

149 FERC ¶ 61,283
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Cheryl A. LaFleur, Chairman;
Philip D. Moeller, Tony Clark,
and Norman C. Bay.

Corpus Christi Liquefaction, LLC
Cheniere Corpus Christi Pipeline, L.P.

Docket Nos. CP12-507-000
CP12-508-000

ORDER GRANTING AUTHORIZATION UNDER SECTION 3 OF THE NATURAL
GAS ACT AND ISSUING CERTIFICATES

(Issued December 30, 2014)

1. On August 31, 2012, in Docket No. CP12-507-000, Corpus Christi Liquefaction, LLC (Corpus Christi Liquefaction) filed an application for authority under section 3 of the Natural Gas Act (NGA)¹ and Part 153 of the Commission's regulations² to site, construct, and operate liquefied natural gas (LNG) export and import facilities (Liquefaction Project) on the northern shore of Corpus Christi Bay in San Patricio and Nueces Counties, Texas.

2. On August 31, 2012, in Docket No. CP12-508-000, Cheniere Corpus Christi Pipeline, L.P. (Cheniere Pipeline) filed an application under NGA section 7(c)³ and Parts 157 and 284 of the Commission's regulations⁴ for a certificate of public convenience and necessity to construct and operate a 23-mile-long, 48-inch-diameter pipeline in San Patricio County, Texas (Pipeline Project)⁵ to transport natural gas bi-directionally between the Liquefaction Project and existing interstate and intrastate natural gas pipeline systems.

¹ 15 U.S.C. § 717b (2012).

² 18 C.F.R. pt. 153 (2014).

³ 15 U.S.C. § 717f (2012).

⁴ 18 C.F.R. pts. 157, Subpart F and 284, Subpart G (2014).

⁵ We refer to the Liquefaction Project and Pipeline Project together as "the project" in this order.

3. For the reasons discussed in detail below, we will authorize Corpus Christi Liquefaction's proposal under section 3 of the NGA to construct and operate the Liquefaction Project. We conclude that, with the conditions required herein, Corpus Christi Liquefaction's project results in minimal environmental impacts and can be constructed and operated safely. Accordingly, we find that, subject to the conditions imposed in this order, Corpus Christi Liquefaction's proposal is not inconsistent with the public interest. We will also authorize Cheniere Pipeline's proposal under section 7(c) of the NGA to construct and operate the Pipeline Project. Based on the benefits the Pipeline Project will provide and the minimal adverse impacts on existing customers, other pipelines and their customers, and landowners and surrounding communities, we find, consistent with the Certificate Policy Statement and section 7(c) of the NGA, that Cheniere Pipeline's proposal, as conditioned below, is required by the public convenience and necessity. The final Environmental Impact Statement (EIS) concludes that if the project is constructed and operated in accordance with applicable laws and regulations, the project will result in some adverse environmental impacts. However, the impacts described in the final EIS will be reduced to less-than-significant levels with the implementation of Corpus Christi Liquefaction's and Cheniere Pipeline's proposed mitigation and Commission staff's recommendations, which this order adopts as conditions.⁶

I. Background

4. Corpus Christi Liquefaction is a limited liability company⁷ and Cheniere Pipeline is a limited partnership,⁸ both organized under the laws of Delaware. Cheniere Pipeline is a new pipeline company. Upon completion of the construction and initiation of the operations authorized herein, Cheniere Pipeline will become a natural gas company within the meaning of NGA section 2(6)⁹ and be subject to the Commission's jurisdiction.

⁶ The authorizations issued to Corpus Christi Liquefaction and Cheniere Pipeline herein are subject to the 104 conditions set forth in the attached Appendix A.

⁷ Corpus Christi Liquefaction is a subsidiary of Corpus Christi LNG, LLC, which is a wholly-owned subsidiary of Cheniere LNG, Inc., which is a wholly-owned subsidiary of Cheniere Energy, Inc.

⁸ Cheniere Pipeline is a wholly-owned subsidiary of Cheniere Pipeline Company, which is a wholly-owned subsidiary of Cheniere Energy, Inc.

