EXECUTIVE SUMMARY

This draft environmental impact statement (EIS) for the Creole Trail LNG Terminal and Pipeline Project (Creole Trail Project) proposed by Creole Trial LNG, L.P. and Cheniere Creole Trail Pipeline Company (collectively referred to as Creole Trail) 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 (CFR), 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 purpose of the proposed project is to provide the facilities necessary to meet growing demand for natural gas in the United States by: providing access to liquefied natural gas (LNG) supplies from diverse areas of the world for shippers desiring to contract for the receipt, storage, and vaporization of LNG; enhancing the reliability and stability of the natural gas supply; and connecting the new LNG terminal with existing interstate and intrastate natural gas pipeline systems to provide access to Gulf Coast, midwest, northeast, and Atlantic markets. To accomplish this purpose, Creole Trail proposes to construct and operate a new LNG import terminal in Cameron Parish, Louisiana that would include LNG ship unloading berths, LNG storage, and vaporization. Creole Trail would also construct new natural gas pipelines to deliver natural gas to several points of interconnection along the proposed pipeline routes. Creole Trail's proposed facilities would have an average sendout capacity of 3.3 billion cubic feet per day (Bcfd) of natural gas and a total plant capacity of 3.8 Bcfd.

To provide these services, Creole Trail is requesting Commission approval under section 3(a) of the Natural Gas Act (NGA) for the LNG terminal consisting of the following facilities:

- a ship unloading slip with two protected berths, each equipped with three liquid unloading arms and one vapor return arm;
- four LNG storage tanks, each with a usable volume of 1,006,000 barrels (160,000 cubic meters (m^3));
- twenty-one high pressure LNG sendout pumps, each with a capacity of 1,686 gallons per minute (384 m^3 per hour);
- twenty-one high pressure submerged combustion vaporizers (SCV), each with a capacity of 183 million cubic feet per day (MMcfd);
- three boil-off gas compressors; and
- ancillary utilities, buildings, and service facilities at the LNG terminal.

In addition, Creole Trail is requesting Commission approval under section 7(c) of the NGA for pipeline facilities consisting of:

- Segment 2: 25.3 miles of dual 42-inch-diameter natural gas pipeline;
- Segment 3: 91.5 miles of dual 42-inch-diameter natural gas pipeline;

- Hackberry Lateral: 6.8 miles of 20-inch-diameter lateral line natural gas pipeline;
- 18 meter and regulation (M&R) facilities; and
- associated pipeline facilities including pig launcher and receiver facilities, two mainline valves (MLV) on the 20-inch-diameter pipeline, and eight MLVs along each of the individual pipelines in the dual pipeline system.

PROJECT IMPACTS

The environmental issues associated with construction and operation of the Creole Trail Project are analyzed in this draft EIS using information provided by Creole Trail and further developed from data requests; field investigations; literature research; alternatives analysis; contacts with federal, state, and local agencies; and input from public groups and organizations. Major findings and conclusions are summarized below.

Most of the land affected by the project is agricultural land, rangeland (consisting of non-forested wetlands and coastal prairie/grasslands), forest land (including forested wetlands), developed land, and open water. Construction would affect a total of 3,197.4 acres of land for the LNG terminal and pipelines. Operation of the proposed facilities would affect 1,258.2 acres of land, of which 123.7 acres would be converted permanently for operation of the LNG terminal facilities, 12.0 acres would be converted permanently for operation of pipeline aboveground facilities, and 14.5 acres would be modified for permanent access roads. The remainder would comprise the permanent pipeline rights-of-way.

Construction and operation of the project would have minimal impacts on geological resources. The LNG terminal and pipeline would be in an area of low seismic risk and earthquake hazards. Due to soft sediments at the LNG site, measures such as soil improvement and the use of deep-driven pile foundations have been incorporated into the LNG facility design. Geotechnical reports prepared for the site recommend detailed analysis and field testing to ensure that the final foundation designs would meet stability requirements of heavy load structures. We[1] have recommended that Creole Trail file a description of how it would implement these recommendations. To ensure the safety of slopes at the proposed LNG terminal, we have also recommended that Creole Trail file a slope stability analysis for the proposed final slopes at the LNG terminal prior to construction. The potential for shoreline erosion to occur at the LNG terminal site would be minimized by using articulated concrete block mats, bulkheads, and/or geotextile materials.

