EXECUTIVE SUMMARY

This final environmental impact statement (EIS) for the Casotte Landing LNG Project (Project) 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. This document has been prepared in coordination with the Mississippi Department of Environmental Quality (MDEQ), Gulf States Marine Fisheries Commission, Jackson County Port Authority, and our cooperating agencies including the U.S. Army Corps of Engineers (COE); U.S. Department of Homeland Security, U.S. Coast Guard (Coast Guard); U.S. Department of the Interior, Fish and Wildlife Service (FWS); U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NOAA Fisheries); U.S. Department of Transportation (DOT); U.S. Environmental Protection Agency (EPA); and the Mississippi Department of Marine Resources (MDMR).

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.

The FERC is the federal agency responsible for authorizing applications to construct and operate onshore liquefied natural gas (LNG) import and interstate natural gas transmission facilities. The Coast Guard is the federal agency responsible for issuing a Letter of Recommendation (LOR) regarding the suitability of waterways for LNG marine traffic and it is this proposed action under Title 33 Code of Federal Regulations (CFR) Part 127.009 which is addressed in this EIS. 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 CFR Part 105, and siting as it pertains to the management of marine traffic in and around the LNG facility.

Bayou Casotte Energy LLC (Bayou Casotte Energy) seeks authorization to site, construct, and operate a liquefied natural gas (LNG) terminal and ancillary facilities to connect the proposed LNG terminal to existing natural gas transmission facilities near Pascagoula, Mississippi. Bayou Casotte Energy's proposed facilities would transport a nominal rate of 1.3 billion cubic feet per day (Bcfd) of imported LNG to the United States markets that can be accessed through interconnects with five existing interstate pipelines in the vicinity of the proposed terminal site.

The proposed 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 160,000 m^3 (net capacity) full containment LNG storage tanks;

- a closed-loop intermediate fluid vaporizer system utilizing cooling water from the adjacent Chevron Pascagoula Refinery as a heat source, sized for a nominal sendout of 1.3 Bcfd;
- various ancillary buildings and facilities;
- five pipeline interconnects originating from a 1.5-mile-long, 36-inch-diameter spur ; and
- associated pipeline support facilities, including two meter stations at interconnects with the existing pipeline systems.

In addition to these proposed jurisdictional facilities, the Casotte Landing Project would also involve a number of other integrally related facilities that are not regulated by the FERC. These nonjurisdictional facilities would include a natural gas liquid (NGL) extraction system and pipeline, electric transmission lines, an electric substation, and a waste heat, water circulation system. The relocation of two crude oil tanker berths at the Pascagoula Refinery is also planned due to the construction of the proposed marine terminal slip.

PROJECT IMPACTS

The environmental issues associated with construction and operation of the Casotte Landing LNG Project, including impacts from the transit of LNG vessels, support vessels, Coast Guard and other law enforcement security and patrol vessels along the waterway from the territorial seas to the proposed LNG terminal are analyzed in this final EIS using information provided by Bayou Casotte Energy 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 received from public organizations and individual citizens.

Land requirements for the proposed LNG terminal site would total approximately 259.4 acres during construction and operation. Construction of the proposed pipeline interconnects and meter stations would affect an additional 17.4 acres of land. Of this amount, the two interconnect meter stations (1.8 acres) and the permanent pipeline right-of-way associated with the pipeline interconnect spur (6.1 acres) would encumber 7.9 acres during operations. The construction and operational land requirements of the nonjurisdictional Project facilities would total 36.2 and 1.8 acres, respectively. All land temporarily affected by construction would be allowed to revert to its original use and cover type following construction.

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. To minimize potential impacts associated with shoreline erosion, Bayou Casotte Energy would install an area of rock or concrete units on the slope parallel to the shoreline to minimize scour potential within the berth area from LNG ship propeller wash. During the transit along the navigation channels, LNG marine traffic would be operating at low speeds and would not create wakes that would increase the potential for shoreline erosion in the project area. The proposed LNG terminal site would be protected against storm surge associated with tropical storms and hurricanes of the magnitude that are likely to affect the Project area. Bayou Casotte Energy would construct a hurricane levee to surround the LNG terminal.