⁹ 15 U.S.C. § 717a(6) (2012).

II. Proposals

A. Liquefaction Project

5. Corpus Christi Liquefaction proposes, pursuant to section 3 of the NGA, to site, construct, and operate the Liquefaction Project on the northern shore of Corpus Christi Bay, at the north end of the La Quinta Channel, northeast of the City of Corpus Christi in San Patricio and Nueces Counties, Texas.¹⁰ The proposed Liquefaction Project would have the capability to liquefy for export approximately 15 million metric tons per annum (MMTPA)¹¹ of LNG and vaporize approximately 400 million cubic feet (MMcf) per day of imported natural gas. Corpus Christi Liquefaction states that Cheniere Marketing, LLC (Cheniere Marketing)¹² would export and import the LNG by LNG carriers, totaling between 200 and 300 trips per year through Corpus Christi Bay.

6. Specifically, Corpus Christi Liquefaction proposes to construct three liquefaction trains,¹³ each with a liquefaction capacity of approximately 5 MMTPA. Pending export,

¹⁰ In 2005, under section 3 of the NGA, the Commission authorized Corpus Christi LNG, L.P. to site, construct, and operate an LNG import terminal at the same site as Corpus Christi Liquefaction now proposes to construct its facilities. *Corpus Christi LNG, L.P.*, 111 FERC ¶ 61,081 (2005). That order also authorized Cheniere Corpus Christi Pipeline Company to construct and operate a pipeline under section 7 of the NGA from Corpus Christi LNG, L.P.'s LNG facility north to interconnections with multiple existing pipelines systems. Since the facilities were never constructed, the Commission vacated Corpus Christi LNG, L.P.'s and Corpus Christi Pipeline Company's authorizations to construct the proposed LNG facility and associated pipeline. *Corpus Christi LNG, L.P.*, 139 FERC ¶ 61,195 (2012).

¹¹ Cheniere states this quantity of LNG is equivalent to approximately 782,000,000 million British thermal units (MMBtu) per year.

¹² Cheniere Marketing is an affiliate of Corpus Christi Liquefaction and Cheniere Pipeline and an indirect subsidiary of Cheniere Energy, Inc.

¹³ Each liquefaction train will contain: (1) facilities to remove carbon dioxide, hydrogen sulfide, and sulfur compounds from the feed gas; (2) facilities to remove water and mercury from the feed gas; (3) facilities to remove heavy hydrocarbons (*e.g.*, benzene, toluene, ethylbenzene, and xylene) from the feed gas; (4) six gas turbine-driven refrigerant compressors; (5) waste heat recovery systems for regenerating the gas driers and amine system; (6) induced draft air coolers; (7) associated fire and gas and safety systems; (8) associated control systems and electrical infrastructure; (9) utility connections and distribution systems; and (10) piping, piperacks, foundations, and structures within the LNG train battery limits.

the LNG will be stored in three proposed 160,000 cubic meter (m³) full containment LNG storage tanks, each equipped with five in-tank well columns and safety and monitoring systems. The Liquefaction Project will also include two trains of ambient air vaporizers, each with an average vaporization capacity of approximately 200 MMcf per day of natural gas.

7. As part of the Liquefaction Project, Corpus Christi Liquefaction proposes to site, construct, and operate a marine terminal with two berths on the north end of the La Quinta Channel, capable of receiving 200 to 300 LNG carriers annually. Each berth will consist of a maneuvering area and a protected marine berth area. Four tugs will be available to maneuver the LNG carriers. Two parallel LNG transfer lines will deliver LNG between the LNG carriers and the LNG storage tanks at a rate not to exceed 12,000 m³ per hour.¹⁴

8. The construction footprint of the proposed Liquefaction Project is approximately 991 acres, of which 349 acres will be affected by operations and 120 acres will be part of an exclusion zone created to protect the public in the event of accidents at the site. Most of the land has been previously disturbed. Corpus Christi Liquefaction intends to use a heavy haul road built during construction and a berm to contain potential LNG spills.

