EXECUTIVE SUMMARY

This final environmental impact statement (EIS) for the Crown Landing LNG and Logan Lateral Projects has been prepared by the staff of the Federal Energy Regulatory Commission (FERC or Commission) to fulfill the requirements of the National Environmental Policy Act (NEPA) and the Commission's implementing regulations under Title 18, Code of Federal Regulations, Part 380. The purpose of this document is to inform the public and the permitting agencies about the potential adverse and beneficial environmental impacts of the proposed project and its alternatives; and to recommend mitigation measures that would avoid or reduce any significant adverse impact to the maximum extent possible.

The FERC is the federal agency responsible for authorizing applications to construct and operate onshore LNG import and interstate natural gas transmission facilities. The U.S. Coast Guard (Coast Guard) is the federal agency responsible for issuing a Letter of Recommendation (LOR) regarding the suitability of the waterway for LNG marine traffic. The Coast Guard exercises regulatory authority over LNG facilities that affect the safety and security of port areas and navigable waterways under Executive Order 10173; the Magnuson Act (50 United States Code (USC) section 191); the Ports and Waterways Safety Act of 1972, as amended (33 USC section 1221, et seq.); and the Maritime Transportation Security Act of 2002 (46 USC section 701). The Coast Guard is responsible for matters related to navigation safety, vessel engineering and safety standards, and all matters pertaining to the safety of facilities or equipment located in or adjacent to navigable waters up to the last valve immediately before the receiving tanks. The Coast Guard also has authority for LNG facility security plan review, approval and compliance verification as provided in Title 33 Code of Federal Regulations (CFR) Part 105, and siting as it pertains to the management of marine traffic in and around the LNG facility.

The vertical line in the margin identifies text that has been modified in the final EIS and differs from the corresponding text in the draft EIS.

Crown Landing LLC (Crown Landing) proposes to construct and operate a liquefied natural gas (LNG) terminal in New Jersey and Delaware, and Texas Eastern Transmission, LP (Texas Eastern) proposes to construct and operate a new natural gas pipeline and ancillary facilities in New Jersey and Pennsylvania. Crown Landing's proposed facilities would transport a baseload rate of 1.2 billion cubic feet per day (Bcfd) and a maximum rate of 1.4 Bcfd (using spare equipment) of imported LNG to the United States market. Crown Landing proposes to interconnect the LNG facilities onsite with three pipelines. One interconnect would be with the new pipeline that Texas Eastern proposes to construct and operate (i.e., Logan Lateral) between its existing Chester Junction facility in Brookhaven Borough, Pennsylvania to the proposed LNG terminal. The other two interconnects would be with existing pipelines that currently cross the site, one pipeline owned and operated by Columbia Gas Transmission Company (Columbia Gas) and the other pipeline owned and operated by Transcontinental Gas Pipe Line Corporation (Transco).

The LNG terminal and pipeline facilities would include:

- a ship unloading facility with a single berth capable of receiving LNG ships with cargo capacities of up to 200,000 cubic meters (m^3);
- three 150,000 m^3 (net capacity) full containment LNG storage tanks;

- a closed-loop shell and tube heat exchanger vaporization system, sized for a normal sendout of 1.2 Bcfd;

- various ancillary facilities, including administrative offices, warehouse/maintenance building, main control center, guardhouse, and a pier control room;

- three meter and regulation stations located on the proposed LNG terminal site; and

- approximately 11 miles of 30-inch-diameter natural gas pipeline, a pig launcher and receiver facility at the beginning and end of the pipeline, a mainline valve, and a meter and regulation station at the end of the pipeline.

PROJECT IMPACTS

The environmental issues associated with construction and operation of the Crown Landing LNG and Logan Lateral Projects are analyzed in this final EIS using information provided by Crown Landing and Texas Eastern and further developed from data requests; field investigations by the Commission staff; literature research; alternative analyses; comments from federal, state, and local agencies; and input from public organizations and individual citizens.

The LNG terminal would be developed on a privately owned 175-acre parcel. Of the 175-acre site, about 39 acres would be permanently developed for the LNG terminal facility and access road. The proposed LNG terminal would also require dredging of up to about 1.24 million cubic yards of sediment from the Delaware River. This dredging would disturb about 30.0 acres of the bed of the river. Construction of the Logan Lateral Project would temporarily affect another 177.3 acres of land. Of this land affected by construction of the pipeline facilities, about 54.1 acres would be retained as permanent right-of-way for the pipeline and 1.8 acres for the aboveground facilities.

