

EXECUTIVE SUMMARY

This final environmental impact statement (EIS)¹ for the Port Arthur LNG Project (Project) proposed by Port Arthur LNG, L.P. (“Port Arthur LNG”), a subsidiary of Sempra Energy LNG (SELNG), and Port Arthur Pipeline, L.P. (“Port Arthur Pipeline”), a subsidiary of Sempra Energy International (hereafter collectively referred to as Sempra) has been prepared by the staff of the Federal Energy Regulatory Commission (FERC or Commission) to fulfill the requirements of the National Environmental Policy Act (NEPA) and the Commission’s implementing regulations under Title 18, Code of Federal Regulations, Part 380. The purpose of this document is to inform the public and the permitting agencies about the potential adverse and beneficial environmental impacts of the proposed Project, and its alternatives; and to recommend mitigation that would avoid or reduce any significant adverse impact to the maximum extent possible.

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

The purpose of the proposed Project is to provide the facilities necessary to meet growing demand for natural gas in the United States (U.S.) by: allowing access to liquefied natural gas (LNG) supplies to supplement diminishing supplies while utilizing, to the extent practicable, the existing natural gas pipeline infrastructure within the Gulf of Mexico region of the U.S; and allowing natural gas delivery to markets in the Midwestern and Northeastern markets by use of existing interstate natural gas pipeline systems. To accomplish this purpose, Sempra proposes to construct and operate a new LNG import terminal in Jefferson County, Texas, that would include LNG ship unloading berths, LNG storage and vaporization, and a new natural gas pipeline system to deliver the vaporized natural gas to existing interstate and intrastate pipeline systems. The proposed LNG facilities ultimately would import, store, and vaporize an average of approximately 3 billion cubic feet per day (Bcf/d) of natural gas for delivery into the existing intrastate and interstate pipeline systems. To account for peaking capacity, maximum delivery volumes would be 1.8 Bcf/d for Phase I and 3.6 Bcf/d for Phase II.

The Project would be constructed in two phases and would be completed over a period of up to 10 years, depending on market demands. Phase II construction would begin approximately 2 years after the start of Phase I construction and would increase the average capacity from 1.5 to 3.0 Bcf/d. At times the delivery volume would be up to 3.6 Bcf/d for Phase II. To provide these services, Sempra is requesting Commission approval under Section 3 of the Natural Gas Act (NGA) for the LNG terminal consisting of the following facilities:

¹ The vertical line in the margin identifies text that has been modified in this final EIS and differs substantially from the corresponding text in the draft EIS.

Phase I of the Project

- a protected LNG unloading slip with ship maneuvering area (turning basin);
- LNG ship unloading system consisting of two berths each consisting of four 16-inch unloading arms and one 16-inch vapor return arm, mooring and breasting dolphins, gangway tower, firewater monitors, service utilities and associated valves and piping. LNG transfer from the ship to the on-shore storage system would be through two 36-inch-diameter unloading lines, one per berth. Each berth would be sized for an unloading rate of 17,500 cubic meter per hour; although, only one ship would be unloaded at a time during Phase I. However, if weather conditions or other unforeseen circumstances necessitate concurrent unloading, facility design would accommodate dual unloading;
- LNG storage system consisting of a total of three full-containment LNG storage tanks each with a nominal capacity of 160,000 cubic meters (m³) (1,006,000 barrels). Each tank would be equipped with three can-type, fully submerged LNG in-tank pumps sized for 2,976 gallons per minute (gpm) each;
- boil-off gas (BOG) recovery system consisting of 3 reciprocating BOG compressors each sized for 13,887 pounds per hour (lb/hr), two integrally geared return gas blowers, each sized for 32,228 lb/hr, and one direct-contact recondenser;
- LNG transfer system to transfer LNG from the recondenser to the send-out LNG vaporizers. The transfer system would consist of 8 pot-mounted LNG booster pumps (one being a spare) each sized for 1,964 gpm;
- LNG vaporization system consisting of 6 shell-and-tube LNG vaporizers (one being a spare) each sized for 0.305 Bcf/d. The heat source to the vaporizers would be heated water;
- hot water heating system consisting of four gas-fired hot water heaters each sized for 348 million British thermal units per hour and 3 centrifugal hot water circulation pumps (one being a spare) each sized for 11,727 gpm;
- emergency vent system; LNG spill containment system; fire water system; fuel gas, nitrogen, instrument/plant air and service water utility systems; various hazard detection, control, and prevention systems;
- utilities, buildings and support facilities;
- facilities for pig² launchers and receivers; and
- metering facilities.

