hydrocarbon release (LNG, flammable refrigerants, flammable liquids, and flammable gases); and
 - b. demonstrates these areas are adequately covered by hazard detection devices and indicates how these devices will isolate or shutdown any combustion equipment when its continued operation could add to or sustain an emergency.

AES shall file this review **prior to initial site preparation.**

114. Complete plan drawings and a list of the fixed and wheeled dry-chemical, fire extinguishing, and other hazard control equipment shall be filed **prior to initial site preparation.** This list shall include the tag number, type, and size of the equipment, and automatic and manual remote signals initiating discharge of the equipment. Plan drawings shall clearly show the planned location of all fixed and wheeled extinguishers.
115. Facility plans showing the proposed location of, and area covered by, each monitor, hydrant, deluge system, hose, and sprinkler, as well as piping and instrumentation diagrams of the fire water system, shall be filed **prior to initial site preparation.**
116. A copy of the hazard design review and the list of recommendations that are to be incorporated in the final facility design shall be filed **prior to initial site preparation.**
117. A complete specification of the proposed LNG storage tank design and installation shall be provided **prior to initial site preparation.**
118. Drawings of the LNG storage tank piping support structure and support of horizontal piping at grade shall be filed **prior to initial site preparation.**
119. AES shall provide information and revisions related to the 31 responses to the April 23, 2007 Engineering Information Request which stated that corrections or modifications will be made to the design. The **final design** shall specifically address the response numbers 3, 12, 13, 25, 26, 36, 38, 42, 50, 51, 52, 58, 67, 70, 72, 73, 79, 80, 81, 83, 88, 91, 92, 94, 96, 97, 102, 103, 104, and 108 using management of change procedures.

120. The **final design** of the fixed and wheeled dry-chemical fire extinguishing hazard control equipment shall identify the manufacturer and model.
121. The **final design** shall include an updated fire protection evaluation carried out in accordance with the standards of the National Fire Protection Association (NFPA), NFPA 59A, chapter 9.1.2. (2001).
122. The **final design** shall specify that the design pressure of sendout equipment containing LNG in low pressure service shall be not less than the design pressure of the piping system.
123. The **final design** shall specify that LNG relief valves and LNG drains shall not discharge into the vapor system.
124. The **final design** shall specify that LNG from relief valves and drains is to be returned to storage.
125. The **final design** of the vapor return system shall include provisions for the addition of LNG transfer pumps to the Platform Drum D-104. The vapor inlet piping to the drum shall be designed to insure that all LNG, from the desuperheater and LNG piping discharging to the drum, cannot back flow to the vapor return piping.
126. The **final design** shall specify that the vapor inlet piping to the boiloff gas drum shall be designed to insure that all LNG, from the desuperheater and LNG piping discharging to the drum, cannot back flow to the vapor return piping.
127. The **final design** shall include provisions for the future installation of LNG pumps for the boiloff gas drum.
128. The **final design** shall specify that the Low Point Drain Drum is to be equipped to remove residual liquids without personnel accessing the spill containment sump.
129. The **final design** of the Low Point Drain Drum shall include a pressure relief system to protect the vessel in the event of isolation.
130. The **final design** of the boiloff condenser system shall include a relief valve between the vapor inlet check valve and the fail closed LNG outlet control valve.
131. The **final design** shall include provisions to recycle the boiloff compressor discharge upstream of the boiloff gas drum desuperheater.
132. The **final design** shall include bypass valves around the intank pump emergency

- shut down discharge valves for cooldown of the discharge headers and piping.
133. The **final design** shall include a shutoff valve at the suction and discharge of each high pressure pump.
 134. The **final design** shall specify that the minimum flow recycle line from the high pressure LNG pumps to downstream of the isolation valve to the LNG storage tanks shall be the same pressure and temperature rating as the piping at the discharge of the high pressure LNG pumps.
 135. The **final design** shall include a pilot relief valve or operated vent valve, sized for thermal relief and located upstream of the isolation valves at the discharge of each vaporizer.
 136. The **final design** shall include provisions to prevent freezing conditions occurring in idle vaporizers during normal shutdown, emergency shutdown, and extended power failure.
 137. The **final design** shall include provisions to remove LNG from the inlet channel of the vaporizer.
 138. The **final design** shall include a shutoff valve at the suction and discharge of each LNG vaporizer.
 139. The **final design** shall specify that the vent stack must be equipped with a discharge piece designed for ignited discharge conditions.
 140. The **final design** shall include Piping and Instrumentation Diagrams and drawings of the meter station.
 141. The **final design** shall include a discretionary vent valve for each LNG storage tank, operable through the Distributed Control System.
 142. The **final design** shall include boiloff gas flow and temperature measurement for each LNG storage tank.
 143. The **final design** shall include LNG storage tank fill flow measurement with high flow alarm.
 144. The **final design** shall specify that all emergency shut down valves must be equipped with open and closed position switches connected to the Distributed Control System /Safety Instrumented System.
 145. The **final design** shall specify that the hazardous area classification of the LNG

