

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

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

Bayou Casotte Energy LLC

Docket No. CP05-420-000

ORDER GRANTING AUTHORITY UNDER SECTION 3
OF THE NATURAL GAS ACT

(Issued February 16, 2007)

1. On September 30, 2005, Bayou Casotte Energy LLC (Bayou Casotte) filed an application under section 3 of the Natural Gas Act (NGA) requesting authority to site, construct, and operate a new liquefied natural gas (LNG) terminal to be known as the Casotte Landing LNG Project Natural Gas Import Terminal (Casotte Landing LNG Project) in Jackson County, Mississippi. For the reasons discussed below, the Commission is granting the requested authorization.

Background and Proposal

2. Bayou Casotte is a wholly-owned subsidiary of Chevron U.S.A. Inc. (Chevron). As part of its global operations, Chevron plans to liquefy its gas supplies from various locations around the world for importation to the United States. In this proceeding Bayou Casotte requests authority to own, construct, and operate LNG import terminal facilities on a 264-acre parcel of land adjacent to Chevron's existing Pascagoula, Mississippi oil refinery on Bayou Casotte. LNG vessels would access the terminal facilities through the Bayou Casotte ship channel.

3. The major components of the Casotte Landing LNG Project would include: LNG unloading facilities designed to unload LNG vessels up to 200,000 cubic meters in capacity, three full-containment LNG storage tanks with a nominal working volume of 160,000 cubic meters each, vapor handling facilities, an intermediate fluid vaporization system, natural gas liquids extraction facilities, and interconnections with natural gas

pipelines. The facilities will be able to deliver a baseload volume of 1.3 Bcf per day of regasified LNG to the interstate pipeline system, and a peak volume of 1.6 Bcf per day.

4. The proposed Casotte Landing LNG Project facilities would: (a) receive and unload LNG ships; (b) store the LNG on a temporary basis; (c) vaporize the LNG; (d) condition the natural gas for sale; and (e) introduce the natural gas into the interstate pipeline system. Bayou Casotte does not itself plan to import LNG or to transport regasified LNG in interstate commerce. LNG would be imported primarily by Bayou Casotte affiliates that will subscribe to capacity in the facility or purchase regasified LNG at the outlet of the terminal.¹ Bayou Casotte will deliver regasified LNG into the interstate pipeline system through interconnections located on Chevron-controlled property.² In accordance with Commission policy, Bayou Casotte states, it intends to operate the LNG import facilities on a proprietary basis without filing tariffs or rate schedules with the Commission.

5. Bayou Casotte states that the project is intended to provide additional natural gas supplies to meet increasing energy demand in the United States. It states that the U.S. Department of Energy estimates that natural gas consumption in the United States will increase at an annual rate of 1.5 percent until 2025.³ Domestic supplies of natural gas, avers Bayou Casotte, will not be large enough in the future to keep up with this increasing demand. New sources of natural gas and LNG, says Bayou Casotte, are particularly needed in the Southeast where overall onshore and shallow water production has declined in recent years, and the average price of natural gas for industrial, commercial and residential customers has increased 31.2 percent in the past five years.⁴ Bayou Casotte avers that the project will provide access to new, untapped natural gas

¹ Bayou Casotte does state, however, that it may at its discretion accept LNG imports from unrelated companies.

² Bayou Casotte anticipates interconnecting with the following five pipelines from a 36-inch diameter sendout line: Gulfstream Natural Gas System, L.L.C., Chandeleur Pipe Line Company (two separate pipelines), Gulf South Pipeline Company, LP, and Destin Pipeline Company, L.L.C. The sendout pipeline would begin on the terminal site and extend approximately 1.5 miles along a route immediately adjacent to the southern boundary of the Chevron refinery to a terminus with an interconnect with Gulfstream.

³ *Citing* U.S. Department of Energy, Energy Information Administration, *Natural Gas Navigator: Annual Supply & Disposition by State (2005)*.

⁴ *Id.*

resources from around the world, add to the region's and the nation's energy diversity, and help maintain the economic well being of the region. Bayou Casotte states that because the facilities will be sited in the heart of the Southeast region, close to traditional supply sources and existing pipeline infrastructure in the Gulf Coast region, the facilities will be more efficient and less environmentally disruptive than other supply options.

Interventions

6. Notice of the Bayou Casotte application was published in the *Federal Register* on November 7, 2005 (70 *Fed. Reg.* 67464). Southern Natural Gas Company, Gulf LNG Energy, LLC, Florida Gas Transmission Company, ExxonMobil Gas and Power Marketing Company, Seminole Electric Cooperative, Inc., and Transcontinental Gas Pipe Line Corporation filed timely, unopposed motions to intervene. Timely, unopposed motions to intervene are granted by operation of Rule 214 of the Commission's Rules of Practice and Procedure.⁵ Sempra LNG (Sempra) filed a motion to intervene out-of- time. Sempra has shown an interest in this proceeding, and granting intervention at this stage of the proceeding will not cause undue delay or prejudice the rights of any other party. Accordingly, for good cause shown, we will permit its late intervention.⁶ No protests or motions to intervene in opposition were filed.

Discussion

7. Because the proposed LNG terminal facilities will be used to import gas from foreign countries, the construction and operation of the facilities and site of their location require approval by the Commission under NGA section 3.⁷ The Commission's authority

⁵ 18 C.F.R. § 385.214 (2006).

⁶ 18 C.F.R. § 385.214(d) (2006).

⁷ The regulatory functions of section 3 were transferred to the Secretary of Energy in 1977 pursuant to section 301(b) of the Department of Energy Organization Act (Pub. L. No. 95-91, 42 U.S.C. §§ 7101 *et seq.*). In reference to regulating the imports or exports of natural gas, the Secretary subsequently delegated to the Commission the authority to approve or disapprove the construction and operation of particular facilities, the site at which facilities shall be located, and with respect to natural gas that involves the construction of new domestic facilities, the place of entry or exit for exports. DOE Delegation Order No. 00-044A..00, effective May 16, 2006. However, applications for authority to import natural gas must be submitted to the Department of Energy. The Commission does not authorize importation of the commodity itself.

over facilities constructed and operated under section 3 includes the authority to apply terms and conditions as necessary and appropriate to ensure that the proposed construction and siting is in the public interest.⁸ Section 3 provides that the Commission “shall issue such order on application. . .” if it finds that the proposal “will not be inconsistent with the public interest.”

8. In recent years, the Commission has chosen to exercise a less intrusive degree of economic regulation for new LNG import terminals, and does not require the applicant to offer open-access service or to maintain a tariff or rate schedules for its terminal service.⁹ However, the Commission reserves the authority under section 3 to take any necessary and appropriate action if it receives complaints of undue discrimination or anticompetitive behavior. On August 8, 2005, the Energy Policy Act of 2005 (EPAcT 2005) was signed into law.¹⁰ Section 311 of EPAcT 2005 amends section 3 of the NGA regarding the Commission’s authority over the siting, construction, expansion or operation of an LNG terminal.¹¹ As pertinent here, section 311(c) of EPAcT 2005 adds a new NGA section 3(e)(3) providing that, before January 1, 2015, the Commission shall not condition an order approving an application to site, construct, expand or operate an LNG terminal: (1) on a requirement that the LNG terminal offer service to customers other than the applicant, or any affiliate of the applicant securing the order; (2) any regulation of the rates, charges, terms or conditions of service of the LNG terminal; or (3) a requirement to file schedules or contracts related to the rates, charges, terms or conditions of service of the LNG terminal. Our authorization here is consistent with NGA section 3(e)(3).

9. The Commission recognizes the important role that LNG will play in meeting future demand for natural gas in the United States and has noted that the public interest is served through encouraging gas-on-gas competition by introducing new imported supplies.¹² The Casotte Landing LNG Project facilities will provide needed additional

⁸ *Distrigas Corporation v. FPC*, 495 F.2d 1057, 1063-64), *cert. denied*, 419 U.S. 834 (1974); *Dynegy LNG Production Terminal, L.P.*, 97 FERC ¶ 61,231 (2001).

⁹ *See Hackberry LNG Terminal, L.L.C. (Hackberry)*, 101 FERC ¶ 61,294 (2002), *order issuing certificates and granting reh’g*, 104 FERC ¶ 61,269 (2003).