The majority of the soils at the proposed terminal site consist of fill, or altered soils associated with previous dredge disposal operations and industrial uses. 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 interconnect route would also be subject to various impacts, including compaction and erosion. To mitigate potential impacts on soil resources in the Project area Bayou Casotte

Energy would implement its *Upland Erosion Control, Revegetation, and Maintenance Plan* (Plan) and *Wetland and Waterbody Construction and Mitigation Procedures* (Procedures), during construction, restoration, and operation of the LNG terminal and pipeline interconnects. In addition to our Plan and Procedures, Bayou Casotte Energy would develop a site-specific Stormwater Pollution Prevention Plan (SWPPP) as a requirement of its general permit for construction stormwater discharges. The SWPPP would incorporate best management practices (BMPs) as specified in our Plan, as well as guidance developed for erosion control and stormwater management in the State of Mississippi. Bayou Casotte Energy would also develop an Industrial SWPPP as a requirement of coverage under the National Pollutant Discharge Elimination System (NPDES) Industrial Stormwater General Permit. Bayou Casotte Energy has developed a Spill Prevention, Containment, and Countermeasure Plan (SPCC Plan) to address hazardous material and petroleum spills during construction of both the onshore and offshore project facilities. The SPCC Plan describes preventative measures to minimize the likelihood of spills and leaks and mitigative measures to minimize impacts should a spill occur. Bayou Casotte Energy would develop a separate SPCC Plan after construction of the project to identify similar preventative measures that would be employed during operation of the LNG terminal and associated facilities.

Some minor levels of soil contamination have been detected at the proposed LNG terminal site, and contaminated groundwater was also detected at multiple locations. Previous remediation activities were conducted at the site in an attempt to remove the contaminated soils resulting from the prior industrial operations, and significant exposure risk is not anticipated. We have also recommended that Bayou Casotte Energy develop a plan in consultation with the MDEQ and EPA regarding assessment, containment, and disposal of contaminated groundwater that might be encountered during any construction activities along with implementing its SPCC Plans to prevent or minimize the effects of spills, leaks, or other releases of hazardous substances on soil and water resources during construction and operations.

Construction of the proposed LNG terminal slip would require excavation and dredging of about 4.5 mcy of material. Of this total, approximately 1.0 mcy would be excavated above the water table using conventional earth moving equipment and used for fill, site leveling, and construction of the hurricane levee at the proposed terminal site. The remaining 3.5 mcy of material would be dredged from the slip, and maintenance dredging would require the removal of about 250,000 cubic yards of sediment on an annual basis. Bayou Casotte Energy indicates that its preferred alternative for disposal of both construction and maintenance dredge materials is placement at the EPA-designated Pascagoula Ocean Dredged Material Disposal Site (ODMDS), which is located offshore in the Gulf of Mexico south of Horn Island, with contribution to beneficial use sites as available.

The proposed dredging activities associated with construction and maintenance of the terminal slip 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, we do not anticipate that dredging activities or associated disposal of sediments would result in significant adverse effects to aquatic resources, based on the results of the sampling and analyses conducted by Bayou Casotte Energy that are required pursuant to Section 103 of the Marine Protection, Research, and Sanctuaries Act (MPRSA). The Commission and Bayou Casotte Energy are proceeding under the assumption that the sediments dredged from the terminal site would be suitable for placement at the ODMDS. However, final agency approvals have not yet been obtained.

No sole-source aquifer is located near the LNG terminal location. Though two private water supply wells are located within a 1-mile radius of the proposed LNG terminal site, both wells are located to the north along Bayou Casotte, upstream and up-gradient from the proposed Project. Potable water at the proposed LNG terminal would be supplied by an existing well at the Chevron Pascagoula Refinery,

and utility water would be supplied via municipal water mains. Construction and operation of the proposed Casotte Landing Project would not have a significant impact on groundwater resources in the Project area.

The proposed interconnect spur pipeline would cross two drainage canals, and the proposed nonjurisdictional NGL pipeline would cross five perennial ditches and one perennial drainage canal. All surface waterbodies would be crossed using open-cut construction methods. To minimize impact on surface waters, Bayou Casotte Energy would implement the protective measures outlined in its Plan and Procedures, as described in this EIS, and the site-specific Stormwater Pollution Prevention Plan.

Construction of the proposed LNG terminal and interconnect pipeline would affect about 117 acres of low quality upland vegetation. The majority of the proposed terminal site consists of previously disturbed and developed industrial areas, and existing vegetation resources are generally fragmented and degraded by the presence of several invasive, exotic species. As construction of the proposed terminal facilities would result in a permanent conversion of vegetative cover, most impacts to vegetation resources would be permanent. Following construction, areas not containing new aboveground facilities at the proposed terminal site would be landscaped with gravel or turf grass. Disturbed upland vegetation along the pipeline route would be restored in accordance to Bayou Casotte Energy's Plan, as described in this EIS, and allowed to revert to approximately pre-construction conditions.