B. Pipeline Project

9. In conjunction with the proposed Liquefaction Project, Cheniere Pipeline¹⁵ requests authority under section 7(c) of the NGA to construct and operate a 23-mile-long, 48-inch-diameter, bi-directional pipeline from Corpus Christi Liquefaction's facilities to a point near the City of Sinton, Texas.¹⁶ Cheniere Pipeline states that the pipeline will function to transport domestic natural gas to Corpus Christi Liquefaction's proposed LNG terminal for liquefaction and export, as well as to transport regasified imported LNG from the LNG terminal to interconnections with the existing pipeline systems of Texas Eastern Transmission Corporation (Texas Eastern), Kinder Morgan Tejas Pipeline LLC (Tejas), Natural Gas Pipeline Company of America (NGPL), Transcontinental Gas Pipe Line Corporation (Transco), and Tennessee Gas Pipeline Company (Tennessee). The proposed pipeline will have a peak capacity of 2.25 Billion cubic feet (Bcf) per day

¹⁴ The Liquefaction Project will also consist of associated terminal facilities, such as a control building, equipment storage, emergency shutdown systems, and electric systems.

¹⁵ Cheniere Pipeline was formerly known as Corpus Christi Pipeline Company.

¹⁶ All of the pipeline facilities will be located in San Patricio County, Texas.

and operate at a maximum allowable operating pressure of 1,440 pounds per square inch gage.

10. In addition to the 23-mile-long, 48-inch-diameter pipeline, Cheniere Pipeline proposes to construct and operate the Taft Compressor Station at approximately milepost (MP) 7.5 and the Sinton Compressor Station at approximately MP 21.5. The Taft Compressor Station will consist of two Solar Centaur 50 6,387-horsepower (hp) units and the Sinton Compressor Station will consist of two Solar Titan 130 20,387-hp units.¹⁷ Cheniere Pipeline also proposes to construct and operate six metering and regulation (M&R) stations along the pipeline:

- The Liquefaction M&R Station will be located at the LNG terminal at MP 0.0 and would feed gas to and from the LNG terminal.
- The Texas Eastern M&R Station will be located near MP 7.5 and on the Taft Compressor Station parcel.
- The Tejas M&R Station will be located near MP 21.5 and would connect with existing 30-inch-diameter and 36-inch-diameter Tejas pipelines.
- The NGPL M&R Station will be located near MP 22.4 and would connect with existing 26-inch-diameter and 30-inch-diameter NGPL pipelines.
- The Transco M&R Station will be located near MP 22.8.
- The Tennessee M&R Station will be located near MP 23.0 and would connect with existing 24-inch-diameter and 30-inch-diameter Tennessee pipelines.¹⁸

¹⁷ The installation of two 20,387-hp compressor units at the Sinton Compressor Station will meet the threshold of total gas turbine station capacity of at least 15,000 hp discussed in the Interstate Natural Gas Association of America White Paper entitled *Waste Energy Recovery Opportunities for Interstate Natural Gas Pipelines* issued in February 2008 (INGAA White Paper). However, Cheniere Pipeline did not evaluate the technical feasibility and commercial viability of installing and operating waste heat recovery facilities in conjunction with its proposed compressor stations. We encourage Cheniere Pipeline to monitor the compressor stations, and should any of the stations meet the waste heat recovery parameters in the INGAA White Paper, Cheniere Pipeline should post such information on its electronic bulletin board.

¹⁸ Cheniere Pipeline proposes to install pig launcher/receiver facilities and five mainline valve facilities, along with other appurtenant facilities.

11. Cheniere Pipeline conducted an open season from October 1 to October 12, 2012, and received one bid from Corpus Christi Liquefaction for 100 percent of the pipeline's firm service capacity for a term of twenty years.¹⁹ No other bids or inquiries were received.

12. The construction and operation footprint of the Pipeline Project is approximately 420.7 acres, of which 178.3 acres will be affected by operations.