¹⁰ Energy Policy Act of 2005, Pub. L. No. 109-58, 119 Stat. 594 (2005).

¹¹ Energy Policy Act of 2005, Pub. L. No. 109-58, § 311, 119 Stat. 594, 685 (2005).

¹² *Hackberry*, 101 FERC at P 26 (2002).

supplies of natural gas to wholesale and end-use consumers in the southeastern United States. Additionally, because the project will provide incremental capacity at market-based rates, the economic risks of the proposed project will be borne by Bayou Casotte. Therefore, we find that, subject to the conditions imposed in this order, the Casotte Landing LNG Project is not inconsistent with the public interest.

Environmental Review

Coordination and Public Involvement

10. On March 2, 2005, the Commission initiated its pre-filing process for the involved project, and on April 7, 2005 issued a “Notice of Intent to Prepare an Environmental Impact Statement for the proposed Casotte Landing LNG Project and Request for Comments on Environmental Issues”. On April 20, 2005, the Commission conducted a public scoping meeting in Pascagoula, Mississippi to provide an opportunity for the general public to learn more about the proposed project and about how to participate in our analysis by commenting on issues to be included in the draft environmental impact statement (EIS).¹³ Nine people commented at the meeting. Comments covered a wide variety of topics including reliability and safety, alternatives, land use, recreation, and socioeconomics, property values and insurance rates and other environmental and safety-related comments. The issues raised by these comments were addressed in the draft EIS.

11. The Commission issued its draft EIS addressing the proposed Bayou Casotte LNG project on May 19, 2006, and the final EIS on December 22, 2006. The United States Environmental Protection Agency (EPA) issued a notice of availability of the final EIS on December 29, 2006. The draft and final EIS were mailed to federal, state, and local agencies, elected officials, Native American tribes, newspapers, public libraries, interveners to the FERC proceeding, and other interested parties (i.e., landowners, other individuals, and environmental groups who provided scoping comments). Approximately 350 copies of the final EIS were mailed to agencies, libraries, groups, and individuals provided in Appendix A of the final EIS. The U.S. Army Corps of Engineers (COE); U.S. Coast Guard; U.S. Department of the Interior, U.S. Fish and Wildlife Service (FWS); U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA Fisheries) and National Marine Fisheries Service (NMFS); EPA;

¹³ As indicated in the notice, the scoping meeting also provided an opportunity for the public to comment on the LNG Clean Energy Project, a nearby project similar to the Casotte Landing LNG Project, proposed by Gulf LNG Energy LLC. The LNG Clean Energy Project is being authorized under section 3 of the NGA in an order also issued today in Docket No. CP06-12-000.

Mississippi Department of Environmental Quality (MDEQ); and Mississippi Department of Marine Resources (MDMR) are cooperating agencies for the development of the final EIS.

12. We received five letters commenting on the draft EIS . The Commission also conducted a public meeting to address the draft EIS in Pascagoula, Mississippi on June 22, 2006. A total of four people provided comments at this meeting. Written comments were received from the U.S. Department of Interior (DOI), the NMFS, the EPA, Paula Vassey, and Bayou Casotte. The most frequently received comments on the project related to LNG safety, alternatives, ship traffic, fishing/shrimping, Gulf sturgeon critical habitat, wetlands, and dredged material placement. These comments are addressed in Appendix H to the final EIS. We also received comment letters from three elected officials, all of whom support the project.

13. The final EIS addresses the issues and concerns raised in response to the draft EIS. The final EIS also addresses geology; soils and sediments; water resources; wetlands and vegetation; wildlife and aquatic resources; threatened, endangered and other special statutes species; land use, recreation, and visual resources; socioeconomics; transportation and traffic; cultural resources; air quality and noise; reliability and safety; cumulative impacts, and alternatives.

14. We have consulted with the U.S. Department of Defense (DOD) as required by the EPAct 2005 and section 3 of the NGA to determine if any training or activities on any military installations would be affected by the project. No comments or concerns were received from any branch of the military or any military installation in reply to the staff's scoping notice issued on April 7, 2005. Further, no comments were received from any DOD branch in response to the draft EIS.

15. In addition, in letters dated January 30, 2006, to the Army, Navy, and Air Force at the Pentagon our staff requested any information on effects on military installations. No effects have been identified, and we conclude that there is no effect on military installations from this project. Therefore, no concurrence from the Secretary of Defense is required.

16. Based on information provided by Bayou Casotte and further developed by field investigations, literature research, alternative and route variation analyses, and contacts with federal, state, and local agencies and individual members of the public, the final EIS concluded that, with the use of Bayou Casotte's proposed mitigation and adoption of the EIS's recommended mitigation measures, construction and operation of the proposed facilities would have limited adverse environmental impact. On January 29, 2007, the EPA filed comments on the final EIS.

Wetlands, Habitat, Dredging, Special Species, Essential Fish Habitat, and Coastal Zone Consistency Review

Wetlands

17. Construction of the proposed Project would affect a total of approximately 146.9 acres of estuarine and palustrine, emergent and scrub-shrub wetlands. Of the total wetlands affected, 122.0 acres of wetlands would also be affected during operation. Twelve wetlands are located at the proposed terminal site including eight freshwater wetlands, and four estuarine wetlands. In general, these wetlands are of relatively low to medium quality due to the effects of prior disturbance at the site and the prevalence of exotic and nuisance vegetation. The proposed sendout pipeline would affect two wetlands. These wetlands are considered to be of medium quality because they occur in low areas between or adjacent to roadways, hurricane levees, and spoil piles, and have been previously disturbed. The non-jurisdictional NGL pipeline and associated meter station would affect five wetlands. In general, these wetlands are of medium quality, but one was determined to be relatively undisturbed and of higher quality.

18. The primary impacts to wetlands resulting from construction and operation of the proposed project would be the temporary disturbance and permanent loss of wetlands at the terminal site and along the pipeline route. To minimize construction-related impacts to wetlands, Bayou Casotte would restore temporarily affected wetlands in accordance with the measures identified in its *Wetland and Waterbody Construction and Mitigation Procedures (Procedures)*, set forth as Appendix B2 in the final EIS, as modified pursuant to environmental condition 16. Furthermore, Bayou Casotte would limit impacts to wetlands by siting the LNG terminal in an existing, disturbed industrial site and overlapping or co-locating the non-jurisdictional linear facilities with existing rights-of-way.

19. In addition to adhering to the minimization measures identified in its *Procedures*, Bayou Casotte would mitigate impacts to wetlands by developing a project-specific restoration plan in consultation with the COE and MDMR. Bayou Casotte has also developed a wetland mitigation plan as part of its joint permit application to the COE and MDMR. This wetland mitigation plan identifies several mitigation options including wetlands restoration, enhancement, and the purchase of wetlands mitigation bank credits. Bayou Casotte's proposed minimization and mitigation efforts would significantly minimize the impacts to wetlands affected by the proposed project.

20. The EPA acknowledges that the final EIS includes additional information on compensatory mitigation for wetlands losses in the EIS and finds that the range of options considered is "reasonable." EPA recommends continued coordination with other agencies in the development of the wetland mitigation plan and that a draft Mitigation

Plan be made available prior to the finalization of the Section 404 Permit process. EPA suggests that the Commission/Bayou Casotte continue consultations with the COE, EPA, MDMR, NMFS, (and other applicable agencies).

21. Section VI.C.4 of Bayou Casotte's *Procedures* requires Bayou Casotte to consult with the appropriate land management or state agency to develop a project-specific wetland restoration plan. This section also requires that the restoration plan should include measures for re-establishing herbaceous and/or woody species, and monitoring of the success of revegetation efforts. Bayou Casotte's Mitigation Plan is still being developed and Bayou Casotte should continue to work with the appropriate agencies through the Section 404 permit process to further refine its draft Mitigation Plan with provisions that address and correct restoration actions that may be unsuccessful.

Dredging

22. Construction of the proposed LNG terminal slip would require excavation and dredging of approximately 4.5 million cubic yards (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. Maintenance dredging would require the removal of about 250,000 cubic yards of sediment on an annual basis. Bayou Casotte 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 located offshore in the Gulf of Mexico south of Horn Island, with contribution to beneficial use sites as available.