Construction and operation of the project would have minimal impact on geologic resources in the project area, and the potential for geologic hazards or other natural events to significantly impact the project is low. The LNG storage tanks and other critical structures at the terminal site would be designed to address predicted ground shaking associated with a seismic event. The proposed LNG terminal site would be protected against storm surge associated with tropical storms of the magnitude that are likely to affect the project area.

Soils at the proposed LNG terminal site consist largely of dredged material that was placed onsite during past dredging of the Delaware River. Crown Landing identified some areas of soil contamination on the site that would require further evaluation. Construction of the LNG facilities would increase the potential for soil erosion on the site and sedimentation in adjacent waterbodies and wetlands. Soils along the pipeline route would also be subject to various impacts, including compaction and erosion. Crown Landing and Texas Eastern would minimize impacts on soils through their implementation of the erosion and sedimentation control measures contained in our *Upland Erosion Control, Revegetation, and Maintenance Plan* (Plan) and *Wetland and Waterbody Construction and Mitigation Procedures* (Procedures), as well as site-specific Soil Erosion and Sedimentation Control (SESC) Plans.

The estimated 1.24 million cubic yards of sediment dredged to create the berth area for the ship unloading facility would be disposed in an existing upland confined disposal facility. Preliminary chemical analyses of the proposed dredged sediments determined that eight metal contaminants were identified at elevated concentrations. The concentrations of most metals in all samples were below the National Oceanic and Atmospheric Administration (NOAA) Threshold Effects Levels (TEL) indicating that the sediments would not be expected to pose a threat to the aquatic environment. Only the

concentrations of arsenic, cadmium, and nickel exceeded the TEL screening values. However, these three metals are all well below their respective NOAA Probable Effects Level (PEL) values, suggesting limited potential for adverse impacts. As a result, contaminants in the dredged sediments are not anticipated to adversely affect water quality in the Delaware River.

One sole-source aquifer, the Potomac-Rariton-Magothy aquifer, is located near the LNG terminal location but would not be affected by the proposed project. Further, we do not expect the physical effects of constructing the LNG facility on the proposed terminal site would have a significant impact on the groundwater flow regime.

There is one private water supply well located within the proposed pipeline right-of-way and six supply wells within 150 feet of the right-of-way. Texas Eastern would provide pre- and post-construction monitoring of well yield and water quality data at the landowner's request, and would return any wells to their preconstruction condition if damaged by construction activities. Construction of the proposed pipeline could temporarily affect groundwater along the pipeline route but these effects would be mitigated by Texas Eastern's plan to backfill the trench with native material and restore natural contours and drainage patterns in accordance with our Procedures. The proposed pipeline would cross three hazardous waste sites and would be located adjacent to three others. Contaminated soils associated with these or other undocumented hazardous waste sites could be encountered during construction of the proposed pipeline facilities. To reduce any potential impacts, we have recommended that Texas Eastern prepare a Plan for the Discovery and Management of Contaminated Soils and Groundwater. There is also a potential for a spill of hazardous material during construction that could impact groundwater. Texas Eastern and Crown Landing would minimize the potential impact of a spill on groundwater by implementing Spill Prevention, Containment, and Countermeasure (SPCC) Plans.

The proposed pipeline would cross the Delaware River and four other waterbodies using the horizontal directional drill construction technique. Other waterbodies would be crossed using the open-cut construction technique. Texas Eastern would minimize impacts on these waterbodies by implementing its SESC and SPCC Plans and by adhering to the protective measures in our Procedures.

Crown Landing designed the proposed LNG terminal facilities to avoid wetlands on the site. Thus no wetlands would be permanently filled or drained as a result of construction of the LNG terminal. However, construction of the Columbia Gas pipeline interconnect, stormwater outfall, and septic line would temporarily impact approximately 0.6 acre of wetlands, and construction of the LNG terminal site would impact approximately 5.3 acres of state-designated wetland transition area. Crown Landing is currently evaluating options for mitigating the impacts on transition areas. Construction of the Logan Lateral Project would temporarily disturb about 20.06 acres of wetlands, of which about 1.66 acres of forested wetlands would be permanently converted to other wetland types. Texas Eastern would minimize impacts on wetlands by implementing our Procedures and proposes to compensate for permanent wetland impacts that cannot be avoided by developing and implementing a wetland mitigation plan.

The proposed LNG terminal site is located on an undeveloped parcel consisting of agricultural land, emergent wetlands, and scattered areas of open, forest, and shrub lands. The LNG terminal would be primarily constructed within cropland; however, about 1.5 acres of shrub land and 1.7 acres of open land would be permanently converted to industrial uses. Following construction, portions of the site that are not developed with buildings, roads, gravel, or other hard surfaces would be restored and revegetated.