Construction of the proposed Project would directly affect a total of 146.9 acres of low to medium quality wetlands during construction. Of this total, approximately 119.3 acres would be permanently affected by development of the proposed terminal site. Meter station facilities associated with the proposed pipeline interconnects would permanently impact an additional 1.8 acres during operation. The nonjurisdictional NGL pipeline and associated meter station would impact 12.3 acres of wetlands during construction and 0.9 acres during operation. During construction, Bayou Casotte Energy would minimize construction-related impacts to wetlands and restore temporarily affected wetlands in accordance with the measures identified in its Procedures, as described in this EIS. Additionally, Bayou Casotte Energy has proposed to provide compensatory mitigation for unavoidable, permanent wetland impacts through mitigation banking, pursuant to the requirements of the Clean Water Act-Section 404 authorizations; as outlined in its Joint Permit Application submitted to the COE.

The onshore wildlife habitats in the vicinity of the proposed Project have been extensively modified by past development and industrial uses. The primary impact on wildlife associated with the proposed Project would be the clearing of upland and wetland habitats and temporary disturbances during construction. While some small, less mobile species would be injured or killed during construction, more mobile species would be displaced from the proposed terminal site permanently and temporarily from the pipeline construction right-of-way. Fish and aquatic species that reside in the waterbodies at the proposed terminal site would suffer mortality, but the existing, degraded quality of those waterbodies would preclude the loss of significant resources. Bayou Casotte Energy would minimize permanent impacts by constructing the proposed pipeline interconnects and NGL pipelines within or adjacent to other existing rights-of-way and industrial areas. As all construction would be conducted in accordance with the mitigation and restoration requirements described in Bayou Casotte Energy's Plan and Procedures, as modified in this EIS, impacts to onshore wildlife habitat would be minimal.

The estuarine benthic and aquatic habitats in the proposed Project area are reflective of a developed and previously disturbed setting. The benthic fauna are therefore primarily comprised of opportunistic and colonizing invertebrate species. Additionally, construction-related impacts to most marine fishes and other aquatic organisms would be temporary, as they would generally be able to avoid the work area. Additionally, turbidity modeling indicated that dredging activities would not result in

suspended sediment levels that exceed the existing, high background levels in Bayou Casotte. Further, we have included a recommendation that would require Bayou Casotte Energy to complete additional consultations and implement measures, as appropriate, to minimize the potential for entrainment and/or impingement of fish larvae and eggs of aquatic resources in association with ballast and cooling water withdrawals specific to the Casotte Landing LNG marine traffic shipping activities during operation. The EIS discusses potential impacts on shoreline and estuarine habitats if LNG were released from LNG ship cargo tanks while in transit. Because LNG would vaporize and is a cryogenic liquid, we conclude that the greatest threat to aquatic life from an LNG spill would be thermal stress.

Essential fish habitat (EFH) for 18 individual species and the "billfish and highly migratory species group" has the potential to occur within the proposed Project area. Baseline data on existing EFH resources that occur within the proposed Project area is provided in the EFH Assessment included in this EIS. The proposed Project was sited and designed to avoid and minimize potential impacts to EFH, and we do not anticipate significant adverse effects to EFH or managed species in association with the proposed Project. We have also recommended that Bayou Casotte Energy develop a plan in consultation with NOAA Fisheries and other appropriate agencies to mitigate for those impacts that would occur to EFH from the construction and operation of the proposed LNG terminal, as well as from the LNG vessel traffic along the waterway from the territorial seas to the facility's berthing.

Based on consultations with FWS, NOAA Fisheries, and other agencies, we identified a total of 26 federally listed endangered or threatened species that would potentially occur in the vicinity of the proposed Project, or along the waterway the LNG vessels would traffic along from the territorial seas to the proposed LNG terminal. Of those, 11 species do not occur in the proposed Project area or would not be affected by the construction and operation of the proposed LNG facilities. The proposed Project would potentially encompass and/or LNG marine traffic would potentially traverse habitat for the remaining 15 species. The 15 species include seven mammals (blue whale, fin whale, humpback whale, North Atlantic right whale, sei whale, sperm whale, and Florida manatee), five reptiles (green sea turtle, hawksbill sea turtle, Kemp's ridley sea turtle, leatherback sea turtle, and loggerhead sea turtle), two birds (bald eagle and brown pelican), and one fish (Gulf sturgeon). We have determined that, with strict adherence to Bayou Casotte Energy's proposed mitigation plans and our recommendations contained in this EIS, the proposed Project would have no effect or is not likely to adversely affect any federally listed endangered or threatened species.