- pump area and vaporizer LNG inlet and outlet piping areas must be Class 1 Group D, Division 1.
146. The **final design** shall include provisions to protect piperacks and cabling from the effects of fire in the spill impoundment S-606.
 147. The **final design** of the firewater system shall include two firewater jockey pumps.
 148. The **final design** shall specify that in addition to the cameras required for intrusion detection and security monitoring, cameras also must be provided to provide complete coverage of the unloading, LNG storage, and process areas.
 149. The **final design** shall specify that all drains from high pressure LNG systems must be equipped with double isolation and bleed valves.
 150. The **final design** shall specify that for LNG and natural gas service, branch piping and piping nipples less than 50 millimeters (2 inches) must be no less than schedule 160.
 151. The **final design** shall specify that piping and equipment that may be cooled with liquid nitrogen must be designed for liquid nitrogen temperatures, with regard to allowable movement and stresses.
 152. The **final design** shall include details of the shut down logic, including cause and effect matrices for alarms and shutdowns.
 153. The **final design** shall include emergency shutdown of equipment and systems activated by hazard detection devices for flammable gas, fire, and cryogenic spills, when applicable.
 154. The **final design** shall include details of the air gaps to be installed downstream of all seals or isolations installed at the interface between a flammable fluid system and an electrical conduit or wiring system. Each air gap shall vent to a safe location and be equipped with a leak detection device that continuously monitors for the presence of a flammable fluid, initiates an alarm in the event of a hazardous condition, and responds by shutting down the appropriate systems.
 155. The **final design** shall include a hazard and operability review of the completed design. A copy of the review and a list of the recommendations shall be filed with the Secretary.
 156. The **final design** shall include provisions for the installation of temporary high-pressure boiloff compression in the event that sendout operation is curtailed or

interrupted for extended periods. Details shall include plans and drawings of the boiloff gas recovery system and specifications of the equipment and compressor to be installed.

157. The **final design** shall include the modifications to the unloading pier design and operating procedures specified in AES's response number 90 in its June 16, 2008 filing.
158. All valves – including drain, vent, main, and car sealed, or locked valves – shall be tagged in the field during construction and **prior to commissioning**.
159. The design details and procedures to record and to prevent the LNG storage tank fill rate from exceeding the maximum fill rate specified by the tank designer shall be filed **prior to commissioning**.
160. A tabulated list of the proposed hand-held fire extinguishers shall be filed **prior to commissioning**. The list shall include the equipment number, type, size, number, and location. Plan drawings shall include the type, size, and number of all hand-held fire extinguishers.
161. Operation and Maintenance procedures and manuals, as well as safety procedure manuals, shall be filed with the Secretary **prior to commissioning**.
162. Commission staff shall be notified of any proposed revisions to the security plan and physical security of the facility **prior to commencement of service**.
163. Progress on construction of the LNG terminal project shall be reported in filed **monthly** reports. Details shall include a summary of activities, projected schedule for completion, problems encountered and remedial actions taken. Problems of significant magnitude shall be reported to the Commission **within 24 hours**.

In addition, we recommend that the following measures (164 through 168) shall apply throughout the life of the LNG terminal facility:

164. The LNG terminal facility shall be subject to regular Commission staff technical reviews and site inspections on an **annual basis**, and more frequently as circumstances indicate. Prior to each Commission staff technical review and site inspection, AES shall respond to a specific data request and provide information relating to possible design and operating conditions that may have been imposed by other agencies or organizations. AES shall submit to the Commission up-to-date detailed piping and instrumentation diagrams reflecting facility modifications

and other pertinent information not provided in the semi-annual reports described below, including facility events that have taken place since its previously submitted semi-annual report.