Construction of the proposed pipeline would disturb about 125.7 acres of vegetation consisting of 50.8 acres of agricultural lands, 35.0 acres of open lands, 23.4 acres of forests, and 16.5 acres of non-forested wetlands. Impacts on most of these vegetation communities would be temporary and short term.

About 8.5 acres of forest land on the permanent right-of-way would be permanently cleared and maintained in an herbaceous state. All disturbed areas would be restored and revegetated in accordance with our Plan and Procedures and Texas Eastern's SESC Plan.

Construction of the proposed facilities and associated vegetation clearing would affect wildlife by removing habitat and temporarily displacing wildlife from the construction work areas into surrounding areas. The removal of forest land would result in a long-term loss of habitat. Texas Eastern would minimize permanent impacts by constructing the pipeline within or adjacent to other existing rights-of-way where possible and by implementing its SESC Plan and our Plan and Procedures.

The proposed dredging activities associated with construction and future maintenance of the ship berth would have both direct and indirect impacts on aquatic resources. Potential adverse effects on aquatic resources include impairment of water quality, destruction of benthic habitat and communities, and direct and indirect impacts to fish and their prey species. However, sediment modeling indicates that impacts from suspended sediments would be temporary and localized. Use of a hydraulic dredge would reduce turbidity, sedimentation, and the release of deleterious compounds associated with dredging. However, hydraulic dredging could entrain or impinge fish larvae and eggs during certain times of the year. To minimize this impact, Crown Landing revised its dredging schedule to avoid anadromous fish migrations and spawning periods. Crown Landing is also consulting with applicable resource agencies to develop a mitigation plan for potential impacts on shallow water habitat as the result of dredging the deeper ship berth.

During operation of the LNG terminal, prop wash from LNG ships and tugs could temporarily increase suspended sediments and turbidity within the ship channel and ship berth. Ballast water intakes could also entrain and/or impinge fish larvae and eggs. To avoid or minimize impacts associated with ballast water intake, we recommend that Crown Landing coordinate with appropriate resource agencies to determine the need for additional conservation measures.

The NOAA Fisheries reported that the mixing zone within the Delaware River, of which the proposed LNG terminal occurs at the upriver edge, has been designated as Essential Fish Habitat (EFH) for nine federally managed fish species. NOAA Fisheries also expressed concern about impacts on prey for managed species likely occurring in the project area. The draft EIS included an EFH Assessment as necessary for compliance with the Magnuson-Stevens Fishery Conservation and Management Act. We have determined that the proposed project could affect open water, shallow water habitat, and benthic habitat, and anadromous fish and shellfish, two of the primary prey groups for the managed fish species. Dredging of the ship berth would result in permanent conversion of existing shallow water habitat to deeper water habitat within the dredging footprint. However, implementation of the conservation measures discussed in this EIS, including Crown Landing's continued coordination with the applicable resource agencies to develop appropriate mitigation for project impacts, would likely avoid or minimize adverse impacts on managed fish species and EFH.

The U.S. Fish and Wildlife (FWS) reported that two federally listed species under its jurisdiction, the bald eagle and bog turtle, could potentially occur near the proposed project. NOAA Fisheries identified three additional federally listed endangered or threatened sea turtle species (Kemp's ridley, green, and loggerhead sea turtles), a whale (North Atlantic right whale), and one fish (shortnose sturgeon) that could potentially occur in the general vicinity of the proposed project or along the proposed shipping route. We have determined that the Logan Lateral Project would have no effect on the bald eagle or the bog turtle, and that the Crown Landing LNG Project is not likely to adversely affect the three sea turtle species, bald eagle, or North Atlantic right whale. However, we believe that in-water construction activities associated with the project are likely to adversely affect the shortnose sturgeon. The draft EIS served as a Biological Assessment which is necessary for compliance with section 7 of the Endangered

Species Act. NOAA Fisheries' review of the project's potential impacts on the shortnose sturgeon and development of appropriate measures for avoidance of impacts on the North Atlantic right whale has been ongoing since the draft EIS was published and is not yet complete. The completion of consultation with NOAA Fisheries would be required prior to construction beginning on the proposed project.