The majority of land within one mile of the proposed Project facilities consists of open water, wetlands, or lands occupied by various industrial facilities, and the land required for the proposed Project is all privately held. The nearest private residences to the proposed LNG terminal or along the LNG marine transit route are about 1.0 mile northwest of the site boundary, and the nearest special use area, Grand Bay National Estuary Research Reserve, is about 1.0 mile from the proposed terminal site. Two planned industrial developments have been identified in the immediate vicinity of the proposed LNG terminal site. Expansion of the Chevron Pascagoula Refinery is proposed within the existing boundary of the refinery and so adverse impacts are not expected. The other consists of a proposed LNG terminal whose application is currently being reviewed by the FERC.

The most prominent visual features of the proposed Project would be three LNG storage tanks, each about 168 feet in height. However, these storage tanks and the other proposed terminal facilities would be consistent with the existing industrial facilities, and the proposed Project would not represent a significant visual impact. As Bayou Casotte is an existing industrial port, ship traffic there is common, and marine traffic associated with the proposed Project would not substantially change the visual character of the area. Likewise, the visual impact of the proposed pipeline interconnects and associated aboveground facilities, all of which are in direct proximity to existing industrial facilities, would not represent a significant change to the aesthetics of the existing landscape.

Construction of the proposed Project would result in a temporary increase in population, traffic, and the demand for temporary housing and public services, but these effects would be temporary and limited to the construction period. During operation, up to 170 LNG ships are expected to call at the proposed LNG terminal each year. Anticipated impacts on traffic are based on the assumption that the Coast Guard would establish a security zone for ships in transit to the LNG terminal. The exact size of the security zone has not been determined; however, assuming a similar security zone compared to other LNG terminals, the maximum delay expected due to the transit of an LNG vessel would be 1.5 hours. The realistic maximum delay an LNG ship transiting the channel could pose on a vessel transiting the Gulf Intracoastal Waterway (GIWW) would be about 30 minutes. As a result, the Casotte Landing LNG Project would have only minor impacts on marine traffic. In addition, the Coast Guard has made a preliminary determination that the waterways in the project area that would be used to transit to the proposed LNG facility may be suitable for the marine traffic with conditions.

The proposed Project should not have an adverse effect on local property values, and would not disproportionately impact any minority or low-income neighborhoods. Construction and operation of the proposed Project would have a beneficial impact on local tax revenues and economies. The FERC believes the proposed project is practical, economical, and designed to meet energy infrastructure needs while minimizing environmental, safety, and engineering concerns. The FERC has not identified any high adverse human health or environmental effects that would be borne disproportionately by any minority or low-income group.

The MDMR and the Pascagoula Special Management Area (SMA) are responsible for reviewing federal agency actions and activities to ensure that they are consistent with Mississippi's Coastal Management Plan (CMP). The proposed Project is subject to a federal Coastal Zone Consistency Review because it would: 1) involve activities within the coastal zone; and 2) require several federal permits and approvals. Projects that require federal licenses or permits must draft a "consistency certification" to assure the proposed project meets the state's CZM program standards. Bayou Casotte Energy has not completed the process for the federal consistency certification for the proposed LNG terminal facilities. We have recommended that Bayou Casotte Energy not be allowed to begin construction until it has received documentation confirming that the Project is consistent with the Mississippi's CMP.

Cultural resources surveys have been conducted for the proposed LNG terminal site and pipeline interconnect routes, and consultations with the Mississippi State Historic Preservation Officer were completed. Surveys, necessary treatment plans, and comments provided by the SHPO are in concurrence that no cultural or historically significant structures would be impacted by the proposed Project.

Construction of the proposed Project would result in temporary and intermittent air emissions, but these emissions would not significantly affect air quality in the region. In order to provide a thorough evaluation of the potential impacts on air quality in the vicinity of the proposed project, Bayou Casotte Energy conducted a quantitative assessment of project air emissions. The assessment included air dispersion modeling analyses to predict off-site (i.e., ambient) concentrations in the vicinity of the project for PM_{10}, sulfur dioxide (SO_2), nitrogen dioxide (NO_2), and carbon monoxide (CO) resulting from the proposed emissions associated with operation of the project for comparison to appropriate federal air quality standards. When the predicted impacts are added to available monitored background concentrations in the vicinity of the proposed project, none of the impacts would exceed the National Ambient Air Quality Standards (NAAQS). Further, the results of the modeling demonstrated that the project would not significantly impact the existing air quality at the Breton National Wildlife Refuge (a federal Class I area).