165. **Semi-annual** operational reports shall be filed with the Secretary to identify changes in facility design and operating conditions, abnormal operating experiences, activities (ship arrivals, quantity and composition of imported LNG, vaporization quantities, boiloff/flash gas, etc.), and plant modifications, including future plans and the progress thereof. Abnormal operating experiences include, but are not limited to: shipping and unloading problems, potential hazardous conditions from offsite vessels, storage tank stratification or rollover, geysering, storage tank pressure excursions, cold spots on the storage tanks, storage tank vibrations and vibrations in associated cryogenic piping, storage tank settlement, significant equipment or instrumentation malfunctions or failures, non-scheduled maintenance or repair (and the reasons therefore), relative movement of storage tank inner vessels, vapor or liquid releases, fires involving natural gas or other sources, negative pressure (vacuum) within a storage tank, and higher than predicted boiloff rates. Adverse weather conditions and the effect on the facility also shall be reported. Reports shall be submitted **within 45 days** after each period ending **June 30 and December 31**. In addition to the above items, a section entitled Significant Plant Modifications Proposed for the Next 12 Months (dates) also shall be included in the semi-annual operational report. Such information will provide the Commission staff with early notice of anticipated future construction and maintenance activities at the LNG terminal facility.
166. In the event the temperature of any region of any secondary containment becomes less than the minimum specified operating temperature for the material, the Commission shall be notified **within 24 hours** and procedures for corrective action shall be specified.
167. Significant non-scheduled events, including safety-related incidents (e.g., LNG or natural gas releases, fires, explosions, mechanical failures, unusual over pressurization, and major injuries) and security related incidents (e.g., attempts to enter site, suspicious activities) shall be reported to Commission staff. In the event an abnormality is of significant magnitude to threaten public or employee safety, cause significant property damage, or interrupt service, notification shall be made **immediately**, without unduly interfering with any necessary or appropriate emergency repair, alarm, or other emergency procedure. In all instances, notification shall be made to Commission staff **within 24 hours**. This notification practice shall be incorporated into the LNG terminal's emergency plan. Examples of reportable LNG-related incidents include:
 - a. fire;
 - b. explosion;

- c. estimated property damage of \$50,000 or more;
- d. death or personal injury necessitating in-patient hospitalization;
- e. free flow of LNG that results in pooling;
- f. unintended movement or abnormal loading due to environmental causes, such as an earthquake, landslide, or flood, that impairs the serviceability, structural integrity, or reliability of an LNG facility that contains, controls, or processes gas or LNG;
- g. any crack or other material defect that impairs the structural integrity or reliability of an LNG facility that contains, controls, or processes gas or LNG;
- h. any malfunction or operating error that causes the pressure of a pipeline or LNG facility that contains or processes gas or LNG to rise above its maximum allowable operating pressure (or working pressure for LNG facilities) plus the build-up allowed for operation of pressure limiting or control devices;
- i. any leak in an LNG facility that contains or processes gas or LNG that constitutes an emergency;
- j. any inner tank leakage, ineffective insulation, or frost heave that impairs the structural integrity of an LNG storage tank;
- k. any condition that could lead to a hazard and cause a 20 percent reduction in operating pressure or shutdown operation of a pipeline or an LNG facility;
- l. safety-related incidents involving LNG marine traffic occurring at or en route to or from the LNG facility; and
- m. an event that is significant in the judgment of the operator or management, even though it did not meet the above criteria or the guidelines set forth in an LNG facility's incident management plan.

In the event of an incident, the Director of OEP has delegated authority to take whatever steps are necessary to ensure operational reliability and to protect human life, health, property or the environment, including authority to direct the LNG terminal facility to cease operations. Following the initial company notification, Commission staff will determine if there is a need to conduct an on-site inspection and establish a date for an initial incident report (normally within 10 days) and follow-up reports.

168. **Throughout the life of the facility**, AES shall ensure that the facility and all LNG vessels transiting to or from the facility comply with all requirements set forth by the Coast Guard Captain of the Port Sector Baltimore/Hampton Roads, including all risk mitigation measures recommended in the Waterway Suitability Report.

169. AES shall work with the Coast Guard and the Patuxent River Naval Air Station to develop the Transit Management Plan in order to establish procedures to coordinate arrival and departure of LNG vessels to avoid interfering with naval operations.

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

AES Sparrows Point LNG, LLC

Docket No. CP07-62-000

Mid-Atlantic Express, LLC

Docket Nos. CP07-63-000
CP07-64-000
CP07-65-000

(Issued January 15, 2009)

WELLINGHOFF, Commissioner, dissenting:

The Sparrows Point Project would consist of an LNG import terminal on the Chesapeake Bay in Baltimore County, Maryland, and 88 miles of pipeline that would interconnect the terminal with three existing interstate pipelines. The Sparrows Point terminal would have the capability of receiving and unloading approximately 120 to 150 LNG tankers per year, with a proposed sendout capacity of 1.5 Bcf per day. The majority finds that the Sparrows Point Project is consistent with the public interest.