There are 14 oil and gas wells located on the property to be leased for the LNG terminal, and 30 plugged or abandoned wells appear to be within 150 feet of the proposed pipelines. Creole Trail would field locate wells and associated gathering lines prior to construction. If a well location falls within the project construction or operation limits, the well would be removed to a deeper depth or avoided by a minor route adjustment. If a non-reported abandoned gas or oil well were discovered during construction, Creole Trail would implement a response protocol that includes notifications, spill control, and cleanup measures.

Structural and mechanical elements have been designed into the LNG terminal facilities to withstand coastal flooding and storms. These elements were designed prior to Hurricane Rita, which struck southwestern Louisiana in September 2005. Based on its preliminary evaluation of the effects of Hurricane Rita on the LNG terminal site, Creole Trail does not plan changes to the proposed terminal engineering design. Creole Trail has commissioned a formal hurricane effects study that will include an

[1] "We," "us," and "our" refer to the environmental staff of the FERC's Office of Energy Projects.

assessment of the actual effects of recent hurricanes at the LNG terminal site. We have recommended that Creole Trail re-evaluate the potential for damage to the LNG terminal and jetty from wind, storm surge, flooding, and wave action based on the results of the hurricane effects study and file a report with the Commission prior to the issuance of the final EIS. We have also recommended that Creole Trail file all new measures or design changes to the LNG storage tanks and critical equipment resulting from the hurricane effects study with the Commission prior to initial site preparation.

Biogenic gas was not found during geotechnical investigations completed at the LNG terminal site. However, because soils in the project area contain organics that could possibly produce biogenic gas, Creole Trail's geotechnical contractor recommended that sub-foundation venting systems be installed beneath enclosed structures at the LNG terminal to prevent the potential accumulation of biogenic gas. We have recommended that Creole Trail file a description of how it would implement its geotechnical contractor's recommendations regarding mitigation measures to prevent biogenic gas accumulation in buildings constructed at the LNG terminal site.

Construction of the LNG terminal would affect soils that generally consist of materials dredged from coastal marshes during construction and maintenance of the Calcasieu Ship Channel. Soil impacts at the site would be minor; the soils are not prime farmland and have been affected by previous dredge disposal activities and by oil and gas exploration and production. Construction of the proposed pipelines would affect hydric and prime farmland soils. To minimize impacts on soils, Creole Trail would implement our *Upland Erosion Control, Revegetation, and Maintenance Plan* (Plan) and *Wetland and Waterbody Construction and Mitigation Procedures* (Procedures), with approved variances, during construction of the LNG terminal and pipeline facilities. To minimize erosion and sedimentation during the period between backfill of the first and second pipelines along the dual pipeline segments, we have recommended that Creole Trail identify specific temporary erosion and sediment control measures that it would implement between the backfilling of the first pipeline and the installation of permanent erosion control measures and seeding after backfilling of the second pipeline. The potential to encounter contaminated soils during construction of the LNG terminal and pipelines is relatively low. However, to ensure that personnel are adequately prepared if contaminated soils or groundwater are encountered during construction, we have recommended that Creole Trail file a Plan for the Discovery and Management of Contaminated Soils and Groundwater.

Construction and operation of the project would not have a significant impact on groundwater resources in the project area, including the underlying Chicot Aquifer. The Hackberry Lateral would cross one Wellhead Protection Area and Segment 3 would cross nine Wellhead Protection Areas. No public water supply wells or springs are within 150 feet of the proposed construction right-of-way. However, Creole Trail identified four private water supply wells within 150 feet of the construction right-of-way along Segment 3. To protect existing water supply wells, the construction workspace would be reduced to provide a buffer, and mats or pads would be used in work areas where the route crosses water well piping. Creole Trail would conduct pre- and post-construction monitoring and, if a well or water supply is adversely affected, Creole Trail would provide an alternative potable source of water until the original water source has been reestablished. Field surveys also identified three water irrigation outlets within the proposed permanent right-of-way along Segment 3, and two additional water irrigation outlets within proposed temporary work space along Segment 3. Creole Trail would work with the affected landowners to relocate the irrigation outlets and to ensure the continued operation of the irrigation systems in accordance with landowner requirements.

The greatest potential for impact on groundwater would be from spills, leaks, or other releases of hazardous substances during project construction or operation. To minimize the potential effects of a hazardous substance release, Creole Trail would implement the preventative and mitigative measures

specified in its *Spill Prevention, Containment, and Countermeasures Plan* (SPCC Plan), which would be filed with the Implementation Plan that would be required prior to construction.