23. The proposed dredging activities associated with construction and maintenance of the terminal slip would have some 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. We do not anticipate, however, that dredging activities or associated disposal of sediments would result in significant adverse effects to aquatic resources.

24. EPA states in its comments that in a November 1, 2006 evaluation under section 103 of the Marine Protection Research and Sanctuaries Act the COE determined that material from the Casotte Landing LNG Project is suitable for ocean disposal. EPA concurs with COE's determination.

Endangered or threatened species

25. Based on consultation with the FWS, the NMFS, and other agencies, the EIS determined that 26 federally listed endangered or threatened species could potentially occur in the vicinity of the project, or along the waterway the LNG vessels would travel. Fifteen species were identified as potentially affected. The 15 species include seven mammals (sperm whale, blue whale, sei whale, fin whale, humpback whale, North Atlantic right whale, and Florida manatee), two birds (bald eagle and brown pelican), five reptiles (hawksbill sea turtle, green sea turtle, Kemp's ridley sea turtle, leatherback sea turtle, and loggerhead sea turtle), and a fish (Gulf sturgeon). The portion of the Mississippi Sound affected by the terminal and berthing facilities lies just outside the area designated as critical habitat for the Gulf sturgeon. In addition to those species protected under the Endangered Species Act, there are a number of other special status species that may occur in the project area. These include marine mammals and migratory birds identified by the Mississippi Natural Heritage Program.

26. Section 4.6 of the final EIS included the Commission staff's biological assessment. The EIS concludes that, subject to Bayou Casotte's compliance with NOAA Fisheries guidelines, construction and operation of the proposed project would not be likely to adversely affect federally or state listed threatened and endangered species, marine mammals, or migratory birds. In letters dated January 4, 2007, Commission staff has requested concurrence with the biological assessment from the FWS and NMFS - NOAA Fisheries. The final EIS recommends that Bayou Casotte not begin construction and/or implementation of conservation measures until these consultations are complete and the Director of the Commission's Office of Energy Projects (OEP) notifies Bayou Casotte in writing that it may begin these activities. Additionally, the final EIS recommends that, if construction does not begin within 1 year of issuance of Commission authorization, Bayou Casotte consult with the appropriate offices of the FWS and the NMFS to update the species list and to verify that previous consultations and determinations are still current.

Essential fish habitat consultation

27. We have consulted with the NMFS -- Habitat Conservation Division regarding essential fish habitat (EFH) that would be affected by construction and operation of the proposed Casotte Landing LNG Project. As part of this consultation, we submitted to NMFS an EFH assessment that included descriptions of the proposed project, EFH, federally managed species, impacts to EFH, and proposed mitigation measures. Specifically, the EFH assessment focused on, but was not limited to EFH associated with the federally managed brown shrimp, white shrimp, red drum, Spanish mackerel, scalloped hammerhead shark, blacktip shark, tiger shark, bonnethead shark, and Atlantic sharpnose shark.

28. On January 4, 2007, Commission staff informed NMFS that we have concluded, based on the information presented, analyses performed, proposed mitigation measures described in the EFH assessment, as well as in our EIS and our previous consultations with that office, that impacts on EFH associated with construction and operation of the proposed project would not have a substantial adverse effect on managed fisheries in the area. On January 22, 2007, the NMFS submitted a letter to the Commission stating that it does not disagree with our determination and that no further coordination is required, unless the project design or operation plans change and adverse impacts to EFH which have not been evaluated would be expected to occur.

Coastal Zone Consistency

29. The Casotte Landing LNG Project, including the LNG marine traffic, is subject to a federal Coastal Zone Consistency Review because it would: 1) involve activities within the coastal zone of Mississippi, and 2) require several federal permits and approvals. Bayou Casotte must demonstrate that the project is consistent with the federally approved Mississippi Coastal Management Program, and obtain concurrence of consistency from the Mississippi Department of Marine Resources (MDMR). Bayou Casotte has not completed the process for the federal consistency certification, and the final EIS recommends that Bayou Casotte not be allowed to begin construction until it files documentation that it has received the required concurrence of consistency from the MDMR.

Air Emissions

30. To provide a more thorough evaluation of the potential impacts on air quality, Commission staff requested a cumulative impact modeling analysis of the LNG Clean Energy Project and the Casotte Landing LNG Project. Commission staff recommended that both companies share emissions data and work together to prepare a joint modeling analysis to show the potential impacts on air quality including the existing emissions sources and all reasonably foreseeable future sources. The two companies met, shared data, and agreed upon a model and modeling parameters. Bayou Casotte filed the results of the joint modeling on November 8, 2006. The analysis was scaled up to include projected impacts from an expected expansion of Chevron's Pascagoula Refinery. The results, as filed by Bayou Casotte in this proceeding and also adopted by Gulf Energy for its LNG Clean Energy Project, indicate that none of the combined impacts would exceed the National Ambient Air Quality Standards (NAAQS) established by EPA. 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). The final EIS concludes that there would not be a significant cumulative impact on air quality from these projects.

31. In its comments on the final EIS, the EPA indicates concerns regarding air quality impacts. EPA states: (1) that the air dispersion modeling performed did not follow EPA guidance and the final EIS provides no justification for using other modeling procedures; (2) that the Commission should address compliance with NAAQS through a full NAAQS analysis using EPA's guidance; and (3) that the cumulative analysis was lacking and should have included the existing sources and the Chevron Refinery expansion in the air dispersion modeling analysis.

32. In a letter dated February 9, 2007, the Commission staff responded to EPA in detail regarding its comment letter on air quality impacts. We have summarized that response below.

33. The final EIS explained that the proposed project was not subject to a Prevention of Significant Deterioration (PSD) analysis and therefore was not required to follow EPA guidance for modeling or PSD threshold values. However, modeling was performed based on Commission staff's guidance to assess impacts under NEPA. Compliance with the NAAQS through a full NAAQS analysis would have been performed during the permitting process if the state permitting agency had determined it was necessary. The letter to EPA clarifies that the Chevron Refinery expansion was included in the modeling analysis through a scaling process that was explained in the final EIS, and existing sources were accounted for through modeling by adding the modeled results to the ambient monitored concentration.

34. EPA comments that the construction impact assessment does not support the Commission's conclusion of no significant impact. The Commission, however, does not conclude in the final EIS that there would not be a significant impact during construction. The final EIS identifies that impacts would vary with time due to the construction schedule and mobility of sources (*e.g.* construction equipment). Impacts would cease at the completion of construction. The final EIS recommended, and the Commission has adopted as environmental condition 27, the requirement for a Fugitive Dust Control Plan to reduce particulate matter emissions during construction.

35. With respect to the air quality discussion in the final EIS, we acknowledge that the measured 8-hour Ozone level is above the NAAQS. EPA, however, has not designated this area as non-attainment, and therefore it was not evaluated as one. Since the project area is EPA-designated as attainment/unclassifiable, no additional analysis beyond that already provided in the final EIS is necessary.

Commission Safety Review and Coast Guard Coordination

36. The final EIS evaluated the safety of both the proposed Bayou Casotte LNG facilities and the related LNG vessel transit through the Pascagoula Bar, Horn Island

Pass, Lower Pascagoula, and Bayou Casotte Channels. The analysis identified the principal properties and hazards associated with LNG, presented a summary of the design and technical review of the cryogenic aspects of the LNG terminal, discussed the types of storage and retention systems, analyzed the thermal radiation and flammable vapor cloud hazards resulting from credible LNG spills, analyzed the safety aspects of LNG transportation by ship, and reviewed issues related to security and terrorism.

Requirements for safety of the terminal are set forth in the Coast Guard regulations at 33 CFR Part 127, and requirements for maintaining security are at 33 CFR Part 105. The required site specific safety and security plan would be subject to the review and approval of the Captain of the Port.