If the public benefits to be achieved from a project outweigh that project's adverse effects, then the Commission can conclude that the project is in the public interest.¹ I have concluded that the Sparrows Point Project is not, on balance, in the public interest. My determination is based on a number of considerations. First, an analysis of relevant factors indicates that the Sparrows Point Project is not needed to serve the energy needs of the Mid-Atlantic and South Atlantic regions.² Second, the future energy needs of these regions can be better met with alternative resources, such as domestic natural gas infrastructure and renewable and distributed energy resources. Finally, environmental and community concerns have not been fully and fairly evaluated. For these reasons, I respectfully dissent.

Project Purpose and Need

AES's willingness to invest, without financial subsidies, is an important indicator of market-based need for the project. Nonetheless, that fact alone is not sufficient to outweigh the unique supply and demand, environmental, and community issues presented by LNG projects.

¹ *AES Sparrows Point LNG, LLC*, 126 FERC ¶ 61,019 at n.21 (2009).

² The Mid-Atlantic region includes New York, New Jersey, and Pennsylvania. The South Atlantic region includes Maryland, Delaware, Virginia, and the District of Columbia.

As to the need for the project, the Energy Information Administration (EIA) of the U.S. Department of Energy annually publishes a national and regional energy assessment for the period extending through 2030. The assessment is referred to as the Annual Energy Outlook. The majority points to the regional natural gas consumption estimates reported in EIA's Annual Energy Outlook 2006 to support its finding that there is expected to be an increase in energy demand in the regions that the Sparrows Point Project is designed to serve: an annual increase in natural gas consumption of 0.7 percent for the Mid-Atlantic region and of 1.3 percent for the South Atlantic.³ However, this data is outdated. More recent data has informed my decision. In the Annual Energy Outlook 2008 and the Annual Energy Outlook 2009, EIA projects an annual increase in natural gas consumption of only 0.2 percent for the Mid-Atlantic region for the period through 2030. For the South Atlantic region, EIA's Annual Energy Outlook 2008 shows an annual *decrease* in natural gas consumption of 0.4 percent, and EIA's Annual Energy Outlook 2009 projects a 0.2 percent annual *decrease* for the period through 2030.

The majority also seems to find significance in the national energy consumption estimates included in EIA's Annual Energy Outlook 2008. EIA projects national energy consumption to increase annually by 0.7 percent through 2030. However, national energy consumption includes liquid fuels, natural gas, coal, nuclear, hydropower, and other renewables. Therefore, although the figure cited by the majority may provide an indication of a general trend in the use of all types of energy, EIA's natural gas consumption estimates have more probative value in this proceeding. In the Annual Energy Outlook 2007 and the Annual Energy Outlook 2008, EIA projects national natural gas consumption to decrease annually. Further, the Annual Energy Outlook 2009 projects an annual increase of only 0.2 percent.

On the supply side, AES has not presented any indication that it has an LNG supply source under contract. Other evidence also indicates that the United States remains the market of last resort for LNG supplies. For the period October 2007 through September 2008, existing LNG terminals in the United States are only operating at 10 percent of capacity:

<u>Facility</u>	<u>Imports (Bcf)</u>	<u>Capacity (Bcf/d)</u>	<u>Percentage</u>
Cove Point	31.7	1.0	8.7%
Elba Island	130.4	1.2	29.8%
Distrigas	164.9	1.0	45.2%
Freeport	5.8	1.5	1.1%
Lake Charles	7.3	2.0	1.0%
Sabine Pass	0.0	2.6	0.0%
Total	340.1	9.4	10.0%

³ 126 FERC ¶ 61,019 at P 24 and FEIS at 1-3.

Furthermore, Wood Mackenzie Limited (WML) conducted a study assessing the availability of LNG in the global market.⁴ WML reports that exporting countries are delaying liquefaction facilities due to concerns about their own increasing demand for gas, rising exploration and production costs, environmental pressures, and geopolitical issues. Another indication that the U.S. may have difficulty attracting LNG supply is the growing gap between the number of countries importing and exporting LNG. Shell Gas and Power estimates that by 2012, importing countries will increase from 17 to 29, but the number of exporting countries will only increase from 15 to 18.⁵

We are already seeing market signals that are consistent with these findings that LNG supply capacity is struggling to keep pace with international demand. Korea Gas Corp recently agreed to buy LNG for the 2010 to 2012 period for \$20 per MMBtu.⁶ Meanwhile, the construction of certain Commission-certificated LNG projects is being delayed because of the current market conditions in the LNG industry, including the delay in development of liquefaction facilities overseas.⁷

Project Alternatives

The FEIS provides no analysis of domestic natural gas infrastructure and renewable and distributed energy resources as alternatives. An examination of the evidence leads to the conclusion that these sources of energy supply are reasonable, environmentally preferable alternatives for serving the future energy needs of the Mid-Atlantic and South Atlantic regions.