The LNG terminal and pipeline system would be within the Calcasieu and Mermentau River watersheds. The primary impact on surface waters from construction of the LNG terminal would be the dredging of approximately 4.1 million cubic yards (yd^3) of material from the area in and adjacent to the Calcasieu Ship Channel for construction of the marine basin and tugboat dock. The dredging would result in the conversion of 49.8 acres of land to open water. Creole Trail would use hydraulic dredging, which would be expected to result in lower suspended sediment concentrations as compared to other dredging methods. Creole Trail anticipates that minimal maintenance dredging would be required. Creole Trail is in the process of developing a plan, in cooperation with the U.S. Army Corps of Engineers (COE), U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NOAA Fisheries), U.S. Fish and Wildlife Service (FWS), Louisiana Department of Wildlife and Fisheries (LADWF), and other agencies for the beneficial use of the dredged material. Creole Trail would also be required to replace a dredge material placement area (DMPA) at the LNG terminal site that is used by the COE and would no longer be available once the LNG terminal is constructed. The final plan, which would identify the selected DMPA, would be included in Creole Trail's final Aquatic Resource Mitigation Plan (ARMP). We have recommended that Creole Trail file the final ARMP with the Commission.

The pipeline would cross 180 waterbodies, including 45 perennial streams, 1 lake (Calcasieu Lake), 4 manmade ponds, 65 intermittent streams, and 65 manmade ditches. Fourteen of these waterbodies, as well as Calcasieu Lake (crossed by portions of both Segment 2 and the Hackberry Lateral), are considered to be major waterbody crossings (greater than 100 feet wide). To minimize impacts, Creole Trail proposes to conduct 15 horizontal directional drilling (HDD) operations (some of which would encompass more than one waterbody) to install the pipeline under 27 waterbodies. These HDDs also include two land-to-water HDDs where the pipeline would enter and exit Calcasieu Lake. We have recommended that Creole Trail file a site-specific plan for each proposed HDD crossing that would be implemented in the event that an HDD is unsuccessful. We have also recommended that Creole Trail develop and file a Drilling Mud Contingency Plan for each waterbody proposed to be crossed by the HDD method. Creole Trail has not identified how it would minimize the release of drilling mud at the HDD entrance and exit holes in Calcasieu Lake during the HDDs of the shore approaches. Therefore, we have recommended that Creole Trail file a report concerning the HDD exit and entry holes in Calcasieu Lake that provides turbidity plume modeling to estimate the length and duration of the turbidity plume, the thickness and distance of the drilling mud deposits on the lake bottom, and proposed mitigation measures.

Eleven of the waterbodies crossed by the proposed pipeline routes are categorized by the Louisiana Department of Environmental Quality as impaired. All except two of these waterbodies would be crossed by HDD, which would avoid disturbance of the streambanks and bottoms. The other two waterbodies, which would be crossed by the open-cut method, are listed as impaired due to low dissolved oxygen or organic enrichment; they are not listed as containing metals. These waterbodies would be crossed in accordance with our Procedures. To further minimize impacts on surface waters, Creole Trail would develop and implement the measures described in a project-specific SPCC Plan, our Plan and Procedures, and the requirements in the permits issued by the other federal and state agencies.

Construction of the project would affect a total of 117.8 acres of wetlands. About 2.5 acres of wetlands would be permanently lost for development the LNG terminal facilities. Along the pipeline system, about 29.5 acres of forested wetland and 2.5 acres of scrub-shrub wetland would be permanently converted to other wetland types. All other wetlands affected by pipeline construction would be restored and allowed to revegetate and return to preconstruction conditions. About 6.0 acres of temporarily

affected wetlands at the LNG terminal would be maintained in an herbaceous state. The COE's verification of Creole Trail's wetland delineations for the LNG terminal site and pipeline routes is still pending; therefore, the acreage of wetlands affected by the project may change. To minimize temporary construction impacts on wetlands, Creole Trail would implement the protective measures in our Procedures. Additionally, Creole Trail would cross several wetlands along the proposed pipeline rights-of-way using the HDD method, which would avoid impacts on those wetlands.

Creole Trail has prepared a draft ARMP and is coordinating with federal and state agencies to finalize this plan. The draft ARMP describes impacts on wetlands, waterbodies, essential fish habitat (EFH), and other aquatic resources; evaluates potential DMPA sites; and describes proposed or anticipated restoration, mitigation, and monitoring measures. As proposed, Creole Trail would mitigate for impacts on wetlands by creating about 12.7 acres of tidal wetlands at the selected DMPA site. To mitigate for wetland impacts resulting from pipeline construction, Creole Trail proposes to purchase a total of 82.3 acres of wetland mitigation credits from approved wetland mitigation banks (based on a 1:1 ratio for temporarily affected forested wetlands and a 2:1 ratio for permanently affected forested wetlands). Because the ARMP is still being developed in cooperation with the appropriate agencies, we have recommended that Creole Trail file the final, approved ARMP with us prior to construction.