² A pig is an internal tool used to clean and dry a pipeline and to inspect a pipeline for potential leaks or damage.

Phase II of the Project

- three full-containment LNG storage tanks each with a nominal capacity of 160,000 m³ (1,006,000 barrels) and each equipped with three can-type fully submerged LNG in-tank pumps sized for 2,976 gpm each;
- one additional BOG compressor sized for 13,887 lb/hr and two additional integrally geared return gas blowers each sized for 32,228 lb/hr;
- eight additional LNG booster pumps (one being a spare) each sized for 1,964 gpm;
- six additional LNG vaporizers (one being a spare) each sized for 0.305 Bcf/d;
- four additional hot water heaters and three additional hot water circulation pumps (one being a spare) each sized for 11,727 gpm;
- buildings and support facilities;
- associated hazard detection, control, and prevention systems, cryogenic piping, electrical, and instrumentation systems; and
- metering facilities.

In addition, Sempra is requesting Commission approval under Section 7 (c) of the NGA for a pipeline system capable of transporting up to 3.0 Bcf/d of natural gas and consisting of 2 pipelines and associated pipeline support facilities, including pig launchers and receivers and mainline valves (MLVs). The pipeline system would be installed in two phases across two counties in Texas and four parishes in Louisiana, and would consist of:

Phase I of the Project

- an approximately 70-mile-long, 36-inch-diameter natural gas pipeline extending from the LNG terminal terminating at the existing Transcontinental Gas Pipe Line Corporation Compressor Station No. 45 located northeast of the terminal site location; and
- MLV's (located at mileposts [MPs] 19.2, 29.9, 40.3, 50.0, and 58.4); pig launcher (MP 0.0); and pig receiver (MP 69.9);

Phase II of the Project

- an approximately 3-mile-long, 36-inch-diameter pipeline extending from the LNG terminal terminating at an existing Natural Gas Pipeline Company of America pipeline that passes to the south of the terminal site location; and
- a pig launcher (MP 0.0) and a pig receiver (MP 2.6).

PROJECT IMPACTS

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

Clearing and construction activities would result in the disruption of approximately 1,497 acres of land comprising palustrine, scrub-shrub, and forested wetlands; estuarine emergent marsh; coastal/upland prairie grasslands; coastal woodlands/upland forests; agriculture and pasture land; previously disturbed lands; and open water/channel shoreline habitat. The majority of the Project area consists of emergent marsh, coastal/upland prairie grasslands, and open water. Operation of the LNG terminal would permanently affect 198.2 acres of land. Operation of the pipeline system would affect approximately 404.7 acres of land; 3.22 acres of which would be used for permanent aboveground facilities.

Construction and operation of the proposed Port Arthur LNG Project would have minimal impact on geologic resources. The Project lies in an area of low seismic risk and earthquake hazards. Due to the presence of saturated sediments beneath the LNG terminal site, Sempra has incorporated measures into its facility design to avoid destabilization such as soil improvement and the use of deep-driven piles to support the LNG tanks and other facility equipment. Because the structural and mechanical elements have been designed into the LNG terminal facilities to withstand coastal flooding and storms, flooding due to storm events is not expected to adversely affect the Project. Sempra proposes to control erosion of the terminal marine berth shoreline with rip-rap and other slope stabilization techniques. There is at least one plugged and abandoned oil well on the proposed LNG terminal site and other wells in the vicinity of proposed project work spaces. We have recommended that Sempra develop a plan for construction in the vicinity of the known abandoned well on the terminal site and for any unidentified wells that could be discovered during construction.