During operation of the Casotte Landing LNG Project, air emissions from LNG marine traffic and other project-related vessels would occur along the entire waterway from the territorial sea to the ship

berth. The emissions to any one localized area during ship transit would be temporary and transient and would be occurring at distances allowing for considerable dispersion before reaching any sensitive receptors; therefore, air emissions from ship transit are not expected to result in a significant impact on air quality.

Bayou Casotte Energy would minimize air emissions from the proposed stationary sources through the use of clean fuel (natural gas and low sulfur diesel oil) and the employment of BMPs for operation and maintenance procedures.

Most of the predicted PM_{10} emissions are associated with fugitive dust produced during construction of the LNG terminal facilities and associated pipeline. Fugitive dust could have an impact in the immediate vicinity of construction activity and would cease once construction in a particular area is complete. Measures Bayou Casotte Energy would implement to reduce dust emissions include applying water, using BMPs, and scheduling construction operations to avoid concurrent operations by larger emission sources when feasible. We have recommended that Bayou Casotte Energy include these measures and additional mitigation measures to further reduce emissions in a Fugitive Dust Control Plan.

Bayou Casotte Energy conducted a joint modeling analysis to evaluate cumulative impacts of the Bayou Casotte LNG Project and the Clean Energy LNG Project, incorporating existing emission sources and all reasonably foreseeable future sources (Bayou Casotte LNG Project, the Clean Energy LNG Project, and Pascagoula Refinery Expansion). The results indicate that none of the combined impacts would exceed the NAAQS. Also, the impacts from the combined projects would not significantly impact the existing air quality at the Breton National Wildlife Refuge (a federal Class I area).

Noise receptors in the immediate vicinity of construction activities at the proposed terminal site and along the pipeline interconnect route would experience an increase in noise levels, but such increases would be localized, temporary, and primarily limited to daylight hours. Noise associated with dredging operations at the proposed terminal site would be the most noticeable and would occur up to 24 hours a day for a period of about 6 months. However, the predicted noise levels at the nearest noise sensitive area (NSA) during excavation, dredging, and pile driving activities, would be below existing ambient noise levels and the FERC's threshold of a day-night sound level (L_{dn}) of 55 decibels on the A-weighted scale. Although construction activities may be audible during relatively quiet periods, noise-related impacts are expected to be minimal and no mitigation would be required. Activities at the proposed LNG terminal would generate noise on a continuous basis during operations. However, noise attenuation computer modeling indicates that the predicted noise levels attributable to operations would not result in significant effects on the NSAs nearest to that facility. Additionally, we have included recommendations for completion of post-construction noise surveys and implementation of additional mitigation measures, if required, to ensure that actual noise levels resulting from Project operations would not exceed significant or existing levels.

Noise generated by LNG marine traffic along the waterway from the territorial sea to the proposed LNG terminal would be similar to noise from other large ships using the waterway. Underwater noise would cause a local and temporary avoidance behavior in fish but would not result in significant adverse impacts. Above-water noise associated with the LNG vessels would not result in significant impacts on environmental resources.

We evaluated the safety of both the proposed facilities and the related LNG marine transit through the Mississippi Sound and Bayou Casotte Channel. As part of our evaluation, we performed a cryogenic design and technical review of the proposed terminal design and safety systems. We identified several specific areas of concern and included recommendations to address these concerns.

Thermal radiation and flammable vapor hazard distances were calculated for an accident or an attack on a LNG carrier. For 1.0-, 2.5-, 3.0-, and 3.9-meter-diameter holes in an LNG cargo tank, we estimated distances to range from 2,164 to 5,220 feet for a thermal radiation level of 1,600 British thermal units per hour per foot per hour, the level which is hazardous to unprotected persons located outdoors. Based on the analysis of a 1.0-meter-diameter hole, an unignited release would result in an estimated pool radius of 421 feet. The unignited vapor cloud would extend to 9,776 feet to the lower flammability limit (LFL) and 14,377 feet to one-half the LFL. Flammable vapor dispersion for larger holes was not performed because, realistically, the cloud would not even extend to the maximum distance for a 1.0-meter-diameter hole before encountering an ignition source. 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 a LNG carrier, and the operational controls that may be 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 not be considered significant.