Project construction activities would result in the disturbance of about 2,148.5 acres of vegetation. Approximately 123.7 acres of land would be converted for operation of the LNG terminal including 49.8 acres that would be would be converted permanently to open water for the marine basin and tugboat dock. These impacts are not expected to be significant on a regional scale, as large areas with vegetative characteristics similar to those that currently exist onsite surround the LNG site. Upon completion of pipeline construction, 318.7 acres of forest land (including forested wetlands) would be maintained permanently in an herbaceous state for the operational right-of-way or aboveground facilities. All other construction workspace along the pipeline would be restored to pre-construction conditions and revegetated.

The primary impact on wildlife would be associated with the cutting, clearing, and/or removal of existing vegetation within the construction work areas and the permanent loss of habitat associated with new aboveground facilities. Disturbance, displacement, and mortality of individuals would occur during construction, and displacement would occur during operation due to the permanent conversion of coastal prairie/grassland habitat at the LNG terminal site. Overall, project impacts are not expected to substantially affect local wildlife or wildlife population movements.

Alteration of benthic community patterns during construction in Calcasieu Lake could make the pipeline rights-of-way temporarily unavailable as feeding areas or habitat for fishes or other bottom feeding species. There would be no impacts from the operation of the pipelines in the lake because (with the exception of one pig launcher/MLV assembly) they would be buried beneath the lake bottom. The proposed pipelines would cross oyster habitat in Calcasieu Lake. Oysters inhabiting the areas directly affected by construction could be destroyed, and oysters in adjacent areas could be affected by increased turbidity or by deposition of sediments suspended by construction activities. To minimize impacts on oyster fisheries during the Calcasieu Lake crossing, Creole Trail would construct the pipeline in Calcasieu Lake during the summer months, install turbidity curtains on the edges of the construction corridor next to construction equipment within 1,500 feet of active oyster leases, and restore disturbed habitat to pre-construction contours. Creole Trail's draft ARMP identifies other potential mitigation measures that are subject to further coordination with appropriate regulatory agencies. These additional measures include providing cultch and seed to repopulate affected oyster areas; creating up to 45 acres of reef for finfish and oysters; implementing a monitoring plan to document cultch planting and measure the success of created reefs; and monetary compensation to the LADWF.

NOAA Fisheries indicated that the project has the potential to affect EFH for postlarval, juvenile, and subadult life stages of white shrimp and brown shrimp; the postlarval, juvenile, subadult, and adult life stages of red drum; and the late juvenile, subadult, and adult life stages of bonnethead shark. The primary impact of construction and operation of the project facilities on EFH would be the alteration and direct loss of habitat types that could function as EFH for these species. In addition, EFH impacts are possible if there is significant loss of prey for managed species. Approximately 5.3 acres of emergent wetlands that provide potential EFH would be temporarily affected by the construction of the LNG terminal facility. In addition, 51.9 acres of existing open water adjacent to the site would be dredged during construction. A total of 2.4 acres of wetlands that provide potential EFH would be lost permanently for operation of the LNG terminal. An additional 49.8 acres of open water habitat would be created by construction of the proposed marine facilities. Pipeline construction would temporarily affect 771.5 acres of EFH, including 729.7 acres of EFH associated with Calcasieu Lake. Use of the HDD method would avoid a total of 69.6 acres of EFH. NOAA Fisheries has not yet verified Creole Trail's estimated EFH impacts.

Twenty-one federal and state-listed endangered and threatened species were identified as potentially occurring in the project area. We have recommended that Creole Trail consult further with the FWS regarding potential impacts on the brown pelican. We have recommended mitigation measures to minimize adverse impacts of pile driving noise on sea turtles. Our analysis and comments received to date from the FWS and NOAA Fisheries indicate that, with the implementation of our recommendations, the project is not likely to adversely affect 19 of the species identified. Although Creole Trail has conducted some surveys for the red-cockaded woodpecker (RCW), it has not been able to complete surveys on property with potential RCW because access permission was revoked by the landowner. Due to outstanding surveys in potential RCW habitat, we do not have enough information to allow for a complete review of potential impacts on this species. We have recommended that Creole Trail consult further with the FWS to determine the need for additional surveys or to provide FWS concurrence that the project is not likely to adversely affect this species. In addition, we do not have adequate information to allow for a complete review of project impacts on American chaffseed (a federally listed endangered plant) because Creole Trail has not yet filed additional information requested by the FWS regarding surveys conducted for this species. We have recommended that Creole Trail consult further with the FWS and file FWS comments on American chaffseed.