Construction and operation of the Project would not have a significant impact on groundwater resources in the Project area, including the underlying Chicot Aquifer. Sempra has identified one water supply well that would be located within the construction right-of-way. Sempra would place a chain link fence around this well to protect it from accidental damage or spills of hazardous liquids and would conduct and document pre- and post-construction well water quality and yield testing of this and any other wells and springs found within 150 feet of the temporary construction right-of-way and extra work spaces. In the event that a water supply well or spring is damaged as a result of the Project, Sempra would provide a temporary source of water to the affected party(s) and repair or compensate the owner for damages. The greatest potential for impact on groundwater would be from spills, leaks, or other releases of hazardous substances during Project construction or operation. To minimize the potential effects of a hazardous substance release, Sempra would implement the preventative and mitigative measures specified in its Spill Prevention, Containment, and Countermeasures Plans for the LNG terminal and pipeline.

The LNG terminal and pipeline system would be within the Sabine Lake, Lower Calcasieu, and West Fork Calcasieu watersheds. The primary impact on surface waters from construction of the LNG terminal would be the dredging of approximately 6.7 million cubic yards of material from the area adjacent to the marine slip to accommodate the LNG ship berths and turning basin. The dredging would result in the creation of about 82 acres of open water (i.e., the conversion of 82 acres of land to open water). Sempra proposes to pipe the dredge material to a nearby existing upland dredge material placement area (DMPA) on its own property for potential, subsequent beneficial reuse. Sempra would use hydraulic dredging which would be expected to result in lower suspended sediment concentrations as compared to other

dredging methods. Sempra would perform periodic maintenance dredging using the hydraulic dredging method.

As with other large cargo ships, LNG carriers would take on some ballast water to maintain stability and trim as they off-load their cargo, but they would not be fully loaded when departing the Port Arthur Terminal. The amount of ballast water required by each LNG carrier would vary according to its size and the weather conditions. Ballast water intakes could also entrain and/or impinge juvenile fish, fish larvae, and eggs. Since ballast water would not be released into the Sabine/Neches Waterway there is little chance for the introduction of invasive species through the release of ballast water. In addition to ballast water, LNG carriers (as with other large ships) would intake and discharge some water for cooling during operations in the Sabine/Neches Waterway.

The proposed pipelines would cross 84 waterbodies, including 37 perennial streams, 42 intermittent drainages, 2 lakes, and 3 ponds. Of these, 16 are classified as major waterbody crossings (greater than 100 feet wide). To minimize impacts, Sempra proposes to use a total of 14 horizontal directional drills (HDDs), including one land-to-water HDD, one water-to-water HDD, and two HDDs crossing Louisiana Natural and Scenic Rivers. There is one potable water intake pipe located less than 3 miles downstream of the proposed crossing of the Houston River Canal; however, it would be crossed by HDD, thus minimizing water quality impacts. To minimize Project construction impacts on surface waters, Sempra would develop and implement the measures described in a project-specific Storm Water Pollution Prevention Plan, our³ Upland Erosion Control, Revegetation and Maintenance Plan (Plan), and Wetland and Waterbody Construction and Mitigation Procedures (Procedures), as well as the requirements in the permits issued by the other federal and state agencies.

Construction of the Project would affect a total of 390.8 acres of wetlands, of which 82.5 acres would be permanently lost for development of the LNG terminal facility. Along the pipeline system, an additional 0.04 acre would be permanently filled for development of the aboveground facilities, and 13.1 acres would be permanently converted from forested to herbaceous wetlands. All other wetlands affected by construction would be restored, and allowed to revegetate and return to preconstruction conditions. To minimize temporary construction impacts on wetlands, Sempra would implement the protective measures in our Procedures. Sempra also is working with federal and state agencies in the development of an acceptable finalized Aquatic Resources Mitigation Plan for the Project that would address other concerns, such as pre- and post-construction monitoring, and compensation for unavoidable losses of emergent and forested wetlands, as well as mitigation for impacts on essential fish habitat (EFH) and EFH wetlands. The final plan will be developed based on comments received from the relevant federal and state agencies.