37. With respect to the onshore facility, a cryogenic design and technical review of the proposed terminal design and safety systems was completed and reported in the final EIS. That review noted several areas of concern, and as a result, the final EIS recommends a number of conditions regarding the terminal design and construction. Information pertaining to these requirements must be filed for review and approval by the Director of OEP prior to initial site preparation, prior to construction of final design, prior to commissioning, or prior to commencement of service, as indicated by each specific recommendation. The final EIS also evaluated the thermal radiation and flammable vapor dispersion exclusion zones of the proposed LNG terminal. The analysis found that no excluded uses are within these areas.

38. In addition, the final EIS discussed the Department of Energy's (DOE) December 2004 study by Sandia National Laboratories entitled, *Guidance on Risk Analysis and Safety Implications of a Large Liquefied Natural Gas (LNG) Spill Over Water (Sandia Report)*. The report evaluated an LNG cargo tank breach using modern finite element modeling and explosive shock physics modeling to estimate a range of breach sizes for credible accidental and intentional LNG spill events. Based on the *Sandia Report* breach sizes, thermal radiation and flammable vapor hazard distances were calculated in the final EIS for an accident or an attack on an LNG vessel. For the nominal intentional breach scenarios (5- to 7-square-meter holes in an LNG cargo tank), the estimated distances ranged from: 4,182 to 4,652 feet for a thermal radiation of 1,600 British thermal units per hour squared (Btu/ft²-hr), the level which is hazardous for persons located outdoors and unprotected; 3,232 to 3,591 feet for 3,000 Btu/ft²-hr, an acceptable level for wooden structures; and 1,934 to 2,143 feet for 10,000 Btu/ft²-hr, a level sufficient to damage process equipment, for these size holes respectively.

39. As the final EIS explains, based on the extensive operational experience of LNG shipping, the structural design of an LNG vessel, and the operational controls imposed by the Coast Guard and the local pilots, 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 final EIS determines that the risk to the public from accidental causes is negligible.

40. Historical experience provides little guidance in estimating the probability of a terrorist attack on an LNG vessel or onshore storage facility. For a new LNG import terminal proposal having a large volume of energy transported and stored near populated areas, the perceived threat of a terrorist attack is a serious concern of the local population and requires that resources be directed to mitigate possible attack paths. If the Coast Guard issues a Letter of Recommendation (LOR) finding the waterway suitable for LNG marine traffic, the operational restrictions that the Pascagoula Pilots would impose on vessel movements through this area, as well as the requirements that the Coast Guard would impose, would minimize the possibility of a hazardous event occurring along the vessel transit area. While the risks associated with the transportation of any hazardous cargo can never be entirely eliminated, we are confident that they can be reduced to minimal levels and that the public will be well protected from harm.

41. 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). The purpose of this NVIC is to provide Coast Guard Captains of the Port (COTP)/Federal Maritime Security Coordinators (FMSC), members of the LNG industry, and port stakeholders with guidance on assessing the suitability and security of a waterway for LNG marine traffic. It 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. Preparation of this guidance was referenced in the Coast Guard's March 18, 2005 Report to Congress on Liquefied Natural Gas Terminals.

42. In accordance with Coast Guard regulations at 33 CFR § 127.007, Bayou Casotte submitted a Letter of Intent (LOI) to the Coast Guard on February 10, 2005, conveying its intention to construct an LNG terminal at the proposed site and to transport LNG to the terminal by ship. On November 17, 2005, the Coast Guard issued a notice requesting comments pertaining specifically to the maritime safety and security aspects of the proposed LNG facility. The Coast Guard held a public meeting on December 7, 2005, pursuant to the notice.

43. On February 13, 2006, Bayou Casotte submitted a WSA for the proposed project to the Captain of the Port for Coast Guard Sector Mobile. The Coast Guard, with input from the Pascagoula Area Maritime Security Committee, has completed an initial review of Bayou Casotte's WSA. The WSA review focused on the navigation safety and maritime security risks posed by LNG marine traffic, and the measures needed to manage these security risks responsibly.

44. By letters dated April 1, 2006 and September 5, 2006, the Captain of the Port for Coast Guard Sector Mobile notified the Commission that he has made a preliminary determination that the Pascagoula Bar, Horn Island Pass, Lower Pascagoula, and Bayou Casotte Channels, subject to conditions to be determined at a later date, may be suitable for the LNG marine traffic associated with this project, and that there is sufficient capability within the port community to manage the safety and security risks of this project in a responsible manner. As the final EIS has been issued, the Coast Guard will now complete its review and issue an LOR to address the suitability of the waterways for LNG transport.

45. If the Coast Guard issues an LOR finding the waterway suitable for LNG marine traffic, the arrival, transit, cargo transfer, and departure of LNG ships in the waterway would be required to adhere to the procedures of an LNG Vessel Transit Management Plan to be developed by the Coast Guard Sector Mobile. In addition, Bayou Casotte would develop Operations and Emergency Manuals in consultation with the Coast Guard. These procedures would be developed to ensure the safety and security of all operations associated with LNG ship transit and unloading. The LNG Vessel Transit Management Plan would contain specific requirements for the LNG vessel, pre-arrival notification, transit through shipping channels, the waterfront facility, cargo transfer operations, Coast Guard inspection and monitoring activities, and emergency operations. Coast Guard Sector Mobile would monitor each LNG ship in accordance with the LNG Vessel Transit Management Plan. The LNG Vessel Transit Management Plan may entail the establishment of a moving safety and/or security zone for all inbound and moored LNG ships, and the use of tugs to assist in the channel and to maneuver ships into the berth.

46. The LNG Vessel Transit Management Plan will be prepared before import operations commence. Thus, the port's overall security picture may change before import operations commence. New port activities may commence, infrastructure may be added, or population density may change. Improvements in technology to detect, deter and defend against intentional acts may also develop. Therefore, we adopt the final EIS's recommendations that Bayou Casotte should be required to review annually its WSA relating to LNG marine traffic for the project; update the assessment to reflect changing conditions which may impact the suitability of the waterway for LNG marine traffic; provide the updated assessment to the cognizant Captain of the Port/Federal Maritime Security Coordinator (COTP/FMSC) for review and validation and, if appropriate, further action by the COTP/FMSC relating to LNG marine traffic; and provide a copy to Commission staff.

47. Concerns have been raised in several other proceedings on LNG import terminal proposals that local communities would have to bear some of the costs of ensuring the security/emergency management of the LNG facility and LNG vessels while in transit and unloading. Section 311 of EAct 2005 requires that in any order authorizing an LNG

terminal the Commission shall require the LNG terminal operator to develop an Emergency Response Plan in consultation with the Coast Guard and state and local agencies. Section 311 also requires that the Emergency Response Plan include a cost-sharing plan, and that the Commission approve the plan prior to any final approval to begin construction. As recommended in the final EIS, environmental condition 70 requires Bayou Casotte to develop such a plan (including provision for evacuation) and coordinate procedures with the Coast Guard, state, county, and local emergency planning groups; fire departments; state and local law enforcement; and other appropriate federal agencies.¹⁴

48. In its comments, EPA states that, according to information in the final EIS, a spill resulting from a 1-meter hole would generate a vapor cloud extending 9,776 feet (1.8 miles) to the Lower Flammable Limit. The nearest residence, it points out is approximately 1.0 mile from the proposed terminal site or the marine transit route, and the Chevron refinery is located adjacent to the terminal. EPA states that the proximity of the closest residences and businesses to a potential vapor cloud resulting from an LNG cargo spill warrants additional analysis and discussion to further justify the final EIS's conclusion that the risk to the public is not significant. Therefore, EPA recommends that the Commission staff provide additional analyses regarding thermal radiation and flammable vapor hazard scenarios to more clearly demonstrate the conclusion of insignificant risk.

49. Section 4.12 of the final EIS finds that thermal radiation and vapor dispersion exclusion zones associated with an onshore LNG spill at the Casotte Landing LNG terminal would not extend beyond the facility property line. This meets federal safety requirements, as set forth at 49 C.F.R. §§ 193.2057 and 2059. As discussed in the following paragraphs, the Commission's staff has thoroughly considered and analyzed the matters raised by EPA regarding thermal radiation and flammable vapor hazard scenarios.