As part of our marine safety analysis, we considered how vessel security requirements for LNG carriers calling on the proposed LNG terminal might affect other ship and boat traffic in Pascagoula Bar, Horn Island Pass, Lower Pascagoula, and Bayou Casotte Channels. Based on the Coast Guard's longstanding experience in controlling the movements of dangerous cargo vessels in the area and LNG carriers in other ports, potential impacts can be evaluated for several general security requirements: 1) moving safety zone for inbound and outbound LNG marine traffic; 2) one-way vessel traffic during LNG marine transit; and 3) security zone around a moored LNG carrier. The moving safety zone, the moored vessel security zone at the terminal, and one-way traffic would affect other commercial and recreational traffic using these waterways. Based on a navigation simulation study conducted by Moffatt & Nichol, International on behalf of Bayou Casotte Energy, the addition of 170 LNG carriers per year would have minor effects on other shipping operations in the Port of Pascagoula. If both of the proposed LNG terminal facilities proposed for the area and currently under our review were constructed, the increased traffic would average almost two vessel transits per day. Other shipping activities would be moderately affected by the increase in traffic; however, based on the relatively low volume of existing shipping activity in the berthing area to the territorial sea, the impact is not expected to be substantial.

The extent of the impact on recreational boaters would depend on the number of boats in the Project area when LNG carriers call on the LNG terminal. The impact would also depend on 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 carrier. To minimize potential impacts on other marine traffic, if the Coast Guard issues a LOR finding the waterway to be suitable for LNG vessel traffic with conditions, it may use a program of announcements to give advance notice of the schedule of each moving safety and moored vessel security zones and may restrict LNG marine transit times to periods less likely to affect recreational boaters.

Unlike accidental causes, historical experience provides little guidance in estimating the probability of a terrorist attack on a LNG carrier 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 has issued a preliminary evaluation, in a letter to the FERC on September 5, 2006, of Bayou Casotte Energy's Waterway Suitability Assessment (WSA). In accordance with guidance promulgated in Coast Guard Navigation and Vessel Inspection Circular (NVIC05-05), the WSA review focused on the navigation safety and maritime security risks posed by LNG marine traffic, and the measures needed to responsibly manage these security risks. As a result of this review, in its Waterway Suitability Report (WSR) the Coast Guard made a preliminary determination that the Pascagoula Bar, Horn Island Pass, Lower Pascagoula, and Bayou Casotte Channels may be suitable for the LNG marine traffic associated with this project. With the completion of this final EIS, the Coast Guard will complete its review and issue an LOR with conditions to address the suitability of the waterways for LNG transport.

The Coast Guard's *LNG Vessel Transit Management Plan* would be developed in conjunction with state and local law enforcement and emergency response communities. Under 33 CFR 165 for LNG vessels in transit and while docked, the Coast Guard, as conditions of the LOR, may establish a moving safety zone during LNG vessels' transit of the waterway, require daylight transit and one-way LNG vessel traffic on the waterway, and establish a moored vessel security zone. 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 Bayou Casotte Energy a Section 3 authorization for the LNG import facilities. The proposed action before the Coast Guard is to issue a LOR finding the waterway suitable for LNG marine traffic, with conditions, including: 1) establishment of a moving safety zone during LNG vessels' transit of the waterway, including the requirements for daylight transit and one way LNG vessel traffic on the waterway, and for another safety zone around the LNG facility when the LNG vessels are moored; 2) the applicant shall conduct an annual review of its Waterway Suitability Assessment to evaluate if any conditions in the waterway have changed that would require issuance of a new LOR and submit such annual review to the COTP for his/her review and issuance of a new LOR if required; 3) the requirement that LNG vessels must navigate the waterway from the outer sea buoy to the berthing areas with Pascagoula pilots onboard; 4) the requirement that tug assistance be provided as deemed necessary by the Pascagoula pilots; 5) the requirement that prior to crossing the Gulf Intracoastal Waterway, all LNG traffic will be required to make a SECURITE broadcast: 6) implementation of a Coast Guard approved *LNG Vessel Transit Management Plan*, and; 7) availability of Coast Guard resources to implement the above security measures.

As an alternative to the proposed action, we evaluated the no action or postponed action alternatives, system alternatives, LNG terminal site alternatives, LNG terminal design alternatives, pipeline interconnect alternatives, and dredge material placement 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 markets that can be accessed through the proposed pipeline interconnects would not be met.