Construction and operation of the LNG terminal would result in a permanent loss of approximately 198.2 acres of vegetation (or 37 percent of the entire 540-acre parcel). An additional 65 acres of land would be temporarily disturbed during construction, but would be restored and left in a natural state following construction. Construction of the pipeline system (including construction work areas, staging yards, and aboveground facilities) would involve the temporary clearing and disturbance of approximately 1,233.8 acres of land. Following construction, all construction work areas would be restored, seeded, and generally allowed to revegetate to pre-construction conditions. The permanent right-of-way would be maintained in an herbaceous state following construction, except in wetland areas. In wetlands, to facilitate corrosion/leak surveys, a corridor centered on the pipeline and up to 10 feet wide could be maintained in an herbaceous state and trees within 15 feet of the pipeline that are greater than 15 feet in height could be selectively cut and removed from the right-of-way. There would be no

³ “we,” “us,” and “our” refer to the environmental staff of the FERC’s Office of Energy Projects.

long-term impacts in areas with existing herbaceous cover types following restoration. Approximately 87.2 acres of forested uplands and forested wetlands would be converted from forest to herbaceous cover.

National Marine Fisheries Service (NOAA Fisheries) indicated that the Project has the potential to affect EFH for post larval, juvenile, and adult red drum; subadult and adult Spanish mackerel; juvenile and subadult white and brown shrimp; and late juvenile, subadult, and adult bonnethead shark. The primary impact of construction and operation of the Project facilities would be the alteration and direct loss of habitat types that could function as EFH for these species. In addition, EFH impacts are possible if there is significant loss of prey for managed species. In total, 455.7 acres of open water and estuarine EFH would be affected by construction, of which 38.3 acres would be associated with deepening of the Port Arthur Ship Canal for the ship turning basin. The remaining 398.5 acres would be along the proposed pipeline corridors. A total of 82 acres of deep open water habitat would be created by dredging for the berths and marine basin, which may provide some additional EFH.

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

Twenty two federal and state listed endangered and threatened species were identified as potentially occurring within the Project area. Our analysis and comments received to date from both the U.S. Fish and Wildlife Service (FWS) and NOAA Fisheries indicate that the Project is not likely to adversely affect any of these species or their critical habitat. The FWS has stated that no further consultation will be required for this project unless there are changes in the scope or location of the work, or construction has not been initiated within 1 year. If construction of the LNG terminal or pipeline system has not begun within 1 year from the date of FERC approval of the Project, Sempra would consult with the appropriate offices of the FWS and NOAA Fisheries to update the species lists and to verify previous consultations and the need for additional surveys and survey reports (if required).

There are no residences within 1 mile of the proposed LNG terminal and future potential for development is somewhat reduced because most of the land surrounding the LNG site is wetlands and Wildlife Management Areas (WMAs), and is unsuitable for extensive residential development. There are no current proposals for residential or commercial development for any area within 0.25 mile of the proposed LNG terminal. Based on the proposed location of the LNG facility, the generally low topographic relief and lack of any comparably sized facilities in the area, the proposed LNG facilities would dominate the local area viewshed and result in both temporary and permanent changes to the surrounding visual landscape. Because of the size of the facility, no measures can be taken to visually screen the major aboveground facilities.

Land use impacts associated with the Project would include permanent conversion of the LNG terminal property to industrial use (198.2 acres), disturbance of existing land uses within construction work areas related to the terminal and along the pipelines during construction (1,298.8 acres), and creation of a new permanent right-of-way for operation and maintenance of the pipelines and aboveground facilities (404.7 acres). There are 3 residences located within 50 feet of proposed pipeline work areas. Sempra land agents and contractors would coordinate with property owners throughout the construction process to minimize impacts to landowners. To minimize disruption to these residents, Sempra would use specialized construction techniques; limit the duration of open trenches; promptly restore driveways and fences; and maintain access to each residence. Sempra has provided site-specific construction plans for these three residences.

