

## **EXECUTIVE SUMMARY**

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This final Environmental Impact Statement (EIS) for the proposed Calhoun Liquefied Natural Gas (LNG) Terminal and Pipeline Project (Project) has been prepared by the staff of the Federal Energy Regulatory Commission (FERC or Commission) in cooperation with multiple federal and state agencies to fulfill the requirements of the National Environmental Policy Act (NEPA) and the Commission's implementing regulations. The purpose of this document is: to inform the public and the relevant federal and state permitting agencies about the potential environmental impacts resulting from the construction and operation of the proposed Project including the use of the marine transit route required to access the proposed terminal; identify and discuss project alternatives; and to recommend practical, reasonable, and appropriate mitigation measures that would avoid or reduce adverse environmental impacts.

The FERC is the federal agency responsible for authorizing applications to construct and operate onshore LNG import and interstate natural gas transmission facilities. The U.S. Coast Guard (Coast Guard) 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 also responsible for matters related to navigational safety, vessel engineering and safety standards, and all matters pertaining to the safety of facilities or equipment located in or adjacent to navigable waters.

### **PROPOSED ACTION**

Calhoun LNG, L.P. and Point Comfort Pipeline, L.P. (collectively referred to as Calhoun Point Comfort) have designed the proposed Project to provide facilities necessary to import, store, vaporize, and transport on average about 1.0 billion cubic feet per day (bcfd) of LNG.

Specifically, Calhoun Point Comfort requests Commission authorization to construct and operate the following facilities:

- a new marine terminal on the southeastern shore of Lavaca Bay, south of Point Comfort, in Calhoun County, Texas that could accommodate about 120 LNG vessels per year;
- two full containment LNG storage tanks each with a nominal working volume of approximately 160,000 m<sup>3</sup> (1,006,000 barrels equivalent); and
- associated LNG vaporization and processing equipment.

To reach the proposed LNG terminal, LNG vessels assisted at times by support vessels would traverse the Gulf of Mexico and approximately 22-miles of the Matagorda Ship Channel (MSC).

Calhoun Point Comfort also requests authorization to construct, own, and operate the following natural gas pipeline facilities:

- an approximately 27.1-mile-long, 36-inch-diameter natural gas pipeline extending northward from the LNG terminal to natural gas pipeline interconnects southwest of Edna, Texas;

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- a 0.25-mile-long, 8-inch-diameter natural gas pipeline lateral extending from the proposed pipeline to a meter station servicing the Formosa Hydrocarbons Company (Formosa Lateral);
  - a 0.25-mile-long, 16-inch-diameter natural gas pipeline lateral extending from the proposed pipeline to a meter station servicing the Transcontinental Gas Pipeline Corporation (Transco Lateral);
  - ten delivery points/interconnects; and
  - associated pipeline facilities including pig launcher and receiver facilities and three mainline valves.

In a separate, but related action, the Calhoun County Navigational District would dredge a turning basin and ship berth affecting about 49 acres of Lavaca Bay, resulting in the need to dispose of approximately 2.7 million cubic yards (mcy) of dredged material.

## **PUBLIC INVOLVEMENT**

On July 7, 2005, the FERC issued a *Notice of Intent to Prepare an Environmental Impact Statement for the Proposed Calhoun LNG Terminal and Pipeline Project, Request for Comments on Environmental Issues, and Notice of Public Scoping Meeting (NOI)*. The NOI was sent to 211 interested parties including federal, state, and local officials; agency representatives; conservation organizations; local libraries and newspapers; and property owners within 0.5 mile of the proposed LNG terminal and along the proposed pipeline route (collectively referred to as the environmental mailing list). On July 26, 2005, the FERC conducted a public site visit; and a public scoping meeting in Port Lavaca, Texas. A transcript of the scoping meeting and all written comments provided at the meeting as well as all comments provided in response to the NOI have been entered into the public record for the proposed Project.

On June 30, 2006 the FERC issued a draft EIS for the proposed Project. A formal notice indicating that the draft EIS was available was also published in the *Federal Register*, and the document was mailed to the environmental mailing list. In accordance with the Council on Environmental Quality regulations implementing NEPA, a 45-day comment period was allotted for public comment. On August 17, 2006 a public meeting to hear comments on the draft EIS was held in Port Lavaca, Texas. A transcript of the meeting and all written comments provided in response to the draft EIS have been entered into the public record for the proposed Project. All timely comments received on the draft EIS are addressed in this final EIS, either as revisions to the text as appropriate, and/or as direct responses to each comment.

This final EIS was mailed to the agencies, individuals, and organizations on the mailing list for the proposed Project, and submitted to the EPA for formal public notice of availability.

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## **ALTERNATIVES CONSIDERED**

We<sup>1</sup> considered several alternatives to the proposed action including; Coast Guard alternatives, the no action and postponed action alternatives, LNG system alternatives, LNG terminal site alternatives, and pipeline system and route alternatives.

Based on our review of the proposed Project, we have determined that as modified by our recommended mitigation, the proposed Project is the preferred alternative that can meet the project objectives, with the minimum amount of environmental impacts. The preferred Coast Guard alternative is to issue a Letter of Recommendation with conditions finding the waterway suitable for LNG vessel traffic.

## **PROJECT IMPACTS AND MITIGATION**

Construction of the proposed Project would temporarily affect a total of about 538.6 acres of land. Specifically, construction of the LNG terminal and the proposed pipeline would temporarily affect about 122 and 416.6 acres of land, respectively. Operation of the proposed Project would permanently affect a total of about 170.7 acres of land. Specifically, operation of the LNG terminal and proposed pipeline would permanent affect about 73 and 97.7 acres of land, respectively.