C. Cheniere Pipeline's Proposed Services

13. Cheniere Pipeline estimates the cost of constructing the pipeline facilities will be \$352,500,127. Cheniere Pipeline proposes to offer cost-based open-access firm and interruptible transportation service (Rate Schedules FTS and ITS) and parking and lending service (Rate Schedule PALS) on a non-discriminatory basis under Part 284 of the Commission's regulations. Cheniere Pipeline states that the proposed rates reflect a straight fixed-variable (SFV) rate design and are calculated for the total 25-year life of the project.

III. Notice, Interventions, Comments, and Protest

14. Notice of Corpus Christi Liquefaction's and Cheniere Pipeline's applications was issued by the Commission on September 14, 2012, and published in the *Federal Register* on September 20, 2012, with interventions, comments, and protests due on or before October 5, 2012.²⁰ Tennessee, NGPL, Sierra Club, and Tejas filed timely, unopposed motions to intervene in both proceedings.²¹ The Bureau of Land Management filed a timely comment in both proceedings, stating that it does not have any oil or gas leases or well sites in San Patricio or Nueces Counties, Texas under the Mineral Leasing Act of 1920. In both proceedings, Charles Cutler filed a comment opposing LNG exports because of their alleged effects on domestic manufacturing jobs and domestic energy prices.

15. In both proceedings, Sierra Club filed a protest with its motion to intervene, opposing the applications and arguing, among other things, that the applications would cause both environmental and economic harm and that the Commission's environmental

¹⁹ See Cheniere Pipeline's October 17, 2012 Open Season Update.

²⁰ 77 Fed. Reg. 58,368 (Nov. 20, 2012).

²¹ Timely, unopposed motions to intervene are automatically granted pursuant to Rule 214 of the Commission's Rules of Practice and Procedure. 18 C.F.R. § 385.214 (2014).

analysis needs to consider both local impacts and remote induced production. Charles Cutler's comment and Sierra Club's protest are addressed below.

IV. Discussion

A. Liquefaction Project

16. Because the proposed LNG liquefaction facilities will be used to import and export natural gas from and to foreign countries, the siting, construction and operation of the proposed facilities require approval by the Commission under section 3 of the NGA.²² While section 3 provides that an application for the exportation or importation of natural gas "shall" be approved unless the proposal "will not be consistent with the public interest,"²³ section 3 also provides that an application may be approved "in whole or in part, with such modification and upon such terms and conditions as the Commission may find necessary or appropriate."²⁴

17. Section 311(c) of the Energy Policy Act of 2005²⁵ added a new NGA section 3(e)(3) providing that, before January 1, 2015, the Commission shall not condition an

²² The regulatory functions of section 3 of the NGA 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. § 7151(b) (2012). Pursuant to sections 642 and 402(e) of the Act, 42 U.S.C. §§ 7252 and 7172(e), the Secretary of Energy subsequently delegated to the Commission the authority to approve or disapprove the construction and operation of natural gas import and export facilities and the site at which such facilities shall be located. The most recent delegation is in DOE Delegation Order No. 00-044.00A, effective May 16, 2006. In addition, section 3(e)(1) of the NGA, as amended by section 311(c) of the Energy Policy Act of 2005, Pub. L. No. 109-58, § 311, 119 Stat. 594 (2005), provides that the Commission has exclusive authority to approve or deny applications for the siting, construction, and operation of LNG terminals. DOE has retained authority to act on applications for authority to import or export natural gas. Such applications must be submitted to DOE's Office of Fossil Energy. The Commission does not authorize importation or exportation of the commodity itself.

²³ 15 U.S.C. § 717b(a) (2012).

²⁴ *Id.* See, e.g., *Distrigas Corp. v. FPC*, 495 F.2d 1057, 1063-64 (D.C. Cir. 1974), *cert. denied*, 419 U.S. 834 (1974); *Dynegy LNG Production Terminal, L.P.*, 97 FERC ¶ 61,231 (2001) (discussing the Commission's authority to condition its approvals of facilities under section 3 of the NGA).