No designated recreational facilities would be directly affected by development of the Project facilities. Recreation facilities in the vicinity of the Project include the J. D. Murphree WMA, McFaddin and Texas Point National Wildlife Refuges, Sea Rim State Park, Sabine Pass Battleground State Historical Park, Sabine-Neches Waterway (SNWW), and Sabine Lake in Texas; the Creole Nature Trail/National Scenic Byway (State Highway [SH] 27), Sabine Island WMA, and the Western Corridor (SH 171) in Louisiana; and private hunting clubs in both Louisiana and Texas. No issues or concerns have been identified regarding impacts on these resources from construction or operation of the Project.

In Texas, the proposed LNG terminal, the 3-mile-long pipeline, and the 70-mile-long pipeline from MP 0.0 to approximate MP 23.0 would be located within the Texas coastal zone management area. In Louisiana, the coastal zone boundary is defined by the Intracoastal Waterway (approximate MP 28.6 on the 70-mile-long pipeline route). The portion of the Project in Louisiana that would be within the coastal zone boundary is between MPs 23.0 and 28.6 on the 70-mile-long pipeline in Cameron and Calcasieu Parishes. Sempra would be required to file applications with the Railroad Commission of Texas and the Louisiana Department of Natural Resources (LADNR) to obtain coastal zone management plan consistency determinations from both prior to construction.

Sempra consulted with the Texas and Louisiana state historic preservation officers (SHPO) and performed cultural resource investigations for areas that would be potentially affected by construction of the LNG terminal and pipeline system (the area of potential effect). As of the date this EIS was prepared, the completed surveys located two cultural resource sites within the terrestrial portion of the area of potential effect. Both sites have been assessed as being potentially eligible for listing to the National Register of Historic Places. In addition, seven magnetic and/or acoustic anomalies have been identified within the area of potential effect of the pipeline crossing of Sabine Lake. Sempra would provide treatment plans that can be evaluated by the Commission and the Texas SHPO, specifying the measures Sempra would take to mitigate or avoid impacts to these sites and magnetic anomalies. To ensure appropriate review and protection of these resources, we have recommended that construction not be authorized until the required studies have been completed and we have received the SHPO's comments on them.

The LNG terminal would be located in the Beaumont-Port Arthur area, which is currently in attainment for all National Ambient Air Quality standards except ozone. Air emissions resulting from construction of the LNG terminal and pipeline system would be short-term and would not significantly affect air quality in the region. Sempra would minimize fugitive dust emissions during construction by the use of dust suppression techniques such as watering. During operation, air emissions would result from LNG vaporization heaters, diesel fuel storage tanks, diesel firewater pumps, the emergency generator, and site-wide fugitive emissions. In addition, emissions would result from maneuvering and hoteling of LNG ships at the marine berth. The Texas Council on Environmental Quality (CEQ) issued a conditional conformity certification based on a review of Sempra's emissions estimates and commitments made by Sempra to reduce or offset emissions. We have determined that the direct and indirect emissions from the LNG terminal would exceed the *de minimis* level for general conformity. However, with implementation of Sempra's proposed mitigation measures, we conclude, pursuant to 30 Tex. Admin. Code 101.30(h)(1)(E)(iv), that the total of direct and indirect emissions from the action for the future years does not increase emissions with respect to the future baseline emissions.

We evaluated the safety of both the proposed LNG import terminal facility and the related LNG vessel transit through the SNWW. With respect to the onshore facility, we completed a cryogenic design and technical review of the proposed terminal design and safety systems, and have identified specific areas of concern and included recommendations to address these concerns. We also calculated thermal radiation and flammable vapor hazard distances for an accident or an attack on an LNG vessel. Based on the

extensive operational experience of LNG shipping, the structural design of an LNG vessel, and the operational controls imposed by the U.S. Coast Guard (Coast Guard) and the local pilots, the likelihood of a cargo containment failure and subsequent LNG spill from a vessel casualty - collision, grounding, or allision - is highly unlikely. For similar reasons, an accident involving the onshore LNG import terminal is unlikely to affect the public. As a result, the risk to the public from accidental causes should be considered negligible.