Domestic Natural Gas Infrastructure

A recent study by Navigant Consulting, commissioned by the American Clear Skies Foundation, indicates a 50 percent increase in estimated U.S. natural gas reserves as compared to estimates made as little as two years ago. The increase is attributable to new technology that makes economical the recovery of unconventional natural gas.⁸ With regard to the Mid-Atlantic and South Atlantic regions, natural gas

⁴ *Seller's Market for LNG Set to Last*, Wood Mackenzie, April 2007.

⁵ *LNG: Demand Opportunities and Supply Challenges*, A presentation by Shell Gas and Power at the EIA 2008 Energy Conference (April 7, 2008).

⁶ *See*

http://www.downstreamtoday.com/News/Articles/200807/Korea_Gas_To_Pay_Record_Price_for_Indone_12056.aspx.

⁷ *See* Corpus Christi's Request for Extension of Time dated March 20, 2008, and Ingleside Energy Center's Request for Extension of Time dated January 17, 2008.

⁸ *North American Natural Gas Supply Assessment*, Navigant Consulting, Inc. prepared for the American Clear Skies Foundation, July 4, 2008 at 14 and 15.

from the Marcellus shale has significant potential as a reliable, domestic, cost-effective source of natural gas supply. Navigant Consulting estimates the mean recoverable reserve amount at 31.2 Tcf, with maximum recoverable reserves of 262 Tcf and gas-in-place of 1,500 Tcf.⁹

A noteworthy advantage of the Marcellus shale is its proximity to the markets in the Mid-Atlantic and South Atlantic regions. The Marcellus shale extends through much of the Appalachian basin, with the core area running through Pennsylvania and parts of West Virginia, Ohio, and New York. The effective delivery of Marcellus shale gas could be accomplished with expansion of pipeline and storage infrastructure in the region. For example, Columbia Gas has proposed to expand its storage facilities in Ohio, in part, to facilitate access to increased production in the Appalachian basin.

Environmental considerations also make domestic gas via new pipeline infrastructure preferable to imported LNG. At full capacity, the Sparrows Point Project would receive 150 LNG tankers per year, or approximately 12 tankers per month. Year after year, these LNG tankers would continually traverse 124 miles up the Chesapeake Bay to the terminal and 124 miles back. In contrast, construction of domestic infrastructure is a one-time intrusion.

Renewable and Distributed Energy Resources

The FEIS is dismissive of the commenters' request that the Commission take a harder look at renewable resources as an alternative to the Sparrows Point Project.¹⁰ Without analysis, the FEIS reaches the conclusion that the projected energy needs of the Mid-Atlantic and South Atlantic regions cannot be met by alternative energy sources, whether such resources are considered individually or as a portfolio.¹¹

The evidence leads to a contrary conclusion. Each state included in these two regions has established a renewable portfolio standard (RPS), which requires a percentage of energy sales to come from renewable energy resources:

⁹ *Id.* at 38.

¹⁰ FEIS at 3-4.

¹¹ FEIS at 3-3 and 4.

<u>State</u>	Target	
	<u>RPS</u>	<u>Date</u>
Maryland	20%	2022
Pennsylvania	18%	2022
Delaware	20%	2019
New Jersey	22%	2020
New York	25%	2013
Virginia	12%	2020
District of Columbia	20%	2020 ¹²

The enactment of RPS laws encourages a diversified portfolio of energy resources that contains, at a minimum, the target percentage of renewable energy.