50. The Commission staff's conclusion that the risk to the public from accidental causes should be considered negligible is based on several factors. As discussed in section 4.12.5 of the final EIS, the December 2004 *Sandia Report's* analysis of accidental

¹⁴The requirements of environmental condition 39 as recommended in the final EIS were largely subsumed within recommended condition 70 in the final EIS. In this order we have deleted the original condition 39 and replaced it with the final EIS' recommended condition 70, which we have modified to meet the language of our current standard emergency response plan condition. Similarly, we have modified environmental condition 40 to accord with our standard current cost-sharing condition.

events found that groundings and low speed collisions could result in minor ship damage but not a cargo spill; while high speed collisions could cause a 0.5 to 1.5 m² cargo tank breach. It is anticipated that inbound LNG ships would be met by tugs in the vicinity of the junction of the Bayou Casotte and Upper Pascagoula Channels, made up with lines and utilized to assist in slowing, turning and berthing the ship. Ship speeds within the channels would range between 3 and 10 knots. The operational controls imposed by the Coast Guard and local pilots and the use of tugs to assist the LNG ship would significantly reduce the possibility of a cargo containment failure and subsequent LNG spill from an accidental collision, grounding, or allision. As stated above, the Coast Guard has 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. The Coast Guard also stated that there is sufficient capability within the port community to responsibly manage the safety and security risks of this project.

51. The Commission staff performed vapor dispersion calculations based on a 1-meter diameter hole cargo tank breach from an accident. Results of this analysis showed that the flammable vapor would extend to the maximum distance only if an event to create the hole in the LNG vessel by penetrating the outer hull, the inner hull, and cargo containment occurred without ignition. Therefore, a flammable vapor cloud would not likely occur. It is also unlikely that a flammable vapor cloud could achieve its maximum distance over land surfaces without encountering an ignition source. This is not to imply that flammable vapor could not extend to the maximum distance, but it would be far more credible that the event creating a hole would also result in a number of ignition sources which would lead to an LNG pool fire and subsequent thermal radiation hazards. The Commission staff also calculated the thermal radiation distances for several holes ranging in diameter from 1 meter to 3.9 meters, based on the results from the *Sandia Report*. We estimated distances to range from 2,164 to 5,250 feet for a thermal radiation level of 1,600 Btu/ft²-hr. There would be no residences within the 1,600 Btu/ft²-hr transient hazard area.

52. With respect to EPA's comments regarding further analyses on thermal radiation and flammable vapor hazard resulted from an LNG cargo tank breach, an extensive discussion over the methodologies, assumptions and consequences for calculating thermal radiation and vapor dispersion distances for an LNG cargo tank spill was provided in section 4.13.5.4 "Hazards" of the final EIS. The marine hazard analyses were based on consequence methodology described in the ABSG Consulting Inc. study, titled *Consequence Assessment Methods for Incidents Involving Releases from Liquefied Natural Gas Carriers*. The hole sizes identified in the *Sandia Report* and the "worst case" intentional breach scenarios should not be misconstrued as defining an exclusionary zone. Rather, the average most probable "worst case" scenarios provide

guidance in developing the operating restrictions for LNG vessel movements in the Port of Pascagoula Channels as well as in establishing potential impact areas for emergency response and evacuation planning. As already explained above, we have included as a condition to this order that Bayou Casotte shall develop an Emergency Response Plan which it must submit for approval prior to initial site preparation. We believe that, although the risks associated with the LNG vessel transit cannot be entirely eliminated, they can be managed.

Environmental Justice

53. While acknowledging the additional data provided in the final EIS regarding the demographics and economic status of the City of Pascagoula, Jackson County, and the State of Mississippi, EPA is nevertheless concerned that the final EIS does not fully address whether the proposed project would result in disproportionately high and adverse human health or environmental effects on minority populations and low-income populations. The EPA recommends that the Commission staff analyze how the addition of the proposed project would impact the current pollution load for low-income and minority populations in the project area. The EPA also recommends that more specific information be provided as to the status of residences closest to the LNG facility, the sendout pipeline and interconnects, and the extent to which the Commission's public participation effort involved low income and minority populations.

54. Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations*,¹⁵ requires that specified federal agencies shall make achieving environmental justice part of their missions by identifying and addressing, as appropriate, disproportionately high and adverse human or environmental health effects of their programs, policies, and activities on minorities and low income populations. However, Executive Order 12898 applies to the agencies specified in section 1-102 of that order, and this Commission is not one of the specified agencies. Consequently, the provisions of Executive Order 12898 are not binding on this Commission.¹⁶ Nonetheless, in accordance with our usual practice, as part of the final EIS, the Commission has examined the Casotte Landing LNG Project to insure that it does not have disproportionately high and adverse human health or environmental effects on minority or low income communities.

¹⁵ 59 Fed. Reg. 7629 (Feb. 11, 1994).

¹⁶ *Weaver's Cove Energy, LLC*, 114 FERC ¶ 61,058 (2006).

55. As indicated in the final EIS, The Mississippi Department of Environmental Quality (MDEQ) is the air permitting authority for the proposed project. Title V of the Clean Air Act requires states to establish an air operating permit program. MDEQ regulations incorporate the federal requirements and establish permit review procedures for all facilities that emit pollutants to the ambient air. Bayou Casotte will have to obtain a state permit for the Casotte Landing LNG Project and comply with all applicable federal and state air regulations.

56. As discussed above, the cumulative impact modeling performed for this project indicated there should be no significant impact on air quality and that emissions should remain below the NAAQS. In addition, the final EIS recommended and this order requires Bayou Casotte prepare a Fugitive Dust Control Plan to reduce nuisance dust emissions during construction activities. We note that since the nearest residence would be about 1.0 mile northwest of the LNG terminal site (that is, on the west side of the Bayou Casotte shipping channel), we do not believe there would be any impact on residences from construction related emissions. Further, no residences are located within 50 feet of the sendout pipeline. Based on the above, we do not believe that the proposed project will have a disproportionately high and adverse human health or environmental effect on minority or low income communities or that any additional analysis of the environmental justice implications of these projects is warranted.

57. With respect to public participation, the general public was given notice of the project and an opportunity to provide both oral and written comments on environmental issues that should be addressed during the environmental review process. The mailing list included federal, state, and local officials; agency representatives; conservation organizations; Native American tribes; local libraries and newspapers; and landowners within 0.5 mile of the proposed LNG terminal and the sendout pipeline route. We believe our public participation efforts on the project were open to anyone who wanted to participate including low-income and minority populations.

Conclusions

58. The Commission has reviewed the information and analysis contained in the final EIS regarding the potential environmental effect of the project. Based on our consideration of this information, we agree with the conclusions presented in the final EIS and find that the Casotte Landing LNG Project LNG project is environmentally acceptable, if the project is constructed and operated in accordance with the environmental mitigation measures set forth in the Appendix to this order, as recommended in the final EIS. Thus, we are including the environmental mitigation measures recommended in the final EIS as conditions to the authorizations granted by this order for the Casotte Landing LNG Project.

59. Any state or local permits issued with respect to the jurisdictional facilities authorized herein must be consistent with the conditions of this certificate. We encourage cooperation between interstate pipelines and local authorities. This does not mean, however, that state and local agencies, through application of state or local laws, may prohibit or unreasonably delay the construction or operation of facilities approved by this Commission.¹⁷ Bayou Casotte shall notify the Commission's environmental staff by telephone or facsimile of any environmental noncompliance identified by other federal, state, or local agencies on the same day that such agency notifies Bayou Casotte. They shall file written confirmation of such notification with the Secretary of the Commission within 24 hours.

60. For the reasons set forth herein, and subject to the conditions set forth below, we find that Bayou Casotte's LNG terminal project is not inconsistent with the public interest under NGA section 3. Thus, we grant the requested authorization to Bayou Casotte.

61. At a hearing held on February 15, 2007, the Commission on its own motion received and made part of the record in this proceeding all evidence, including the application and exhibits thereto, submitted in support of the authorization sought herein, and upon consideration of the record,

The Commission orders:

(A) Bayou Casotte is authorized under section 3 of the NGA to site, construct and operate the proposed LNG import terminal and related facilities in Jackson County, Mississippi, as more fully described in this order and in the application.

(B) Construction of the proposed additional facilities shall be completed and made available for service no later than five years from the date of this order.