As part of our marine safety analysis, we considered how vessel security requirements for LNG ships calling on the proposed LNG terminal might affect other ship and boat traffic on the Sabine/Neches Waterway. Based on the Coast Guard's longstanding experience in controlling the movements of dangerous cargo vessels in the Sabine/Neches Waterway and LNG vessels in other ports, potential impacts can be evaluated for several general security requirements: 1) moving safety zone for inbound and outbound LNG vessels; 2) one-way vessel traffic during LNG vessel transit; 3) security zone around a moored LNG vessel; and 4) other measures as deemed appropriate. The moving safety zone, the moored vessel security zone at the terminal, and one-way traffic would affect other commercial and recreational traffic using the Sabine/Neches Waterway.

We have evaluated potential ship traffic congestion impacts from the additional LNG ship traffic. The operation of LNG vessels would have impact similar to other large vessels currently using the SNWW and would cause no more disruption than the vessel traffic increases planned by other channel users. On December 10, 2004, Sempra submitted a Letter of Intent to construct the LNG facility to the Coast Guard's Marine Safety Office in Port Arthur, Texas. The Coast Guard's letter of recommendation (LOR) would address the suitability of the Sabine Pass and Port Arthur Ship Channels for LNG ship transportation, however, it does not constitute a final authority to commence LNG operations. In December 2005, Sempra filed its Waterway Suitability Assessment (WSA) with the Coast Guard. On March 7, 2006 The Coast Guard completed its review of the WSA and issued a Waterway Suitability Report (WSR). The WSR indicated that the SNWW may be suitable for the type and frequency of LNG traffic associated with the project, on condition that additional measures as required are provided to manage safety and security risks. It is anticipated that the Coast Guard would decide on a LOR as soon as possible after the Commission issues the final EIS, or wait until after the Commission makes an overall public interest determination of the proposal. The Coast Guard's recommendation is subject to certain safety and security provisions, as well as Sempra coordinating with the Coast Guard in their preparation of the *LNG Vessel Management and Emergency Plan*. This plan would be reviewed and updated as necessary to address issues specific to the Sabine Pass and Port Arthur Channels and the proposed LNG vessels in transit and while docked. Only personnel and vessels authorized by the Captain of the Port would be permitted in the safety and security zone.

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

Unlike accidental causes, historical experience provides little guidance in estimating the probability of a terrorist attack on an LNG vessel or onshore storage facility. For an LNG import terminal proposal that would involve having a large volume of energy transported and stored near populated areas, the perceived

threat of a terrorist attack is a primary concern of the local population and requires that resources be directed to mitigate possible attack paths. While the risks associated with the transportation of any hazardous cargo can never be entirely eliminated, they can be managed.

The safety measures to be imposed may include moored vessel security and moving safety zones around the LNG carriers, a waterway traffic management plan, escorts by armed law enforcement vessels, and a variety of waterway and shoreline surveillance measures. Under normal security conditions, these measures should not affect vehicular traffic, nor restrict the public's access to shore side recreation sites or unreasonably impede recreational boating. An issue that has developed for several LNG terminal projects is a concern that local communities would have to bear some of the costs of ensuring the security/emergency management of the LNG facility and the LNG vessel while in transit and unloading at the dock. While the LOR would address the suitability of Sabine/Neches Waterway for LNG ship transportation, it would not constitute a final authority to commence LNG operations. Issues related to the public impact of safety and security zones would be addressed later in the development of the Coast Guard's *Liquefied Natural Gas Vessel Management and Emergency Plan*. This plan would be developed in conjunction with state and local law enforcement and emergency response communities. In addition, the Coast Guard would establish a moving safety zone and moored vessel security zone under 33 CFR 165 for LNG vessels in transit and while docked. Only personnel or vessels authorized by the Captain of the Port are permitted within these zones.