There are about 20 residences or residential structures located within 1 mile of the proposed entrance to the LNG terminal. There are another 147 residences along the pipeline route that would be within 50 feet of construction work areas. Impacts on residences near the LNG terminal could include increased visibility of aboveground structures associated with the facility, increased traffic, changes in air quality, and safety hazards. Residences near the pipeline could experience similar effects during construction. The LNG storage tanks would be the most prominent visual feature at the proposed terminal site. To minimize construction-related impacts on residences along the pipeline route, Texas Eastern would prepare site-specific residential mitigation plans.

Construction of the projects would result in a temporary increase in population, traffic, and the demand for temporary housing and public services. These effects would be temporary and limited to the period of construction. Construction and operation of the projects would have a beneficial impact on local tax revenues and economies.

We have determined that the potential impacts of the projects would not have a disproportionately high or adverse effect on environmental justice areas along the proposed pipeline route.

The Crown Landing LNG and Logan Lateral Projects are subject to a federal Coastal Zone Consistency Review because they would: 1) involve activities within the coastal zones of New Jersey, Delaware, and Pennsylvania; and 2) require several federal permits and approvals. Crown Landing has not yet completed the process for the federal consistency certification for the LNG terminal. Although Texas Eastern has completed the process for the portion of the pipeline in Pennsylvania, it has not yet completed the process for the portion of the pipeline in New Jersey. Both Crown Landing and Texas Eastern would need to demonstrate consistency with the applicable states' coastal zone management program and obtain concurrence of consistency from these agencies prior to the FERC approving the start of any construction.

In a letter dated February 3, 2005 from Delaware Department of Natural Resources and Environmental Control (DNREC) to Crown Landing, the DNREC issued a Coastal Zone Act Status Decision, which determined that the proposed LNG off-loading pier in the Delaware River is prohibited by the State's Coastal Zone Act. On February 15, 2005, Crown Landing filed an appeal of the February 3, 2005 ruling with the State Coastal Zone Industrial Control Board. The State Coastal Zone Industrial Control Board held a public hearing on March 30, 2005 to consider Crown Landing's appeal, and subsequently upheld the DNREC's ruling. Crown Landing had 20 days to appeal the State Coastal Zone Industrial Control Board's decision to the Delaware Superior Court but no appeal was made. In another development, the New Jersey Department of Environmental Protection (NJDEP) in a letter dated May 24, 2005 to Crown Landing stated that although a portion of the pier would be located in Delaware waters, construction of the entire pier and any associated dredging would be subject to New Jersey's exclusive review and permitting authority under the Compact of 1905. The State of New Jersey has advised the State of Delaware that Article VII of the Compact of 1905 prohibits Delaware from using its Delaware State Coastal Zone Act of 1971 (DSCZA) authority or any other state permitting authority to block the construction of projects appurtenant to the New Jersey shoreline where the state border with Delaware is the lower water mark of the Delaware River on the New Jersey side of the river. In July 2005, New Jersey asked the U.S. Supreme Court to hear the case and in November 2005 the U.S. Supreme Court agreed (New Jersey v. Delaware, 126 S. Ct. 713 (U.S. Nov. 28, 2005)). We recognize that the Supreme

Court decision could affect our recommendations regarding Coastal Zone Management Act determinations.

Crown Landing conducted an aboveground cultural resources survey, a terrestrial archaeological survey, and an underwater archaeological survey for the proposed LNG terminal. These surveys documented two aboveground resources and one terrestrial archaeological site that either are listed in or recommended eligible for the National Register of Historic Places (NRHP). None of these resources would be affected by the project. The New Jersey and Delaware State Historic Preservation Officers (SHPOs) concurred with the results and recommendations of the surveys, and we also concur.

Texas Eastern conducted an aboveground cultural resources survey and a terrestrial archaeological survey for the pipeline facilities. In Pennsylvania, the surveys documented two archaeological sites recommended potentially eligible for listing in the NRHP. Neither site would be affected by construction of the pipeline facilities. The Pennsylvania SHPO concurred with the results and recommendations of the surveys, and we also concur. No resources were documented by the field surveys in New Jersey, but fieldwork by Crown Landing for the LNG terminal identified an NRHP-eligible archaeological site adjacent to the pipeline facilities. This site would not be affected by the project. The New Jersey SHPO concurred with the results and recommendations of the surveys, and we also concur.