(C) Bayou Casotte shall comply with the environmental conditions listed in the appendix to this order.

(D) Bayou Casotte shall notify the Commission's environmental staff by telephone, e-mail or facsimile of any environmental noncompliance identified by other federal, state, or local agencies on the same day that such agency notifies Bayou Casotte.

¹⁷See, e.g., *Schneidewind v. ANR Pipeline Co.*, 485 U.S. 293 (1988); *National Fuel Gas Supply v. Public Service Commission*, 894 F.2d 571 (2d Cir. 1990); and *Iroquois Gas Transmission System, L.P.*, 52 FERC ¶ 61,091 (1990) and 59 FERC ¶ 61,094 (1992).

Bayou Casotte shall file written confirmation of such notification with the Secretary of the Commission within 24 hours.

(E) Sempra LNG's motion to intervene out-of-time is granted.

By the Commission.

(S E A L)

Magalie R. Salas,
Secretary.

Appendix A

Environmental Conditions

1. Bayou Casotte Energy shall follow the construction procedures and mitigation measures described in its application, supplemental filings (including responses to staff data requests) and as identified in the environmental impact statement (EIS), unless modified by the Order. Bayou Casotte Energy must:
 - a. request any modification to these procedures, measures, or conditions in a filing with the Secretary of the Commission (Secretary);
 - b. justify each modification relative to site-specific conditions;
 - c. explain how that modification provides an equal or greater level of environmental protection than the original measure; and
 - d. receive approval in writing from the Director of the Office of Energy Projects (OEP) **before using that modification.**

2. For pipeline facilities, the Director of OEP has delegated authority to take whatever steps are necessary to ensure the protection of all environmental resources during construction and operation of the Casotte Landing LNG Terminal (Project). This authority shall allow:
 - a. the modification of conditions of the Commission's Order; and
 - b. the design and implementation of any additional measures deemed necessary (including stop work authority) to assure continued compliance with the intent of the environmental conditions as well as the avoidance or mitigation of adverse environmental impact resulting from project construction and operation.

3. For liquefied natural gas facilities, the Director of OEP has delegated authority to take all steps necessary to ensure the protection of life, health, property, and the environment during construction and operation of the Project. This authority shall include:
 - a. stop-work authority and authority to cease operation; and
 - b. the design and implementation of any additional measures deemed necessary to assure continued compliance with the intent of the conditions of the Order.

4. Prior to any construction, Bayou Casotte Energy shall file an affirmative statement with the Secretary, certified by a senior company official, that all company personnel, environmental inspectors, and contractor personnel will be informed of the environmental inspector's authority and have been or will be trained on the

implementation of the environmental mitigation measures appropriate to their jobs before becoming involved with construction and restoration activities.

5. The authorized facility locations shall be as shown in the EIS, as supplemented by filed alignment sheets, and shall include all of the staff's recommended facility locations. **As soon as they are available, and before the start of construction**, Bayou Casotte Energy shall file with the Secretary any revised detailed survey alignment maps/sheets at a scale not smaller than 1:6,000 with station positions for all facilities approved by the Order. All requests for modifications of environmental conditions of the Order or site-specific clearances must be written and must reference locations designated on these alignment maps/sheets.
6. Bayou Casotte Energy shall file with the Secretary detailed alignment maps/sheets and aerial photographs at a scale not smaller than 1:6,000 identifying all route realignments or facility relocations, and staging areas, pipe storage yards, new access roads, and other areas that would be used or disturbed and have not been previously identified in filings with the Secretary. Approval for each of these areas must be explicitly requested in writing. For each area, the request must include a description of the existing land use/cover type, and documentation of landowner approval, whether any cultural resources or federally listed threatened or endangered species would be affected, and whether any other environmentally sensitive areas are within or abutting the area. All areas shall be clearly identified on the maps/sheets/aerial photographs. Each area must be approved in writing by the Director of OEP **before construction in or near that area**.

This requirement does not apply to extra workspace allowed by the Upland Erosion Control, Revegetation, and Maintenance Plan (Plan), minor field realignments per landowner needs, and requirements which do not affect other landowners or sensitive environmental areas such as wetlands.

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

- a. implementation of cultural resources mitigation measures;
 - b. implementation of endangered, threatened, or special concern species mitigation measures;
 - c. recommendations by state regulatory authorities; and
 - d. agreements with individual landowners that affect other landowners or could affect sensitive environmental areas.
7. **At least 60 days before that start of construction**, Bayou Casotte Energy shall file an initial Implementation Plan with the Secretary for review and written

approval by the Director of OEP describing how Bayou Casotte Energy will implement the mitigation measures required by the Order. Bayou Casotte Energy must file revisions to the plan as schedules change. The plan shall identify:

- a. how Bayou Casotte Energy will incorporate these requirements into the contract bid documents, construction contracts (especially penalty clauses and specifications), and construction drawings so that the mitigation required at each site is clear to onsite construction and inspection personnel;
 - b. the number of environmental inspectors assigned per spread, and how the company will ensure that sufficient personnel are available to implement the environmental mitigation;
 - c. company personnel, including environmental inspectors and contractors, who will receive copies of the appropriate material;
 - d. the training and instructions Bayou Casotte Energy will give to all personnel involved with construction and restoration (initial and refresher training as the Project progresses and personnel change), with the opportunity for OEP staff to participate in the training session(s);
 - e. the company personnel (if known) and specific portion of Bayou Casotte Energy's organization having responsibility for compliance;
 - f. the procedures (including use of contract penalties) Bayou Casotte Energy will follow if noncompliance occurs; and
 - g. for each discrete facility, a Gantt or PERT chart (or similar project scheduling diagram), and dates for:
 - (1) the completion of all required surveys and reports;
 - (2) the mitigation training of onsite personnel;
 - (3) the start of construction; and
 - (4) the start and completion of restoration.
8. Bayou Casotte Energy shall develop and implement an environmental complaint resolution procedure. The procedure shall provide landowners with clear and simple directions for identifying and resolving their environmental mitigation problems/concerns during construction of the Project and restoration of the right-of-way. **Prior to construction of the pipeline**, Bayou Casotte Energy shall mail the complaint procedures to each landowner whose property would be crossed by the Project.
- a. In its letter to affected landowners, Bayou Casotte Energy shall:
 - (1) provide a local contact that the landowners should call first with their concerns; the letter should indicate how soon a landowner should expect a response;

- (2) instruct the landowners that, if they are not satisfied with the response, they should call Bayou Casotte Energy's Hotline; the letter should indicate how soon to expect a response; and
 - (3) instruct the landowners that, if they are still not satisfied with the response from Bayou Casotte Energy's Hotline, they should contact the Commission's Enforcement Hotline at (888) 889-8030.
 - b. In addition, Bayou Casotte Energy shall include in its weekly status report a copy of a table that contains the following information for each problem/concern:
 - (1) the date of the call;
 - (2) the identification number from the certificated alignment sheets of the affected property;
 - (3) the description of the problem/concern; and
 - (4) an explanation of how and when the problem was resolved, will be resolved, or why it has not been resolved.
9. Bayou Casotte Energy shall employ an environmental inspector (EI). The environmental inspector shall be:
 - a. responsible for monitoring and ensuring compliance with all mitigation measures required by the Order and other grants, permits, certificates, or other authorizing documents;
 - b. responsible for evaluating the construction contractor's implementation of the environmental mitigation measures required in the contract (see condition 6 above) and any other authorizing document;
 - c. empowered to order correction of acts that violate the environmental conditions of the Order, and any other authorizing document;
 - d. a full-time position, separate from all other activity inspectors;
 - e. responsible for documenting compliance with the environmental conditions of the Order, as well as any environmental conditions/permit requirements imposed by other federal, state, or local agencies; and
 - f. responsible for maintaining status reports.
10. Bayou Casotte Energy shall file updated status reports prepared by the EI with the Secretary on a weekly basis **until all construction and restoration activities are complete**. On request, these status reports will also be provided to other federal and state agencies with permitting responsibilities. Status reports shall include:
 - a. the current construction status of the Project, work planned for the following reporting period, and any schedule changes for stream crossings or work in other environmentally sensitive areas;
 - b. a listing of all problems encountered and each instance of noncompliance observed by the EI(s) during the reporting period (both for the conditions