²⁵ Energy Policy Act of 2005, Pub. L. No. 109-58, § 311, 119 Stat. 594 (2005).

order approving an application to site, construct, expand, or operate an LNG terminal on: (1) 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.²⁶

18. In its protest, Sierra Club contends that the project would induce natural gas production in the United States. Sierra Club also raises a number of additional environmental issues, including construction and operation impacts to local air and water quality and habitats, as well as increased emissions of greenhouse gases and other toxic pollutants. Environmental issues raised by Sierra Club are addressed in the draft and final EIS.

19. Sierra Club and Charles Cutler argue that the project will cause economic harm by raising domestic gas prices and eliminating domestic jobs. In determining whether construction and operation of the Liquefaction Project is consistent with the public interest under section 3(a) of the NGA, we decline to address Sierra Club's and Mr. Cutler's economic claims, as they concern impacts associated with the exportation of the commodity natural gas, which, by law, the Department of Energy (DOE), not the Commission, is authorized to analyze.²⁷

20. Section 3(a) of the NGA provides, in part, that "no person shall export any natural gas from the United States to a foreign country or import any natural gas from a foreign country without first having secured an order of the Commission authorizing it to do so."²⁸ In 1977, the Department of Energy Organization Act transferred the regulatory functions of section 3 of the NGA to the Secretary of Energy.²⁹ Subsequently, the Secretary of Energy delegated to the Commission authority to "[a]pprove or disapprove the construction and operation of particular facilities, the site at which such facilities shall be located, and with respect to natural gas that involves the construction of new domestic

²⁶ See 15 U.S.C. § 717b(e)(3)(B) (2012).

²⁷ Sierra Club has raised its economic harm arguments before DOE in connection with the pending application for authority to export LNG from the project to non-Free Trade Agreement nations. See Sierra Club's Motion to Intervene, Protest, and Comments (filed Dec. 26, 2012) in FE Docket No. 12-97-LNG.

²⁸ 15 U.S.C. § 717b(a) (2012).

²⁹ See 42 U.S.C. § 7151(b) (2012).

facilities, the place of entry for imports or exit for exports.”³⁰ The Secretary of Energy, however, has not delegated to the Commission any authority to approve or disapprove the import or export of the commodity itself, or to consider the types of issues raised by Sierra Club and Mr. Cutler as part of the Commission’s public interest determination under section 3(a).³¹ Thus, the issue of whether the export of LNG will cause economic harm is beyond the Commission’s purview.

21. In 2012, DOE authorized Cheniere Marketing, and subsequently Corpus Christi Liquefaction as a joint authorization holder, to export up to 782 million MMBtu per year (equivalent to about 763 Bcf per year) of domestically produced LNG by vessel to any country with which the United States has, or in the future enters into, a Free Trade Agreement (FTA) requiring national treatment for trade in natural gas for a 25-year term.³² DOE is currently reviewing Cheniere Marketing’s and Corpus Christi Liquefaction’s application under section 3(a) of the NGA to export up to 782,000,000 MMBtu per year of natural gas as LNG to non-FTA nations for a 22-year term.³³

22. Corpus Christi Liquefaction and Cheniere Pipeline own the land on which the proposed Liquefaction Project is located. The majority of the land was formerly used for industrial purposes, which is also characteristic of the land adjacent to the property where the Liquefaction Project is located. As a result, the environmental impacts of the Liquefaction Project are expected to be relatively small in number and well-defined.

³⁰ DOE Delegation Order No. 00-004.00A (effective May 16, 2006).

³¹ See *supra* note 22. See also *National Steel Corp.*, 45 FERC ¶ 61,100, at 61,332-33 (1988) (observing that DOE, “pursuant to its exclusive jurisdiction, has approved the importation with respect to every aspect of it except the point of importation” and that the “Commission’s authority in this matter is limited to consideration of the place of importation, which necessarily includes the technical and environmental aspects of any related facilities”).

³² DOE Order No. 3164 (Oct. 16, 2012) (FE Docket No. 12-99-LNG); DOE Order No. 3161-A (Oct. 29, 2014) (authorization amended to include Corpus Christi Liquefaction as a joint-authorization holder). Section 3(c) of the NGA deems exportation of natural gas to FTA nations to be consistent with the public interest and requires the DOE to grant export and import applications without modification or delay. See 15 U.S.C. § 717b(c) (2012); see also DOE Order No. 3164 at 4 (stating the statutory requirement).