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

There are three LNG projects proposed on the SNWW: the Port Arthur LNG Project (which is addressed in this EIS), the Golden Pass LNG Project in Jefferson County, Texas (which was approved by the Commission in July 2005), and the Sabine Pass Project in Cameron Parish, Louisiana (which was approved by the Commission in December 2004). The U.S. Army Corps of Engineers (COE) and Jefferson County Waterway and Navigation District (WND) also are considering widening and deepening the SNWW as part of the SNWW Channel Improvement Project. If all three LNG projects are constructed, they would result in cumulative impacts on land use, wetlands, and ship traffic in the SNWW. Additionally, if all or some of the several approved and proposed pipeline projects in the region are constructed, they would result in cumulative impacts on biological resources and land use.

ALTERNATIVES CONSIDERED

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

We considered the alternatives of no action or postponed action, system alternatives, alternative LNG terminal sites, and pipeline route alternatives. While the no action or postponed action alternatives would eliminate or postpone the environmental impacts identified in this EIS, the objectives of the proposed Project would not be met and Sempra would not be able to provide a new source of natural gas supply to the U.S.

For the Coast Guard's proposed action, the no action alternative would be issuance of Coast Guard LOR finding the waterway not suitable for LNG marine traffic. Similar to the no action alternative to the FERC proposed action, the no action alternative for the Coast Guard would avoid any project related environmental effects; however, it would also prevent LNG vessels from delivering LNG to an import terminal and the project objectives would not be met. Reasonable alternatives to the Coast Guard action of issuing an LOR include: 1) Issuance of a Coast Guard LOR finding the waterway suitable for LNG marine traffic without any conditions, and 2) Postponing the issuance of a Coast Guard LOR pending further analysis and study.

Our analysis assessed 18 existing, permitted, or proposed LNG facilities in the region and assessed expansion potential and extent of additional environmental impact if this Project were to be included at one of these sites. Our conclusion was that none of the existing, approved, or proposed onshore LNG terminal facilities could handle the additional volumes proposed by Sempra without significant expansion of the proposed facilities and associated environmental impact. With respect to offshore existing, permitted or proposed LNG facilities, we conclude that, although offshore technologies provide an alternative means for the import of LNG, the proposed offshore technologies would not provide the same capability as the proposed Port Arthur LNG Project and would likely result in a similar level of (although different) environmental impacts. With respect to onshore alternative locations not yet proposed, we concluded there are no practical alternative sites which meet the Project purpose and that offer a clear environmental advantage to the proposed Port Arthur LNG terminal site.

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

We also assessed four alternative sites for disposal of dredge materials from the marine basin and berth area. None of these alternatives was superior to the proposed location.

With respect to the pipeline alternatives, we concluded that there were no practicable system alternatives or design alternatives. Sempra evaluated several pipeline routes before selecting the proposed corridors within which it designed the preferred routes for the pipelines. We evaluated six route variations to avoid or minimize impacts on sensitive resources and a proposed development area. We have recommended use of the Pearl Crossing route variation to avoid wetland impacts. We identified no other route variations that would significantly reduce environmental impacts.

In conclusion, we have determined that the proposed Sempra project, as modified by our recommended mitigation and route variation, is the preferred alternative that can meet the project objectives.

PUBLIC INVOLVEMENT AND AREAS OF CONCERN

On May 6, 2004, Sempra filed a request with the FERC to use the Pre-filing Process. At that time, Sempra was in the preliminary design stage of the Project and no formal application had been filed with the FERC. The request to use the Pre-filing Process was approved and on July 20, 2004, we issued a *Notice of Pre-Filing Process for the Planned Port Arthur LNG Terminal and Pipeline Project and Request for Comments on Environmental Issues*. This notice was sent to 393 interested parties including federal, state, and local officials; agency representatives; conservation organizations; Native American

tribes; local libraries and newspapers; landowners within 0.5 mile of the proposed LNG terminal; and property owners along the proposed pipeline routes.