- imposed by the Commission and any environmental conditions/permit requirements imposed by other federal, state, or local agencies);
- c. corrective actions implemented in response to all instances of noncompliance, and their cost;
 - d. the effectiveness of all corrective actions implemented;
 - e. a description of any landowner/resident complaints which may relate to compliance with the requirements of the Order, and the measures taken to satisfy their concerns; and
 - f. copies of any correspondence received by Bayou Casotte Energy from other federal, state or local permitting agencies concerning instances of noncompliance, and Bayou Casotte Energy's response.
11. Bayou Casotte Energy must receive written authorization from the Director of OEP **before commencing service** of the LNG terminal and the other components of the project. Such authorization will only be granted following a determination that the facilities have been constructed in accordance with FERC approval and applicable standards, can be expected to operate safely as designed, and the rehabilitation and restoration of the right-of-way is proceeding satisfactorily.
12. **Within 30 days of placing the certificated facilities in service**, Bayou Casotte Energy shall file an affirmative statement with the Secretary, certified by a senior company official:
- a. that the facilities have been constructed in compliance with all applicable conditions, and that continuing activities will be consistent with all applicable conditions; or
 - b. identifying which of the certificate conditions Bayou Casotte Energy has complied with or will comply with. This statement shall also identify any areas affected by the Project where compliance measures were not properly implemented, if not previously identified in filed status reports, and the reason for noncompliance.
13. Bayou Casotte Energy shall file with the Commission **before construction** the following information on nonjurisdictional facilities, including the Mississippi Power Company transmission lines and substations, the Refinery berth relocations, and the NGL extraction and pipeline system:
- a. final routing and design information, including a map depicting the location of the facilities;
 - b. documentation of consultations with the appropriate agencies and the status of federal, state, or local permits or approvals required for construction; and

- c. status and copies of agency clearances (or copies of any surveys and reports prepared) for wetlands, threatened and endangered species, and cultural resources.
14. Bayou Casotte Energy shall revise its proposed Plan, except for the proposed variances specifically approved in this EIS, to be consistent with the FERC's standard Plan. The revised Plan shall be filed with the Secretary for review and written approval by the Director of OEP **prior to the start of construction.**
15. Bayou Casotte Energy shall 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 and file a copy with the Secretary **prior to the start of construction.**
16. Except for the proposed variances specifically approved within this EIS, Bayou Casotte Energy shall revise its proposed Procedures to be consistent with the FERC's standard Procedures, as modified in this EIS. The revised Procedures should be filed with the Secretary for review and written approval by the Director of OEP **prior to construction.**
17. Bayou Casotte Energy shall file the results of consultations with MDEQ regarding the use of hydrostatic test water additives to the Commission **prior to the start of construction**, and not use corrosion inhibitors, biocides, oxygen scavengers, or other hydrostatic test water additives that exhibit toxicity to aquatic organisms without **prior written approval** by the Director of OEP.
18. Bayou Casotte Energy shall complete consultations with MDMR and MDEQ regarding potential impacts to water quality within or adjacent to the proposed terminal slip and file documentation of the consultation findings and any required mitigation or monitoring measures to the Secretary **prior to the date of construction.**
19. Bayou Casotte Energy shall implement the lighting guidelines developed by the FWS for siting, construction, operation, and decommissioning of communication towers. These guidelines specifically recommend that the number and intensity of facility lighting be minimized and that security lighting be down-shielded to keep light within the boundaries of the site. Bayou Casotte Energy shall file that plan with the Secretary for review and written approval by the Director or OEP **prior to construction.**

20. Bayou Casotte Energy shall complete consultations with the MDMR regarding the need for a pre-construction and post-construction project trawl and benthic sampling plan and if required, file the agency approved plan with the Secretary **prior to the start of construction.**
21. Bayou Casotte Energy shall complete consultations with NOAA Fisheries and MDMR regarding potential impacts to ichthyoplankton and aquatic resources resulting from the intake of ballast and engine cooling water, the discharge of cooling water, (and all other activities that result in withdrawal of marine surface water, such as hydrostatic testing and maintenance dredging), and file the findings of these consultations with the Commission, including any required or recommended measures to prevent or reduce impacts, **prior to the start of construction.**
22. Bayou Casotte Energy shall finalize consultations with NOAA Fisheries, MDMR, and the COE to develop a plan for quantifying, if appropriate, and mitigating impacts to EFH and file that plan with the Secretary for review and written approval of the Director of OEP **prior to construction.**
23. Bayou Casotte Energy shall consult with the FWS regarding appropriate measures that should be implemented to avoid or minimize impacts to migratory bird species if construction activities were to occur during peak nesting season (April 1 through June 30). In addition, Bayou Casotte Energy shall file the results of that consultation with the Secretary and receive written approval from the Director of OEP **prior to implementing any associated mitigation measures.**
24. Bayou Casotte Energy shall not begin construction activities at the LNG terminal and along the pipeline route until:
 - a. the FERC completes any necessary consultations with the FWS and NOAA Fisheries; and
 - b. Bayou Casotte Energy receives written notification from the Director of OEP that construction and/or implementation of conservation measures may begin.

If construction has not begun **within 1 year** from the date of issuance of the FERC approval of the project, Bayou Casotte Energy shall consult with the appropriate offices of the FWS and NOAA Fisheries to update the species list and to verify that previous consultations and determinations of effect are still current.

Documentation of these consultations, and the need for additional surveys and survey reports (if required), and FWS or NOAA Fisheries comments on the surveys and survey reports and their conclusions, shall be filed with the Secretary and the COTP **prior to construction.**

25. Bayou Casotte Energy shall file documentation of concurrence from the Mississippi Department of Marine Resources that the Project is consistent with Mississippi's CMP with the **Secretary prior to construction**.
26. Bayou Casotte Energy shall file with the Secretary the outcome of consultations with state and local transportation authorities to determine the need for Maintenance of Traffic Study **prior to the initiation of construction**.
27. Bayou Casotte Energy prepare a Fugitive Dust Control Plan that specifies the following:
 - a. The precautions that would be taken to minimize fugitive dust emissions from construction activities and when/how the measures would be applied;
 - b. the individuals with the authority to determine if/when water needs to be reapplied for dust control; and
 - c. the individuals with the authority to stop work if the contractor does not comply with dust control measures.This plan should be filed with the Secretary for review and written approval of the Director of OEP **prior to the start of construction activities**.
28. Bayou Casotte Energy shall make all reasonable efforts to ensure its predicted noise levels from the LNG terminal are not exceeded at the noise-sensitive area (NSA) and file noise surveys with the Secretary **no later than 60** days after placing the LNG terminal in service. However, if the noise attributable to the operation of the LNG terminal exceeds 55 decibels on the A-weighted scale day-night sound level at a NSA, Bayou Casotte Energy shall file a report on what changes are needed and shall install additional noise controls to the level **within 1 year** of the in-service date. Bayou Casotte Energy shall confirm compliance with these requirements by filing a second noise survey with the Secretary **no later than 60 days** after it installs the additional noise controls.
29. Bayou Casotte Energy shall **annually** review its waterway suitability assessment for the project; update the assessment to reflect changing conditions; provide the updated assessment to the cognizant COTP/Federal Maritime Security Coordinator for review and validation; and provide a copy to the FERC staff.
30. Bayou Casotte Energy shall provide the necessary information to demonstrate that the transient hazard areas identified in the final EIS are applicable **prior to accepting** ships greater than 140,000 cubic meters in capacity. This information shall be filed with the Secretary for review and written approval of the Director of OEP. This information shall also be provided to the Coast Guard.

Conditions 31 through 70 shall apply to the LNG terminal design and construction details. Information pertaining to these specific recommendations shall be filed with the Secretary for review and approval by the Director of OEP either: prior to initial site preparation; prior to construction of final design; prior to commissioning; or prior to commencement of service as indicated by each specific recommendation. Items relating to Resource Report 13 - Engineering and Design Material and security should be submitted as critical energy infrastructure information pursuant to 18 CFR Parts 388.112 and PL01-1. Information pertaining to items such as: offsite emergency response; procedures for public notification and evacuation; and construction and operating reporting requirements would be subject to public disclosure. Bayou Casotte Energy shall file this information a minimum of 30 days before approval to proceed is required.