³³ Cheniere Marketing and Corpus Christi Liquefaction Application in FE Docket No. 12-97-LNG.

23. We conclude that, with the conditions required herein, Corpus Christi Liquefaction's project results in minimal environmental impacts and can be constructed and operated safely. Accordingly, we find that, subject to the conditions imposed in this order, Corpus Christi Liquefaction's proposals are not inconsistent with the public interest.

B. Pipeline Project

24. Since Cheniere Pipeline's proposed facilities will be used to transport natural gas in interstate commerce subject to the jurisdiction of the Commission, the construction and operation of the facilities are subject to the requirements of subsections (c) and (e) of section 7 of the NGA. Under section 7(c), before an applicant can construct an interstate facility for the transportation of natural gas, it must obtain a "certificate of public convenience and necessity" from the Commission.³⁴ Section 7(e) provides that such a certificate "shall be issued to any qualified applicant" upon a finding that "the applicant is able and willing properly to do the acts and to perform the service proposed ... and that the proposed service" and "construction . . . is or will be required by the present or future public convenience and necessity."³⁵

1. Certificate Policy Statement

25. The Certificate Policy Statement provides guidance for evaluating proposals to certificate new construction.³⁶ The Certificate Policy Statement establishes criteria for determining whether there is a need for a proposed project and whether the proposed project will serve the public interest. The Certificate Policy Statement explains that in deciding whether to authorize the construction of major new natural gas facilities, the Commission balances the public benefits against the potential adverse consequences. The Commission's goal is to give appropriate consideration to the enhancement of competitive transportation alternatives, the possibility of overbuilding, subsidization by existing customers, the applicant's responsibility for unsubscribed capacity, the avoidance of unnecessary disruptions of the environment, and the unneeded exercise of eminent domain in evaluating new pipeline construction.

³⁴ 15 U.S.C. § 717f(c) (2012).

³⁵ *Id.* § 717f(e).

³⁶ *Certification of New Interstate Natural Gas Pipeline Facilities*, 88 FERC ¶ 61,227 (1999), *clarified*, 90 FERC ¶ 61,128, *further clarified*, 92 FERC ¶ 61,094 (2000) (Certificate Policy Statement).

26. Under this policy, the threshold requirement for existing pipelines proposing new projects is that the pipeline must be prepared to financially support the project without relying on subsidization from the existing customers. The next step is to determine whether the applicant has made efforts to eliminate or minimize any adverse effects the project might have on the applicant's existing customers, existing pipelines in the market and their captive customers, or landowners and communities affected by construction. If residual adverse effects on these interest groups are identified after efforts have been made to minimize them, the Commission will evaluate the project by balancing the evidence of public benefits to be achieved against the residual adverse effects. This is essentially an economic test. Only when the benefits outweigh the adverse effects on economic interests will the Commission then proceed to complete the environmental analysis where other interests are considered.

27. As noted above, the threshold requirement is that the applicant must be prepared to financially support the project without relying on subsidization from its existing customers. Cheniere Pipeline's proposal satisfies the threshold requirement because, as a new natural gas company, it does not have existing customers. Moreover, Corpus Christi Liquefaction has subscribed to service utilizing 100 percent of the capacity of the proposed facilities. Thus, there will be no subsidization.

28. Likewise, as a new pipeline, Cheniere Pipeline's proposal will have no adverse impact on its existing customers and services. Also, the proposal will not be replacing firm transportation service on other pipelines in the market. No pipelines or their captive customers filed adverse comments regarding Cheniere Pipeline's proposal. Thus, we find that Cheniere Pipeline's proposal will not adversely impact existing pipelines in the market or their captive customers.

29. We find that Cheniere Pipeline's proposal has been designed to minimize impacts on landowners and the environment, noting that the proposed pipeline and related facilities would be located within existing Cheniere Pipeline-owned land and right-of-ways. Thus, there would be minimal adverse impacts to landowners.