Because we have not completed consultations with the FWS and NOAA Fisheries, we have recommended that Creole Trail not begin construction until we complete these consultations and Creole Trail receives written notification from the Director of the Office of Energy Projects (OEP) that construction and/or implementation of conservation measures may begin. Additionally, we have recommended that, if construction does not begin within 1 year of issuance of FERC authorization, Creole Trail consult with the appropriate offices of the FWS and NOAA Fisheries to update the species list and to verify that previous consultations and determinations are still current.

Land use impacts associated with the project would include disturbance of existing land uses within construction work areas at the LNG terminal site and along the pipelines during construction (3,197.4 acres), permanent conversion of the LNG terminal property to industrial use (123.7 acres), and a new permanent right-of-way for the operation and maintenance of the pipelines and aboveground facilities (1,134.5 acres).

There are no residences within 1 mile of the proposed LNG terminal, and no current proposals for residential development within 0.25 mile of the site. The project would not conflict with any approved commercial development plans. Based on the LNG facility location and the generally low topographic relief, the proposed LNG facilities would dominate the area viewshed and result in temporary and

permanent changes to the surrounding visual landscape. Because of flat terrain and the size of the facility, no measures can be taken to visually screen the LNG terminal.

The LNG terminal site includes an abandoned petroleum storage tank battery that would be removed prior to construction in accordance with applicable state regulations. Creole Trail would also remove an abandoned 6-inch-diameter production flow line owned by Apache Corporation that has been inactive for more than 10 years and is located beneath the proposed LNG tanks. We have recommended that Creole Trail file additional information describing how it would remove and dispose of these abandoned facilities, including a discussion of how contaminated materials, if present, would be managed.

Nine residences are located within 50 feet of the proposed pipeline construction work areas (one additional residence within 50 feet of the work area was destroyed by recent hurricane activity). To minimize disruptions to these residences, Creole Trail would use specialized construction techniques, limit the duration of open trenches, promptly restore driveways and fences, and maintain access to each residence. Creole Trail has filed site-specific plans for residences within 25 feet of the construction area. We have recommended that Creole Trail file an updated site-specific plan for one residence where access has not yet been granted once access has been obtained. We have also recommended that Creole Trail file, prior to construction, evidence of landowner concurrence if the construction work area and fencing would be located within 10 feet of a residence.

The only recreational area within 0.25 mile of the LNG terminal is the Creole Nature Trail National Scenic Byway, which is also State Highway 27/82. The proposed pipelines would cross two Louisiana Natural and Scenic Rivers: Barnes Creek and the Calcasieu River. These rivers would be crossed by the HDD method which would avoid disturbance of the stream bottoms or banks. Two visually scenic byways, the Creole Nature Trail National Scenic Byway and the Zydeco Cajun Prairie Scenic Byway, would be crossed by the dual pipelines. Impacts on these byways would be short term and would be minimized by the use of the road bore construction method. Segment 3 would cross the Barnes Creek Savannah Natural Area. Impacts on this natural area would be minimized by collocation with an existing right-of-way. Other recreational areas in the vicinity of the proposed pipeline route include the Cameron Prairie National Wildlife Refuge and the Crown Point Distinctive Site. These areas are within 0.25 mile of the route, but would not be crossed by the proposed pipelines.

A large portion of the project would be located within the Louisiana coastal zone management area. Creole Trail has applied for but not yet received its Coastal Zone Management Program (CZMP) consistency determination from the LADNR. We have recommended that Creole Trail not be allowed to begin construction until it has received its CZMP consistency determination.

The project would result in short- and long-term socioeconomic impacts resulting from additional tax revenues at the state and parish levels, and from the temporary influx of construction personnel. Housing and traffic in the project area may be further affected as a result of recent hurricane activities and associated cleanup efforts. Creole Trail would employ between 86 and 103 full-time workers to maintain and operate the proposed LNG terminal and pipeline facilities. During the scoping period, we received several comments in support of the project related to the potential socioeconomic benefits.