On December 15, 2004, we issued a *Notice of Intent to Prepare an Environmental Impact Statement for the Proposed Port Arthur LNG Project and Request for Comments on Environmental Issues and Notice of Public Scoping Meetings and Site Visit* (NOI). This notice was sent to 401 interested parties including federal, state, and local officials; agency representatives; conservation organizations; local libraries and newspapers; residents within 0.5 mile of the proposed LNG terminal; and property owners along the proposed pipeline routes. We conducted public scoping meetings in Vinton, Louisiana on January 11, 2005, and in Port Arthur, Texas on January 12, 2005, to provide an opportunity for the public to learn more about the Project and to provide comments on environmental issues to be addressed in the EIS. A total of 31 people commented at the scoping meetings; their comments were recorded both in support of and against the project. We also received 15 comment letters in response to the notices.

In addition to the public notice process, we conducted additional agency consultations to identify issues that should be addressed in the EIS. Topics discussed included potential environmental impacts to wetlands and threatened and endangered species and their habitats, mitigation, dredging, agency coordination for the review of the multiple LNG projects in Texas and Louisiana, the approach to the alternatives and cumulative impact analyses in the EIS, specific concerns of the agencies that should be addressed in the EIS, and other issues within their respective jurisdictions.

On September 2, 2005, the FERC issued the draft EIS for the Project and filed it with the U.S. Environmental Protection Agency (EPA). A formal notice indicating the availability of the draft EIS was published in the Federal Register, and the document was mailed to individuals and organizations on the mailing list prepared for the Project. Because of damage to the area due to Hurricane Rita, the comment period on the draft EIS was extended until December 16, 2005. The comments were reviewed and used to prepare the final EIS for the Port Arthur LNG Project. All timely comment letters received on the draft EIS were addressed in the final EIS.

We received comment letters from 5 federal agencies, 7 state agencies, 5 local agencies, 78 groups and individuals, and the applicant. FERC staff's responses to comments filed with the Commission are provided in appendix N of this document. Changes in the final EIS were made both in response to agency and public comments received on the draft EIS and new information that became available from Sempra after issuance of the draft EIS.

The final EIS was mailed to the agencies, individuals, and organizations on the mailing list (included in appendix B) and was submitted to the EPA for a formal notice of availability. In accordance with CEQ's regulations implementing NEPA, no agency decision on a proposed action may be made until 30 days after the EPA publishes a notice of availability of the final EIS. However, the CEQ regulations provide an exception to this rule when an agency decision is subject to a formal internal process that allows other agencies or the public to make their views known. In such cases, the agency decision may be made at the same time as the notice of the final EIS is published, allowing both periods to run concurrently. Should the Commission authorize the proposed Project, it would be subject to a 30-day rehearing period. Therefore, the Commission could issue its decision concurrently with the EPA's notice of availability.

MAJOR CONCLUSION

We conclude that, with the use of Sempra's proposed mitigation and adoption of our recommended mitigation measures, construction and operation of the proposed facilities would have limited adverse environmental impact. The impacts would be most significant during the construction period. As part of our analysis, we have developed specific mitigation measures that we believe to be appropriate and

reasonable for construction and operation of the proposed Project. We believe these measures would substantially reduce the environmental impact of the Project. The primary reasons for our decision are:

- the LNG terminal facility would make use of a site previously used for a DMPA;
- the LNG terminal facility would be located in an area with access to a deep water federal navigation channel;
- Sempra would implement the FERC staff's Plan and Procedures to mitigate impacts on soils, wetlands, and waterbodies;
- Sempra would implement an approved Aquatic Resources Mitigation Plan to mitigate for, and minimize impacts on, wetlands and EFH;
- Sempra has routed the pipeline to avoid placement of the construction work area near most residences;
- appropriate consultations with and/or permits from the FWS, NOAA Fisheries, the COE, SHPOs, the Railroad Commission of Texas and the LADNR (for the coastal zone management plan consistency determinations) would be required before Sempra would be allowed to begin construction;
- safety features would be incorporated into the design and operation of the LNG import terminal and LNG vessels, and can be expected to operate safely;
- operational controls would be imposed by the local pilots and Coast Guard to direct the movement of LNG ships, and the security provisions to deter attacks by potential terrorists; and
- an environmental inspection and mitigation monitoring program would be implemented to ensure compliance with all mitigation measures that become conditions of any FERC authorization.