Construction and operation of the proposed LNG terminal and pipeline would result in air emissions. The fugitive dust and tailpipe emissions associated with construction activities would be temporary and intermittent, and would not result in a long-term impact on air quality. Dust emissions would be minimized by the application of water during the construction of the LNG terminal and pipeline. In addition, the construction emissions from the project may require offsetting in accordance with the general conformity regulations. The primary pollutants emitted during operation of the LNG terminal would be nitrogen oxides (NO_x) and carbon monoxide. The operational air emissions from the LNG terminal would be minimized by using ultra dry low NO_x burner systems on the water/glycol heaters and would meet the lowest achievable emission rate (LAER) requirement under the new source review (NSR) regulations. A final LAER determination would be required from the NJDEP during the preconstruction permitting process. Crown Landing would also be required to obtain emission offsets for the NO_x emissions generated by the LNG terminal from other sources within the air basin as part of the NSR permitting process; thereby minimizing any air quality impacts from these stationary sources. The project is also subject to the general conformity determination requirement.

Noise receptors in the immediate vicinity of construction activities would experience an increase in noise levels. In most areas the increase in noise would be localized, temporary, and limited primarily to daylight hours. Noise associated with construction activities would be the most noticeable with a potential noise impact of 89 decibels on the A-weighted scale (dBA) under peak conditions for short periods of time (when construction equipment is close to the residence). This noise would be limited to daylight hours. The operational noise from the LNG terminal stationary sources would be about 50.9 dBA day-night sound level (L_{dn}) at the nearest residence, which equates to a noise increase of 0.4 dBA. This noise impact is less than the FERC's 55 dBA L_{dn} and the NJDEP nighttime noise criterion of 50 dBA equivalent sound level. In addition, the noise increase from the sources at the LNG terminal would not be perceptible at nearby residences.

We evaluated the safety of both the proposed facilities and the related LNG vessel transit through the Delaware Bay and River. As part of our evaluation, we performed a cryogenic design and technical review of the proposed terminal design and safety systems. Several areas of concern were noted with respect to the proposed facility upgrade, and specific recommendations to be addressed prior to construction have been identified.

Thermal radiation and flammable vapor hazard distances were calculated for an accident or an attack on an LNG vessel. For 1.0, 2.5, 3.0, and 3.9-meter-diameter holes in an LNG cargo tank, we estimated distances to range from 2,267 to 5,691 feet for a thermal radiation level of 1,600 British thermal units per hour per foot squared, the level which is hazardous to unprotected persons located outdoors. However, the evaluation of safety is more than an exercise in calculating the consequences of worst case scenarios. Rather, it is a determination of the acceptability of risk which considers: the probability of events, the effect of mitigation, and the consequences of events. Based on the extensive operational experience of LNG shipping, the structural design of an LNG vessel, and the operational controls imposed by the Coast Guard and the local pilots, the likelihood of a cargo containment failure and subsequent LNG spill from a vessel casualty – collision, grounding, or allision – is highly unlikely. For similar reasons, an accident involving the onshore LNG import terminal is unlikely to affect the public. As a result, the risk to the public from accidental causes should be considered negligible.

As part of our marine safety analysis, we considered how vessel security requirements for LNG ships calling on the proposed LNG terminal might affect other ship and boat traffic in Delaware Bay and River. Based on the Coast Guard's longstanding experience in controlling the movements of dangerous cargo vessels in the Delaware Bay and River and LNG vessels in other ports, potential impacts can be evaluated for several general security requirements: 1) moving safety zone for inbound and outbound LNG vessels; 2) one-way vessel traffic during LNG vessel transit; 3) security zone around a moored LNG vessel; and 4) other measures as deemed appropriate. The moving safety zone, the moored vessel security zone at the terminal, and one-way traffic would affect other commercial, ferry, and recreational traffic using the bay and river. Based on a navigation simulation study conducted by Moffatt & Nichol, International on behalf of Crown Landing, the addition of 150 LNG ships per year would have minor effect on barge traffic associated with the Logan Generating Station operations. The impact on ferry traffic would generally be small because most of the ferry routes only cross the LNG ship route and conflicts could be managed by schedule coordination.

The extent of the impact on recreational boaters would depend on the number of boats in the project area during the two to three LNG vessel transits per week when LNG ships would call on the LNG terminal, and on several other variables such as the size of the Coast Guard-imposed safety and security zones and the width of the channel at the point where a boat encounters the LNG ship. Using certain assumptions, we estimate that a recreational craft attempting to travel in the opposite direction of an LNG ship at one of the narrower locations within the navigation channel might need to wait up to 16 minutes for the LNG ship to pass. To minimize potential impacts on other marine traffic, the Coast Guard is expected to use a program of announcements to give advance notice of each moving safety and moored vessel security zones schedule and could schedule the transit of LNG ships for times of day less likely to affect recreational boaters.