Creole Trail consulted with the Louisiana State Historic Preservation Officer (SHPO) and performed cultural resource investigations for areas that would be potentially affected by construction of the LNG terminal and pipeline system (the area of potential effect). No prehistoric or historic cultural resources were located at the LNG terminal site. To date, the surveys that have been completed for the pipeline facilities identified 1 cultural resource along Segment 2 and 10 cultural resources along Segment 3. The Segment 2 cultural resource has been previously determined to be not eligible for listing on the

National Register of Historic Places (NRHP) and would be avoided. Three of the 10 cultural resources along Segment 3 are recommended eligible for listing on the NRHP. Creole Trail realigned its proposed pipeline route to avoid impacts on one of these sites and has stated it would avoid impacts on the other two sites. Underwater surveys of the pipeline route in Calcasieu Lake identified 88 magnetic anomalies. Creole Trail proposes to avoid these sites. If any of the anomalies cannot be avoided, Creole Trail would conduct additional investigations to determine if they represent potential shipwrecks. If a potential buried shipwreck was discovered, an archaeological diver would assess the site for potential eligibility for listing on the NRHP.

Cultural resource surveys have not been completed for portions of the pipeline route where land owners have denied access, and the SHPO's comments are pending. Also, SHPO comments have not yet been received on the potential DMPA sites. We have recommended that Creole Trail not be allowed to construct any facilities or use any temporary work areas or access roads until it files the survey reports, any required treatment plans, and the SHPO comments with the Commission, and is given written authorization to proceed by the Director of OEP.

Air emissions resulting from construction of the LNG terminal and pipelines would be short term and would not significantly affect air quality in the region. Creole Trail would minimize fugitive dust emissions during construction by the use of dust suppression techniques such as watering. During operation, air emissions would result from the operation of the LNG facility equipment, from maneuvering and hoteling of LNG ships at the marine berth, and from onsite natural gas electric turbine generators. The proposed project would be located in an attainment area; therefore, the General Conformity requirements do not apply. Creole Trail is currently conducting an air dispersion modeling analysis as a part of the Prevention of Significant Deterioration permitting process to evaluate the predicted impacts resulting from the emissions from the stationary sources at the LNG terminal. The terminal would be subject to applicable state air permitting requirements. The use of shell and tube vaporization technology (STV) was considered as an alternative to the proposed SCVs based on comments from the Texas Commission on Environmental Quality. Because Creole Trail has proposed control technologies on the SCVs and turbine generators and would have to demonstrate the use of best available control technology on significant emissions sources, we did not recommend the use of STV instead of SCV technology.

Noise impacts associated with construction of the LNG terminal are expected to be minimal at the nearest noise-sensitive areas. No adverse, long-term impacts are expected based on calculated noise levels anticipated from operation of the LNG terminal. To allow us to complete our analysis of air and noise impacts associated with HDDs, we have recommended that Creole Trail file revised estimates of pipeline construction-related emissions and noise impacts that take into account the change from open-cut to HDD construction methods at certain waterbodies as proposed in Creole Trail's August 31, 2005 supplemental filing.

We evaluated the safety of both the proposed LNG import terminal facility and the related LNG vessel transit through the Calcasieu Ship Channel. With respect to the onshore facility, we completed a cryogenic design and technical review of the proposed terminal design and safety systems, and have identified specific areas of concern and included recommendations to address these concerns. We also calculated thermal radiation and flammable vapor hazard distances for an accident or an attack on an LNG vessel. Based on the extensive operational experience of LNG shipping, the structural design of an LNG vessel, and the operational controls imposed by the U.S. Coast Guard (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.

We have evaluated potential ship traffic congestion impacts from the additional LNG ship traffic. The operation of LNG vessels would have impact similar to other large vessels currently using the Calcasieu Ship Channel and would cause no more disruption than the vessel traffic increases planned by other channel users. On January 21, 2005, Creole Trail submitted a Letter of Intent to construct the LNG facility to the Coast Guard's Marine Safety Office (MSO) in Port Arthur, Texas. The Coast Guard's Letter of Recommendation (LOR) would address the suitability of the Calcasieu Ship Channel for LNG ship transportation; however, it would not constitute a final authority to commence LNG operations. It is anticipated that the Coast Guard would decide on a LOR as soon as possible after the Commission issues the final EIS. The Coast Guard's recommendation is subject to certain safety and security provisions, as well as Creole Trail complying with MSO Port Arthur's *LNG Vessel Management and Emergency Plan*. This plan would be reviewed and updated as necessary to address issues specific to the Calcasieu Ship Channel and the proposed LNG terminal. In addition, the Coast Guard may establish a safety and security zone under 33 CFR 165 for LNG vessels in transit and while docked. Only personnel and vessels authorized by the Captain of the Port would be permitted in the safety and security zone.