As indicated in Calhoun Point Comfort's Dredged Material Management Plan (DMMP), dredged material placement areas (DMPAs) within Lavaca Bay have the capacity to accommodate the anticipated 2.7 mcy of dredged material as well as dredge material produced from future maintenance dredging operations. The placement of dredged material produced by the dredging of the turning basin and ship berth would permanently fill approximately 11 acres of intertidal wetlands. However, final approval of the DMMP and the DMPAs is required by the U.S. Army Corps of Engineers.

The proposed pipeline would cross 65 surface waterbodies; 11 of these waterbodies would be crossed using the horizontal directional drill method, 14 waterbodies using the bore method, and the remaining 40 waterbodies using the open-cut method. No tidal wetlands or vegetated tidal flats would be impacted at the proposed LNG terminal site. Construction of the proposed pipeline would affect about 23.8 acres of wetlands.

Construction and operation of the proposed Project would result in impacts to numerous environmental resources including surface waters, wetlands, soils, vegetation, wildlife, land use, and air and noise quality. Impacts resulting from Project-related activities include temporary increases in surface water turbidity and erosion potential; decreases in water quality, wildlife habitat, and available vegetation. Project-related impacts at the terminal site would also result in the permanent loss and conversion of wetlands and other lands to industrial lands. We have determined that the proposed Project would have no effect or is not likely to adversely affect threatened and endangered species. We believe that the proposed Project would not have significant long-term impacts on EFH. The proposed Project would not affect residential areas. The viewshed of the project would not be significantly impacted since the LNG storage tanks, which would be the most prominent features, would be consistent in size and height with the existing industrial facilities along the shoreline. Noise from operation of the LNG terminal

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<sup>1</sup> "We," "us," and "our" refer to the environmental staff of the FERC's Office of Energy Projects.

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facility should not create a significant noise impact at the nearest noise sensitive areas along the south side of the City of Point Comfort. Since Calhoun and Jackson Counties are both classified as attainment areas for all criteria pollutants, a General Conformity review of the Project is not required. Criteria pollutant emissions from operation of the Project, including from LNG vessels within the MSC, are not expected to exceed annual threshold limits. Other environmental resources including geological resources and groundwater would not be significantly affected by the proposed Project. Typical LNG vessel traffic in the Gulf of Mexico and through the MSC associated with the proposed Project would not result in significant impacts to environmental resources.

Additionally, we evaluated the safety of both the proposed LNG import terminal facility and the related LNG marine traffic through the MSC. With respect to the onshore facility, we completed a cryogenic design and technical review of the proposed terminal design and safety systems, and have identified specific areas of concern and included recommendations to address these concerns. Exclusion zones associated with the on-shore facility were calculated and determined to be in compliance with Title 49, CFR, Part 193. We also calculated thermal radiation and flammable vapor hazard distances for an accident or an attack on an LNG vessel. Based on the extensive operational experience of LNG vessels, the structural design of an LNG vessel, and the operational controls imposed by the Coast Guard and the local pilots, the likelihood of a cargo containment failure and subsequent LNG spill from a vessel casualty, collision, grounding, or allision<sup>2</sup> is highly unlikely. Furthermore, if an accidental or intentional breach of an LNG vessel resulting in a release of LNG were to occur during transit of the waterway, impacts on the various environmental resources along the waterway and within the Zones of Concern could result. The severity and duration of the impacts would vary depending on the resource, but with the implementation of mitigation measures described in the Coast Guard's Waterway Suitability Report a release would be highly unlikely.

To reduce potential project-related environmental impacts, Calhoun Point Comfort would implement several minimization and mitigation measures and plans including the following:

- Upland Erosion Control, Revegetation, and Maintenance Plan;
- Wetland and Waterbody Construction and Mitigation Procedures;
- Dredged Material Management Plan;
- Wetland and Waters of the U.S. Mitigation Plan; and
- Traffic Mitigation Plan.

To further minimize potential impacts resulting from Project-related activities we are recommending several mitigation measures. These recommendations include mitigation measures that would avoid or reduce impacts threatened and endangered species, ensure consistency with coastal zone management efforts, and improve the design and safety of proposed facilities.

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<sup>2</sup> "Allision" is the action of dashing against or striking upon a stationary object (e.g., the running of one vessel upon another vessel that is docked) - distinguished from "collision," which is used to refer to two moving vessels striking one another.

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## MAJOR CONCLUSIONS

We conclude that with the use of Calhoun Point Comfort's proposed mitigation and adoption of our recommended mitigation measures, construction and operation of the proposed facilities and the related LNG marine traffic within the MSC would have limited adverse environmental impact.

The primary reasons for our decision are:

- Calhoun Point Comfort would construct its LNG terminal on manmade, industrial land owned by the Port of Port Lavaca–Point Comfort;
- Calhoun Point Comfort would minimize impact on soils, wetlands, and waterbodies by implementing the FERC's Plan and Procedures;
- Calhoun Point Comfort initiated and is continuing consultation with federal and state agencies regarding the development of a mitigation plan that would compensate for impacts to wetland resources;
- the Matagorda Bay Pilots indicated that they could continue to escort vessels into and out of the MSC in a safe and expeditious manner and that the Project would have minimal impacts on vessel traffic;
- the Coast Guard has completed a preliminary assessment and determined the additional measures which would be necessary to responsibly manage the navigation, safety and security risks of the project; and
- safety features would be incorporated into the design and operation of the LNG import terminal and vessels.