31. Complete plan drawings and a list of the hazard detection equipment shall be filed **prior to initial site preparation**. The list shall include the instrument tag number, type and location, alarm locations, and shutdown functions of the proposed hazard detection equipment. Plan drawings shall clearly show the location of all detection equipment.
32. A technical review addressing the following information for the proposed facility should be filed **prior to initial site preparation**:
 - a. Identification of all combustion/ventilation air intake equipment and the distances to any possible hydrocarbon release (LNG, flammable refrigerants, flammable liquids and flammable gases).
 - b. A demonstration that these areas are adequately covered by hazard detection devices, including a description of how these devices would isolate or shutdown any combustion equipment whose continued operation could add to or sustain an emergency.
33. Complete plan drawings and a list of the fixed and wheeled dry-chemical, fire extinguishing, and high expansion foam hazard control equipment shall be filed **prior to initial site preparation**. The list shall include the equipment tag number, type, size, equipment covered, and automatic and manual remote signals initiating discharge of the units. Plan drawings should clearly show the planned location of all fixed and wheeled extinguishers.
34. Facility plans showing the proposed location of, and area covered by, each monitor, hydrant, deluge system, hose, and sprinkler, as well as piping and instrumentation diagrams, of the fire water system shall be filed **prior to initial site preparation**.

35. A copy of the hazard design review and list of recommendations that are to be incorporated in the final facility design shall be filed **prior to initial site preparation**.
36. Drawings of the storage tank piping support structure and support of horizontal piping at grade shall be filed **prior to initial site preparation**.
37. The P&IDs and design information for the NGL Recovery System shall be filed **prior to initial site preparation**.
38. Procedures shall be developed for offsite contractors' responsibilities, restrictions, limitations and supervision of these contractors by Bayou Casotte Energy staff, **prior to initial site preparation**.
39. Bayou Casotte Energy shall develop an Emergency Response Plan (including evacuation) and coordinate procedures with the Coast Guard, state, county, and local emergency planning groups; fire departments, state and local law enforcement, and appropriate Federal agencies. This plan shall include at a minimum:
 - a. designated contacts with state and local emergency response agencies;
 - b. scalable procedures for the prompt notification of appropriate local officials and emergency response agencies based on the level and severity of potential incidents;
 - c. procedures for notifying residents and recreational users within areas of potential hazard;
 - d. evacuation routes/methods for residents and other public use areas that are within any transient hazard along the route of the LNG vessel transit;
 - e. locations of permanent sirens and other warning devices; and
 - f. an "emergency coordinator" on each LNG carrier to activate sirens and other warning devices.

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

40. The Emergency Response Plan shall include a Cost-Sharing Plan identifying the mechanisms for funding all project-specific security/emergency management costs that would be imposed on state and local agencies. In addition to the funding of

direct transit-related security/emergency management costs, this comprehensive plan shall include funding mechanisms for the capital costs associated with any necessary security/emergency management equipment and personnel base. The Cost-Sharing Plan shall be filed with the Secretary for review and written approval by the Director of OEP **prior to initial site preparation.**

41. The **final design** of the hazard detection equipment shall identify manufacturer and model.
42. The **final design** of the fixed and wheeled dry-chemical, fire extinguishing, and high expansion foam hazard control equipment should identify manufacturer and model.
43. The **final design** shall include detailed drawings of the spill control system to be applied to the LNG tank roof.
44. The **final design** shall specify that the LNG tank carbon steel piping support plates and connections to piping supports shall be designed to ensure that corrosion protection is adequately provided and provisions for corrosion monitoring and maintenance of carbon steel attachments are to be included in the design and maintenance procedures.
45. The **final design** shall include details of the LNG tank tilt settlement and differential settlement limits between each LNG tank and piping and procedures to be implemented in the event that limits are exceeded.
46. The **final design** shall include details of the pipe supports and restraints designed to prevent damage to piping systems and equipment in the event of a storm surge anticipated for a class 4 hurricane.
47. The **final design** shall include provisions to install LNG transfer pumps at Jetty KO drum.
48. The **final design** shall include details of the boiloff gas flow and temperature measurement for each tank.
49. The **final design** shall include bypass valves around the intank discharge valves for cooldown of the 24-inch headers and piping.
50. The **final design** shall include an automatic shutoff valve in the LNG intermediate pump inlet line from the suction header.

51. The **final design** shall include an automatic shutoff valve in the LNG sendout pump inlet line from the suction header.
52. The **final design** shall include P&IDs and drawings of the meter station.
53. The **final design** shall include a fire protection evaluation carried out in accordance with the requirements of NFPA 59A, chapter 9.1.2.
54. The **final design** shall include details of the shut down logic, including cause and effect matrices for alarms and shutdowns.
55. The **final design** shall include emergency shutdown of equipment and systems activated by hazard detection devices for flammable gas, fire, and cryogenic spills, when applicable.
56. The **final design** shall include details of the air gaps to be installed downstream of all seals or isolations installed at the interface between a flammable fluid system and an electrical conduit or wiring system. Each air gap shall vent to a safe location and be equipped with a leak detection device that: shall continuously monitor for the presence of a flammable fluid; shall alarm the hazardous condition; and shall shutdown the appropriate systems.
57. The **final design** shall include a HAZOP review of the completed design. A copy of the review and a list of the recommendations shall be filed.
58. The P&IDs in the **final design** shall show and number all valves including drain, vent, main, and car sealed.
59. The **final design** shall include safeguards to be installed to protect above ground fire water piping, including post indicator valves, from inadvertent damage.
60. The **final design** shall specify that all hazard detection equipment shall include redundancy and fault detection and fault alarm monitoring in all potentially hazardous areas and enclosures.
61. All valves including drain, vent, main, and car sealed valves shall be tagged in the field **during construction and prior to commissioning**. Instrumentation valves are excluded from this recommendation.

62. The design details and procedures to record and to prevent the tank fill rate from exceeding the maximum fill rate specified by the tank designer shall be filed **prior to commissioning**.
63. A tabulated list of the proposed hand-held fire extinguishers shall be filed **prior to commissioning**. The information shall include a list with the equipment number, type, size, number, and location. Plan drawings shall include the type, size, and number of all hand-held fire extinguishers.
64. Operation and maintenance procedures and manuals, as well as safety procedure manuals, shall be filed **prior to commissioning**.
65. The contingency plan for failure of the LNG tank outer containment, approved by the tank manufacturer shall be filed **prior to commissioning**.
66. A copy of the criteria for horizontal and rotational movement of the inner tank for use during and after cool down shall be filed **prior to commissioning**.
67. The maintenance procedures to be filed **prior to commissioning** shall state that a foundation elevation survey of all LNG tanks shall be made on an annual basis.
68. Bayou Casotte Energy shall coordinate with the Coast Guard to define the responsibilities of Bayou Casotte Energy's security staff in supplementing other security personnel and in protecting the LNG tankers and terminal **prior to commissioning**.
69. The FERC staff shall be notified of any proposed revisions to the security plan and physical security of the facility **prior to commencement of service**.
70. Progress on the construction of the LNG terminal shall be reported in monthly reports filed with the Secretary. Details shall include a summary of activities, projected schedule for completion, problems encountered and remedial actions taken. Problems of significant magnitude shall be reported to the FERC within 24 hours.

Recommendation numbers 71 through 74 shall apply throughout the life of the facility:

71. The facility shall be subject to regular FERC staff technical reviews and site inspections on at least an **annual** basis or more frequently as circumstances indicate. Prior to each FERC staff technical review and site inspection, the Company shall respond to a specific data request including information relating to

possible design and operating conditions that may have been imposed by other agencies or organizations. Up-to-date detailed piping and instrumentation diagrams reflecting facility modifications and provision of other pertinent information not included in the semi-annual reports described below, including facility events that have taken place since the previously submitted annual report, shall be filed.

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

notification shall be made to Commission staff within 24 hours. This notification practice shall be incorporated into the LNG facility's emergency plan. Examples of reportable LNG-related incidents include:

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

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