In addition to renewable energy resources, a comprehensive portfolio analysis of alternatives should assess distributed resources such as energy efficiency, demand response, combined heat and power, and waste heat recovery. Consistent with that approach, the Commission should account for states' energy efficiency resource standards (EERS), which aim to reduce or flatten electric load growth through energy efficiency measures. States in these regions have adopted aggressive energy consumption and peak demand reduction goals that coincide with the in-service date of the Sparrows Point Project:

<u>State</u>	Energy	<u>Date</u>	Peak	<u>Date</u>
	<u>Consumption</u>		<u>Demand</u>	
	(MWh)		(MW)	
Maryland	15%	2015	20%	2015
Pennsylvania	3%	2013	4.5%	2013
New Jersey	20%	2020	5,700	2020
New York	15%	2015		

Delaware and Virginia have adopted somewhat different approaches. Delaware designates energy efficiency, distributed generation, and demand response as priority resources before new generation. Virginia targets a 10 percent reduction from 2006 sales levels by 2022 through energy efficiency and demand response.¹³

In summary, these alternative energy resources represent incremental capacity with which these states intend to meet their future energy demand. The majority has not

¹² See <http://www.ferc.gov/market-oversight/mkt-electric/overview/elec-ovr-rps.pdf>.

¹³ See <http://www.ferc.gov/market-oversight/mkt-electric/overview/elec-ovr-eeeps.pdf>.

Virginia and Pennsylvania allow for energy efficiency measures to count toward meeting the above-noted RPS goals.

adequately considered the impact of these state policies in its analysis of alternatives to the Sparrows Point Project.

Adverse Environmental Impacts

The Sparrows Point Project requires the dredging of a 44 foot deep and 650 foot wide channel to allow the LNG tankers to access the terminal. The dredging operations would generate 3.7 million cubic yards (CY) of contaminated sediment. With a dredging season of 243 working days, AES anticipates that dredging will last 24 months. The initial dredge material would be transported by 10 to 14 work scows to a processing facility. Processing will not eliminate the contaminants. While dredging and processing would proceed at a rate of 10,000 CY per day, transportation of the processed dredge material (PDM) off-site would progress at a rate of 5,000 CY per day. AES expects 220 truck trips a day to haul the PDM off-site. Thus, the PDM stockpile would be totally removed in 31 months, or 11 months after dredging ceased.

Commenters have raised concerns with the handling of the dredge material. The issues include the impact of hundreds of trucks on the road system and the ultimate disposition of the PDM.¹⁴ AES has not identified the ultimate destination for the PDM. Contaminated material has been used for abandoned mine reclamation in Chester County, Pennsylvania; landfill grading and capping in Brooklyn, New York; brownfields redevelopment projects in Jersey City and Woodbridge Township, New Jersey; and landfill closure projects in Linden, New Jersey, Brooklyn, New York, and Westwood, New Jersey. However, none of these reuse projects was larger than 600,000 CY. Thus, the scale of the transport and disposition of the PDM from the Sparrows Point Project would far exceed any prior application.

Community Concerns

I also find it noteworthy that several Senators and Members of Congress have written to the Commission with respect to this project since the issuance of the FEIS in early December. For example, Members of Congress from Pennsylvania joined Senators Specter and Casey in requesting that the Commission provide an additional 60 days for public comments on this project. In support of that request, the members of the Pennsylvania delegation noted that affected constituents had expressed concerns that the FEIS “is simply too complex to be fully understood and commented on” in a 30-day period.¹⁵

¹⁴ See, e.g., Comments of David A.C. Carroll, Director of Sustainability, Baltimore County Government (June 8, 2008).

¹⁵ Docket Nos. CP07-62-000, *et al.*, Letter from Senator Specter, *et al.*, to Chairman Kelliher, Dec. 18, 2008.

Similarly, Members of Congress from Maryland recently joined Senators Mikulski and Cardin in asking the Commission to delay action on this project. The members of the Maryland delegation expressed concern that by scheduling this matter for our January 2009 open meeting, the Commission moved too quickly and “against the wishes of many citizens of Maryland, the Governor, the Baltimore County Executive, and Members of the Congressional delegation.”¹⁶

In light of the complexity of the issues associated with LNG projects, the broad-based involvement of the affected communities, the outstanding permitting requirements, and the 169 certificate conditions to be satisfied, I believe that a 60-day extension for public comment is not unreasonable.

Conclusion

AES’s willingness to invest, without financial subsidies, is an important indicator of market-based need for the project. As stated above, however, that fact alone is not sufficient to outweigh the unique supply and demand, environmental, and community issues presented by LNG projects. Based on my consideration of all of these factors, I conclude that the Sparrows Point Project is not in the public interest.

For this reason, I respectfully dissent from today’s order.

Jon Wellinghoff
Commissioner

¹⁶ Docket Nos. CP07-62-000, *et al.*, Letter from Senator Mikulski, *et al.*, to Chairman Kelliher, Jan. 13, 2009.