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

of the FERC, the no action alternative for the Coast Guard would avoid any Project related environmental effects. However, the no action alternative would also prevent LNG carriers from delivering LNG to the proposed import terminal, and the objectives of the proposed Project would not be met. Reasonable alternatives to the Coast Guard action of issuing an LOR with conditions include: 1) postponing the issuance of a Coast Guard LOR pending further analysis and study; and 2) issuance of a Coast Guard LOR finding the waterway suitable for LNG vessel traffic without conditions.

If the Coast Guard postpones issuance of an LOR pending further analysis and study, the effect would likely be similar to the FERC postponing its action. That is, although it is speculative to predict the resulting effects, postponing issuance of an LOR would lead Bayou Casotte Energy to delay the Project. A reasonable alternative to the Coast Guard action of issuing a LOR that finds the waterway suitable for LNG marine traffic with the conditions referenced previously, is to issue a LOR finding the waterway suitable for LNG vessel traffic without conditions. As described in its letter to the FERC dated September 5, 2006, the Coast Guard has issued a preliminary determination of the waterway, subject to the evaluation of several conditions before a final suitability evaluation can be made. The Coast Guard will only issue a LOR following the completion of the NEPA evaluation.

Our analysis included an evaluation of both existing onshore and offshore LNG terminals, as well as existing natural gas pipeline systems. In addition, we also analyzed various recently approved and proposed projects, including the construction of an offshore terminal, to meet the objectives of the proposed Casotte Landing Project. Pipeline system alternatives would not provide new, non-domestic sources of natural gas, and therefore be unable to meet the objectives of the proposed Project. Relative to the proposed Project, it is unclear how efficiently or effectively, the other existing, approved, and proposed onshore LNG terminal projects would satisfy the objectives of the proposed Casotte Landing Project. Further, we do not consider that any of the offshore LNG terminal technologies represent an environmentally preferable or technically and economically feasible and practical alternative to the proposed Project.

The proximity of the proposed terminal site to the Chevron Pascagoula Refinery would provide numerous synergies and environmental benefits, including use of existing services for security and safety, minimization of landowner impacts, and use of waste heat from the Refinery to accomplish LNG vaporization. We also considered that other potential locations would be unlikely to satisfy the proposed Project objectives. Therefore, we did not did not conduct a detailed regional screening analysis to identify alternative terminal locations. However, we did consider local siting alternatives for the proposed LNG terminal. We also considered LNG terminal design alternatives, including four terminal slip configuration alternatives, five vaporization technology alternatives, and electrical power system alternatives, as well as route alternatives for the proposed pipeline interconnect spur. However, relative to the proposed Project none of the alternatives evaluated were considered environmentally preferable and/or technically and economically feasible. We also considered LNG terminal design alternatives, including four terminal slip configuration alternatives, five vaporization technology alternatives, and electrical power system alternatives, as well as route alternatives for the proposed pipeline interconnect spur. However, relative to the proposed Project none of the alternatives evaluated were considered environmentally preferable and/or technically and economically feasible. In, conclusion, we have determined that the proposed project is the preferred alternative that can meet the project objectives.

We evaluated four general alternatives for placement of the 3.5 mcy of initial and 250,000 yd^3 of annual maintenance dredge material that would result from construction and operation of the proposed Project. Bayou Casotte Energy indicates that its preferred alternative for placement of both construction and maintenance dredge materials is placement at the ODMDS, with contribution to beneficial use sites as available. Pending receipt of the required approvals under Section 103 of the MPRSA, we do not consider any of the dredge material placement alternatives evaluated to represent a technically or

environmentally preferable alternative to Bayou Casotte Energy's preferred dredged material placement plan.

PUBLIC INVOLVEMENT AND AREAS OF CONCERN

On February 10, 2005, Bayou Casotte Energy filed a request with the FERC to implement the Commission's Pre-filing Process for the Casotte Landing Project. At that time, Bayou Casotte Energy was in the preliminary design stage of the proposed Project and no formal application had been filed with the FERC. On March 2, 2005, the FERC granted Bayou Casotte Energy's request and established a pre-filing docket number (PF05-9-000) to place information filed by Bayou Casotte Energy and related documents issued by the FERC into the public record. The purpose of the Pre-filing Process is to encourage the early involvement of interested stakeholders, facilitate interagency cooperation, and identify and attempt to resolve issues before an application is filed with the FERC.

The FERC formally introduced the Pre-filing Process to various Project stakeholders by issuing a notice titled *Pre-Filing Process Review: Casotte Landing LNG Project (Docket No. PF05-9-000).* This Pre-filing Notice, issued on March 11, 2005, was sent to interested parties including federal, state, and local government agencies; elected officials; environmental and public interest groups; Native American tribes; local libraries and newspapers; and landowners within 0.5 mile of the proposed LNG terminal.