Unlike accidental causes, historical experience provides little guidance in estimating the probability of a terrorist attack on an LNG vessel or onshore storage facility. For an LNG import terminal proposal that would involve having a large volume of energy transported and stored near populated areas, the perceived threat of a terrorist attack is a primary concern of the local population and requires that resources be directed to mitigate possible attack paths. While the risks associated with the transportation of any hazardous cargo can never be entirely eliminated, they can be managed.

The Coast Guard, with input from a special subcommittee of the Sector Delaware Bay Area Maritime Security Committee (AMSC), recently completed a review of Crown Landing's Waterway Suitability Assessment (WSA), in accordance with guidance promulgated in Coast Guard Navigation and Vessel Inspection Circular (NVIC) 05-05. The AMSC LNG Review Subcommittee was composed of law enforcement, security, and public safety officials from the federal government, and states of Delaware, New Jersey, and Pennsylvania, as well as regional maritime industry professionals. Their review focused

on the security risks posed by LNG marine traffic, and the measures needed to responsibly manage these security risks. As a result of this review, the Coast Guard has preliminarily determined that the Delaware Bay and River, from Twin Capes to the proposed LNG terminal, may be suitable for accommodating the type and frequency of LNG vessels being proposed. This determination, however, was contingent upon the port security community having the appropriate resources to implement all the measures necessary to responsibly manage the safety and security risks of LNG marine traffic within the affected area. The safety measures to be imposed include moored vessel security and moving safety zones around the LNG carriers, a waterway traffic management plan, escorts by armed law enforcement vessels, and a variety of waterway and shoreline surveillance measures. Under normal security conditions, these measures should not affect vehicular traffic, nor restrict the public's access to shore side recreation sites or unreasonably impede recreational boating. An issue that has developed for several LNG terminal projects is a concern that local communities would have to bear some of the costs of ensuring the security/emergency management of the LNG facility and the LNG vessel while in transit and unloading at the dock. While the LOR would address the suitability of Delaware Bay and River for LNG ship transportation, it would not constitute a final authority to commence LNG operations. Issues related to the public impact of safety and security zones would be addressed later in the development of the Coast Guard's *LNG Vessel Transit Management Plan*. This plan would be developed in conjunction with state and local law enforcement and emergency response communities. In addition, the Coast Guard would establish a moving safety zone and moored vessel security zone under 33 CFR 165 for LNG vessels in transit and while docked. Only personnel or vessels authorized by the Captain of the Port are permitted within these zones.

Section 311 of the Energy Policy Act of 2005 stipulates that the FERC must require the LNG operator to develop an Emergency Response Plan that includes a Cost-Sharing Plan before any final approval to begin construction. The Cost-Sharing Plan shall include a description of any direct cost reimbursements to any state and local agencies with responsibility for security and safety at the LNG terminal and near vessels that serve the facility.

ALTERNATIVES CONSIDERED

The EIS addresses alternatives to the proposed actions before both the FERC and the Coast Guard. The proposed action before the FERC is to consider issuing to Crown Landing a section 3 authorization for the LNG import facilities and to Texas Eastern a section 7 Certificate of Public Convenience and Necessity for a new natural gas pipeline. The proposed action before the Coast Guard is the issuance of a Coast Guard LOR finding the waterway suitable for LNG marine traffic, with certain conditions. Section 3 of the EIS clearly describes the criteria for alternative selection.

We evaluated the alternatives of no action or postponed action, system alternatives, alternative LNG terminal sites, pier alternatives, and pipeline route alternatives. While the no action or postponed action alternative would eliminate the environmental impacts identified in this EIS, the project objectives of providing a new source of natural gas to the Mid-Atlantic market would not be met. This in turn could lead to higher natural gas prices, conservation and/or efficiency measures, use of alternative sources of energy, or alternative proposals to develop natural gas delivery and storage infrastructure. Conservation, increased efficiency and the development of other sources of energy are anticipated to play a part in meeting the future energy needs of the country but are not expected to significantly reduce the long-term requirement for additional natural gas supply.