Due to numerous planned and proposed LNG import terminals at various ports across the United States and the maritime security implications of LNG marine traffic on a port, on June 14, 2005, the Coast Guard issued a *Navigation and Vessel Inspection Circular – Guidance on Assessing the Suitability of a Waterway for Liquefied Natural Gas (LNG) Marine Traffic* (NVIC 05-05). NVIC 05-05 provides specific guidance on the timing and scope of the waterway suitability assessment (WSA), which will address both safety and security of the port, the facility, and the vessels transporting the LNG. On September 15, 2005, Creole Trail submitted its preliminary WSA to the Coast Guard in accordance with the NVIC 05-05. Creole Trail will prepare a Follow-on WSA that will take into account the input of the participating agencies and stakeholders. We have recommended that Creole Trail submit the Follow-on WSA to the cognizant Captain of the Port/Federal Maritime Security Coordinator for review and validation and that it provide a copy to the FERC staff. After review and validation of the Follow-on WSA, the Coast Guard will submit a WSA report to FERC staff. The findings of this report will be included in the final EIS, reviewed by the Director of OEP, and implemented by Creole Trail if the project is approved.

There are three proposed or approved LNG projects along the Calcasieu Ship Channel: the Creole Trail Project (which is addressed in this EIS), the Cameron LNG Project (which was approved by the Commission in September 2003), and the Trunkline LNG Terminal Expansion Project (an expansion of an existing LNG terminal at Lake Charles, which was approved by the Commission in December 2002; construction for this expansion is ongoing). If the Creole Trail Project is approved in addition to these two projects, all three LNG projects would result in cumulative impacts on land use, wetlands, and ship traffic in the Calcasieu Ship Channel. Additionally, if all or some of the several approved and proposed pipeline projects in the region are constructed, they would result in cumulative impacts on biological resources, socioeconomics, and land use. We have recommended that for areas where the Creole Trail Project would be collocated with one or more planned pipeline(s) adjacent to an existing right-of-way, the first pipeline to be constructed should be constructed closest to the existing right-of-way, and the Creole Trail pipeline should be constructed with a 25-foot offset from the nearest existing pipeline. We have also recommended that Creole Trail file alignment sheets and environmental information to support the new alignment with the Secretary for review and written approval by the Director of OEP.

ALTERNATIVES CONSIDERED

We evaluated the alternatives of no action or postponed action. While the no action or postponed action alternatives would eliminate or postpone the environmental impacts identified in this EIS, the objectives of the proposed project would not be met and Creole Trail would not be able to provide a new source of natural gas supply to the United States.

Our analysis of systems alternatives included an evaluation of the use of 21 existing, authorized, or proposed onshore and offshore LNG facilities in the region to meet the objectives of the Creole Trail Project. Our conclusion was that none of the existing, approved, or proposed onshore LNG terminal facilities could handle the additional volumes proposed by Creole Trail without significant expansion and associated environmental impacts that would likely be similar to those that would result from the Creole Trail Project. We also concluded that, although offshore technologies provide an alternative means to import LNG, the existing and proposed offshore projects in the Gulf of Mexico would not provide the same capability as the proposed Creole Trail Project and would likely result in a similar or greater level of environmental impacts.

We also assessed regional and port alternatives, as well as individual site alternatives at multiple port locations, for the proposed LNG terminal. After analyzing each site against critical criteria and project objectives, we concluded that there are no practical alternative LNG terminal sites that meet the proposed project objectives and offer a clear environmental advantage over the proposed Creole Trail LNG terminal site. We also assessed potential alternative berth locations, LNG process areas, and LNG storage tank locations within the proposed site. No alternatives were identified as superior to the proposed locations.

Creole Trail is considering six DMPA site alternatives for possible use in meeting federal and state requirements for the beneficial use of material dredged during construction, mitigation of wetland impacts, and replacement of a portion of a DMPA within the proposed LNG terminal site that is currently used by the COE and would no longer be available if the project is constructed. Creole Trail is working with the appropriate agencies, officials, and landowners to select an appropriate DMPA(s) and develop an acceptable plan to satisfy these requirements. The selected DMPA(s) would be identified in Creole Trail's final ARMP.

With respect to pipeline alternatives, we concluded that there are no practicable system alternatives or design alternatives. Creole Trail evaluated a total of eight route alternatives for Segments 2 and 3 and two route alternatives for the Hackberry Lateral before selecting the proposed corridors within which it designed the preferred pipeline routes. We also evaluated nine route variations and minor relocations of six M&R stations. Creole Trail proposed these modifications in a supplemental filing to reduce impacts on sensitive resources, avoid buildings, reduce congestion near a residence, improve facility layouts, or reduce workspace requirements. We concluded that the proposed route variations and M&R station relocations were acceptable and would result in fewer or similar environmental impacts than the originally proposed locations.