On April 7, 2005, the FERC issued a *Notice of Intent to Prepare an Environmental Impact Statement for the Proposed Casotte Landing Project, and Request for Comments on Environmental Issues, and Notice of Public Scoping Meeting, and Site Visit for Both Casotte Landing LNG Project and LNG Clean Energy Project* (NOI). The NOI was sent to many of the same interested parties as the first notice. Both of these notices encouraged Project stakeholders or interested parties to provide input on environmental issues that should addressed during the environmental review process. The NOI specifically requested comments before May 6, 2005. In total, five comment letters were received by the FERC in response to the Pre-filing Notice and the NOI.

On April 20, 2005, the FERC staff conducted an inspection of the proposed terminal site that was open to the public. Later that evening, the FERC conducted a public scoping meeting in Pascagoula, Mississippi, 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. Nine individuals provided comments at that meeting, primarily regarding the impacts of the proposed Project on the local socioeconomic conditions and safety. A transcript of these comments is part of the public record for the Casotte Landing Project.

On October 31, 2005, the FERC issued a Notice of Application (*Docket No. CP05-420-000*), which announced the filing of an application by Bayou Casotte Energy and a final opportunity to submit comments. The FERC's comment period closed on January 30, 2006. In total, 7 comment letters were received by the FERC in response to these notices.

The Coast Guard published a notice in the Federal Register on November 17, 2005 stating that it was preparing a letter of recommendation as to the suitability of the Pascagoula Bar, Horn Island Pass, Lower Pascagoula, and Bayou Casotte Channels for LNG marine traffic. On December 7, 2005, the Coast Guard conducted a public meeting in Pascagoula to provide an opportunity for the general public to provide comments on waterway suitability and maritime safety and security aspects of the proposed LNG facilities. Four people commented at the meeting and four comments were received in writing following the meeting. The majority of the comments concerned safety and security of the port, safety and security of the LNG carriers, and impacts to recreational boaters and commercial fishing vessels. A transcript of

these comments and the Coast Guard Response to them is part of the public record for the Casotte Landing Project.

On April 5, 2006, FERC staff conducted a cryogenic design and technical conference with Bayou Casotte Energy personnel in Mobile, Alabama to discuss design and engineering aspects of the Casotte 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 agency consultations and participated in interagency meetings to identify issues that should be addressed in this EIS. These activities included participation in interagency meetings in Pascagoula, Mississippi, on April 20, and August 4, 2005, to discuss the proposed Project and its associated environmental review process with other key federal and state agencies. These agencies included the COE; Coast Guard; NOAA Fisheries; FWS; DOT; Mississippi Department of Environmental Quality (MDEQ); MDMR; and the Gulf States Marine Fisheries Commission.

The FERC prepared a draft EIS for the Casotte Landing LNG Project and issued a Notice of Availability (NOA) of the draft EIS on May 19, 2006. In accordance with Council on Environmental Quality's (CEQ's) regulations implementing NEPA, the NOA established a public comment period ending on July 10, 2006, described procedures for filing comments on the draft EIS, and announced the time, date, and location of the public comment meeting. 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 May 25, 2006, 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 430 copies of the draft EIS to Federal, state, and local agencies, elected officials, Native American groups, newspapers, public libraries, intervenors to the FERC's proceeding, and other interested parties (i.e., landowners, other individuals, and environmental groups who requested a copy of the draft EIS). The FERC also conducted a public comment meeting in Pascagoula, Mississippi on June 22, 2006. A total of four people provided comments at the meeting. In addition, the FERC received six comment letters in response to the draft EIS. The FERC has responded to these comments in the final EIS.

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 Bayou Casotte Energy'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;

- proximity of the proposed terminal site to the Chevron Pascagoula Refinery would facilitate use of waste heat from the Refinery to accomplish LNG vaporization, providing significant environmental benefits;
- Bayou Casotte Energy would implement the its Plan and Procedures, as described in this EIS, to mitigate impacts on soils, wetlands, and waterbodies;
- Bayou Casotte Energy would implement mitigation plans for permanent wetland impacts;
- all applicable federal, state, and local permits and authorizations would be obtained by Bayou Casotte Energy 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 marine traffic;
- the operational controls that may be imposed by the Coast Guard to direct the movement of LNG marine traffic, 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.