For the Coast Guard's proposed action, the no action alternative would be issuance of Coast Guard LOR finding the waterway not suitable for LNG marine traffic. Similar to the no action alternative to the FERC proposed action, the no action alternative for the Coast Guard would avoid any project related environmental effects; however, it would also prevent LNG vessels from delivering LNG to an import terminal and the project objectives would not be met. Reasonable alternatives to the Coast Guard

action of issuing an LOR include: 1) Issuance of a Coast Guard LOR finding the waterway suitable for LNG marine traffic without any conditions, and 2) Postponing the issuance of a Coast Guard LOR pending further analysis and study. Our analysis included an evaluation of existing LNG facilities and pipelines as alternative systems that could be used to meet the objectives of the Crown Landing LNG Project. We considered most of these facilities to be either too far from the project area to effectively serve the Mid-Atlantic market, or would require expansions or modifications that would likely result in as much if not more environmental impacts than the proposed project. We also examined the potential for recently approved, proposed, or planned projects to meet the objectives of the proposed projects. Similar to the existing terminal facilities, we considered the majority of the recently approved, proposed, or planned projects too far away to effectively serve the Mid-Atlantic market. Additionally, most of these projects would require substantial expansion or modification, which could result in significant environmental impacts. We examined the six proposed or planned projects that are closest to the Mid-Atlantic area and are substantially developed enough to conduct an analysis but determined that none of these projects would provide the storage and sendout capacity proposed by Crown Landing. We also concluded that although a combination of these projects could provide a sendout and storage capacity at least equal to the proposed project, it seems likely that much of the capacity of these projects would likely be used to satisfy the growing demand for natural gas in the New England and New York area and would be unavailable for the Mid-Atlantic region.

An alternative to the Coast Guard action of issuing a LOR which finds the waterway suitable for LNG vessel traffic with certain conditions is to issue an LOR without any conditions. This would avoid the environmental effects related to any moving safety and moored vessel security zones, or other related LNG safety and security activities, which the Coast Guard would determine is necessary prior to the commencement of LNG vessels transiting the waterway. If the Coast Guard postpones issuance of an LOR pending further analysis or study, the effect is expected to be similar to the FERC postponing its action. That is, although it is speculative to predict the resulting effects, postponing issuance of an LOR may lead to Crown Landing deciding to delay its entire project.

We considered alternative locations for an LNG import terminal in the Mid-Atlantic region. Although there are some safety and environmental advantages to locating an LNG terminal offshore, there are environmental, economic, and technical factors that make an offshore LNG terminal impractical as an alternative to the facilities proposed for the Crown Landing LNG Project. Similarly, there are no alternative LNG terminal sites at onshore locations that are reasonable and/or would be environmentally preferable to the proposed project. Difficulties associated with identifying suitable locations in the Mid-Atlantic region include finding property available for industrial development in an area accessible to LNG ships where there would be fewer environmental impacts.

We considered three alternative pier and berth configurations to the proposed pier design recognizing that a pier further from shore would reduce the amount of dredging required and minimize shallow water habitat impacts but would also increase potential ship hazards. We concluded that the proposed pier configuration, which was developed after consultations with several agencies, offers the best balance of increased safety and reduced environmental impact.

Our alternatives analysis included the evaluation of major pipeline route alternatives and minor pipeline route variations. We could not find any major pipeline route alternative that would reduce environmental impacts to such an extent that it would be environmentally preferable to the proposed route. However, we approved two minor route variations that were adopted by Texas Eastern to avoid an area of contaminated soil and a municipal park in the City of Chester. We also recommended another minor route variation to reduce impacts on wetlands.

PUBLIC INVOLVEMENT AND AREAS OF CONCERN

On April 19, 2004, the FERC issued a *Notice of Intent to Prepare an Environmental Impact Statement for the Proposed Crown Landing LNG/Logan Lateral Projects, Request for Comments on Environmental Issues, and Notice of Joint Public Scoping Meeting* (NOI). The NOI announced that FERC staff was initiating its NEPA pre-filing review of the Crown Landing LNG and Logan Lateral Projects under Docket Nos. PF04-2-000 and PF04-5-000, respectively.[1] The NOI was sent to 632 interested parties, including federal, state, and local officials; agency representatives; conservation organizations; Native American tribes; local libraries and newspapers; residents within a 0.5 mile of the proposed LNG terminal; and property owners along the proposed pipeline route. On September 29, 2004, the FERC issued a *Notice of Applications*, which announced the filing of applications by Crown Landing and Texas Eastern and a final opportunity to submit comments. The FERC's comment period closed on October 20, 2004. In total, 22 comment letters were received by the FERC in response to these notices.

On May 5 and 6, 2004, FERC staff conducted public scoping meetings in Chester Township, Pennsylvania and Swedesboro, New Jersey, respectively, to provide opportunities for the general public to learn more about the proposed project and to participate in our analysis by commenting on issues to be included in the EIS. In response to agency requests, FERC staff also conducted a scoping meeting on June 9, 2004 in Claymont, Delaware, which is located across the Delaware River and downstream of the proposed LNG terminal site. Seven people commented at the meeting in Pennsylvania, 20 commented in New Jersey, and 11 in Delaware. Transcripts of these comments are part of the public record for the Crown Landing LNG and Logan Lateral Projects.