PUBLIC INVOLVEMENT AND AREAS OF CONCERN

On January 26, 2005, Creole Trail filed a request with the FERC to implement the Commission's Pre-Filing Process for the Creole Trail Project. No formal application had been filed with the FERC at that time. The FERC granted Creole Trail's request On March 18, 2005. On March 29, 2005, Creole Trail filed a letter describing modifications to the proposed Creole Trail pipeline system, including: a) the addition of a pipeline segment (referred to initially as the "Western Leg" and later referred to as "Segment 1") that would connect the originally proposed pipeline with the Sabine Pass LNG, L.P. Terminal, and b) the Hackberry Lateral pipeline segment.

Creole Trail filed its FERC application on May 23, 2005. On July 1, 2005, Creole Trail filed an amendment to its application in which it withdrew Segment 1 from the proposed pipeline system and reduced the maximum capacity of the proposed pipeline system accordingly. Creole Trail filed a supplement to its application on August 31, 2005 in which it proposed certain pipeline route

modifications, updated reports and plans, and provided additional information that had been requested by the Commission and/or other regulatory agencies.

On April 4, 2005, the FERC issued a *Notice of Intent to Prepare an Environmental Impact Statement for the Proposed Creole Trail LNG and Pipeline Project, Request for Comments on Environmental Issues, and Notice of Public Scoping Meetings* (NOI). The NOI was sent to 924 interested parties including federal, state, and local officials; agency representatives; conservation organizations; local libraries and newspapers; residents within 0.5 mile of the proposed LNG terminal; and property owners along the proposed pipeline routes. We conducted public scoping meetings in Eunice, Sulphur, and Cameron, Louisiana on April 25, 26, and 27, 2005, respectively to provide an opportunity 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. A total of 25 people commented at the scoping meetings; the majority spoke in support of the project. We also received several written comments during the scoping period. On April 26, 2005, we conducted an aerial review of the project site by helicopter, and on April 27, 2005, we conducted a ground-based site visit, which was open to the public. We conducted another site visit, which was also open to the public, on July 26 and 27, 2005.

In addition to the public notice process discussed above, we conducted additional agency consultations to identify issues that should be addressed in the EIS. These consultations included interagency meetings conducted on April 28 and July 28, 2005. Issues discussed included the NEPA review process; federal and state permitting processes; route alternatives; impacts on wetlands, aquatic resources, EFH, threatened and endangered species, and commercial and recreational fishing; potential mitigation measures; beneficial use of dredged material; air quality; and safety and security planning processes.

This draft EIS was filed with the U.S. Environmental Protection Agency. A formal notice indicating the availability of the draft EIS was published in the Federal Register, and the document has been mailed to individuals and organizations on the mailing list prepared for the project. In accordance with the Council on Environmental Quality regulations implementing NEPA, the public has the opportunity to comment on the draft EIS in the form of written comments. We would review and use the comments to prepare the final EIS for the Creole Trail Project. All timely comment letters received on the draft EIS will be addressed in the final EIS. Recent hurricane activities have affected infrastructure in the project area. In addition, relatively few comments have been received on the Creole Trail Project to date, and comments that were received have been addressed in this draft EIS. For these reasons, no public comment meetings are planned on the draft EIS. If it is determined at a later date that public meetings are necessary, a separate notice will be issued.

MAJOR CONCLUSION

We conclude that, with the use of Creole Trail's proposed mitigation and adoption of our recommended mitigation measures, construction and operation of the proposed facilities would have limited adverse environmental impact. The impacts would be most significant during the construction period. As part of our analysis, we have developed specific mitigation measures that we believe to be appropriate and reasonable for construction and operation of the proposed project. We believe these measures would substantially reduce the environmental impact of the project. The primary reasons for our decision are:

- the LNG terminal facility would make use of a site previously used for a dredge material placement area;

- the LNG terminal facility would be located in a remote area with access to a deep water federal navigation channel;

- materials to be dredged from the marine basin and tugboat dock areas would be put to beneficial use;

- Creole Trail would implement the FERC staff's Plan and Procedures to mitigate impacts on soils, wetlands, and waterbodies;

- Creole Trail would implement an approved ARMP to minimize and mitigate for impacts on wetlands, EFH, and oyster fisheries;

- Creole Trail has routed the pipeline to avoid placement of the construction work areas near most residences and would implement site-specific mitigation where construction work areas are within 25 feet of any residences;

- appropriate consultations with the COE, FWS, NOAA Fisheries, the SHPO, and the Coastal Management Division of the LADNR would be completed before Creole Trail would be allowed to begin construction;

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

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

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