On January 11, 2005, FERC staff conducted an inspection of the proposed terminal site that was open to the public. The next day, FERC staff conducted a cryogenic design and technical conference with Crown Landing personnel in Swedesboro, New Jersey to discuss design and engineering aspects of the Crown Landing LNG Project. The meeting was limited to existing parties to the proceeding (i.e., anyone who specifically requested to intervene as a party). Attendees included agency representatives (U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration and Coast Guard), industry representatives, and other interested parties.

In addition to the public notice and scoping process discussed above, the FERC conducted numerous interagency meetings with representatives of federal and state resource agencies to identify issues that should be addressed in this EIS. These agencies included the U.S. Army Corps of Engineers, Coast Guard, FWS, U.S. Environmental Protection Agency (EPA), NOAA Fisheries, NJDEP, Pennsylvania Department of Environmental Protection, and DNREC.

During the agency and public involvement period we received comments regarding alternatives to the proposed project; the impact of dredging on the Delaware River and its aquatic resources; the impingement and entrainment of ichthyoplankton as the result of water withdrawals; the impact of LNG terminal and pipeline construction on wetlands and wetland transition areas; the economic impacts on Logan Township and surrounding communities; the impact of LNG ships on other commercial and recreational vessels using the Delaware River; environmental justice associated with constructing the pipeline in minority and low-income communities; the effect of the proposed facilities on surrounding property values and insurance rates; the impacts on public safety; and other environmental- and safety-related comments.

[1] The purpose of the pre-filing process is to involve interested stakeholders early in project planning and to identify and resolve issues before an application is filed with the Commission.

The FERC prepared a draft EIS for the Crown Landing LNG and Logan Lateral Projects and issued a Notice of Availability (NOA) of the draft EIS on February 18, 2005. In accordance with Council on Environmental Quality's (CEQ's) regulations implementing NEPA, the NOA established a public comment period ending on April 18, 2005, described procedures for filing comments on the draft EIS, and announced the time, date, and location of public comment meetings. The NOA also indicated that additional project information could be obtained from the Commission's Office of External Affairs and on the FERC's Internet website. A formal notice was also published in the Federal Register on February 25, 2005, indicating that the draft EIS was available and had been mailed to individuals and organizations on the mailing list prepared for the project.

The FERC mailed approximately 1,255 copies of the draft EIS to interested parties, including federal, state, and local officials and agencies; special interest groups; parties to the proceedings; areas libraries and newspapers; and individuals and affected landowners who requested a copy of the draft EIS. The FERC also conducted public comment meetings in Swedesboro, New Jersey on March 29, Chester, Pennsylvania on March 30, and Claymont, Delaware on March 31, 2005. A total of 37 people provided comments at these three meetings. In addition, the FERC received 48 comment letters in response to the draft EIS. The FERC has responded to these comments in the final EIS.

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

MAJOR CONCLUSIONS

As part of our review, we developed measures we believe would appropriately and reasonably avoid, minimize, or mitigate for environmental impacts resulting from the construction and operation of the proposed project. We are recommending that these mitigation measures be attached as conditions to any authorization issued by the Commission. We conclude that if the project is found to be in the public interest and is constructed and operated in accordance with Crown Landing and Texas Eastern's proposed mitigation and our recommended mitigation measures, the proposed facilities would have limited adverse impacts.

The primary reasons for our decision are:

- the project would make use of a previously disturbed site adjacent to an existing industrial site;
- in-water, silt-disturbing activities would occur outside of major anadromous fish migration periods;
- Crown Landing and Texas Eastern would implement the FERC staff's Plan and Procedures to mitigate impacts on soils, wetlands, and waterbodies;

- Crown Landing would develop and implement mitigation plans for permanent shallow water habitat impacts and wetland transition area impacts and Texas Eastern would mitigate for permanent wetland impacts;

- all applicable federal, state, and local permits and authorizations would be obtained by Crown Landing and Texas Eastern prior to initiating activities requiring such permits and authorizations;

- the safety features that would be incorporated into the design and operation of the LNG import terminal and the LNG vessels;

- the operational controls to be imposed by the local pilots and Coast Guard to direct the movement of LNG vessels, and the security provisions to deter attacks by potential terrorists; and

- the environmental inspection and mitigation monitoring program that would ensure compliance with all mitigation measures that become conditions of any FERC authorization.