30. The proposed facilities will enable Cheniere Pipeline to transport gas to and from Corpus Christi Liquefaction's proposed LNG terminal. Corpus Christi Liquefaction has subscribed to 100 percent of the capacity of the proposed facilities. Based on the benefits the project will provide and the minimal adverse impacts on existing customers, other pipelines and their customers, and landowners and surrounding communities, we find, consistent with the Certificate Policy Statement and section 7(c) of the NGA, that Cheniere Pipeline's proposal, as conditioned below, is required by the public convenience and necessity.

2. Blanket Certificates

31. Cheniere Pipeline requests a Part 284 Subpart G blanket certificate to provide open-access firm and interruptible natural gas transportation services pursuant to its *pro forma* tariff. Since a Part 284 blanket certificate is required for Cheniere Pipeline to offer its proposed open-access transportation services, we will issue Cheniere Pipeline a Part 284 Subpart G blanket certificate.

32. Cheniere Pipeline also requests a blanket certificate under Part 157 of Subpart F to perform routine activities in connection with the construction, maintenance, and operation of the proposed pipeline facilities. Because Cheniere Pipeline will become a natural gas company upon its acceptance of an NGA section 7 certificate to construct and operate the proposed facilities, we will issue the requested Part 157, Subpart F blanket construction certificate.

3. Rates

a. Cost of Service and Initial Rates Proposals

33. Cheniere Pipeline anticipates a capital structure of 50 percent equity and 50 percent debt. Assuming this debt level, Cheniere Pipeline estimates a cost of debt of 7.75 percent and requests a return on equity of 14 percent. Cheniere Pipeline uses a 4-percent depreciation rate to calculate its cost of service.

34. Cheniere Pipeline proposes to offer firm and interruptible transportation services (Rate Schedules FTS and ITS) and parking and lending service (Rate Schedule PALS). Cheniere Pipeline states that its proposed cost-based rates reflect a SFV rate design.

35. The Rate Schedule FTS rates are derived using the estimated first-year \$77,787,002 annual cost of service and annual FTS reservation determinants of 27,540,000 Dekatherms (Dth) (full firm service capability of 2,295,000 Dth per day, times 12). Cheniere Pipeline also states that it allocated 5 percent of system costs to interruptible transportation service. The proposed maximum cost-based Rate Schedule FTS monthly reservation charge is \$2.8245 per Dth. Cheniere Pipeline states that it currently has no variable costs other than fuel and lost and unaccounted-for gas, so the proposed Rate Schedule FTS usage charge is \$0.0000 per Dth. The Rate Schedule ITS rate is a 100-percent load factor derivative of the Rate Schedule FTS rates. The proposed maximum Rate Schedule ITS charge is \$0.0929 per Dth.

36. Cheniere Pipeline estimates 0.50 percent retainage for fuel and lost and unaccounted-for gas. In General Terms and Conditions (GT&C) section 6.15 (Retainage) of the *pro forma* tariff, Cheniere Pipeline proposes a tracker mechanism that would adjust the retainage rate on April 1 and November 1 of each year. The adjustments to the retainage charge will track the actual fuel and lost and unaccounted-for usage.

37. We have reviewed Cheniere Pipeline's proposed cost of service, firm and interruptible rate designs, and fuel retention rates and find they generally reflect the Commission's current policy. We will approve Cheniere Pipeline's proposed fuel retention rates. However, we find that Cheniere Pipeline's firm/interruptible rate proposal does not comply with the Commission's policy requiring new pipelines to allocate costs to all services (including interruptible and short-term firm transportation) or credit revenues generated by these services to maximum-rate shippers.³⁷

38. The purpose of interruptible revenue credits or cost allocation is to protect the pipeline's customers from too low an allocation to interruptible service. An allocation of too little costs to interruptible service causes both the firm and interruptible maximum rates to be too high. Our policy regarding new interruptible services requires either a 100-percent credit of the interruptible revenues, net of variable costs, to maximum rate firm and interruptible customers or an allocation of costs and volumes to these services.³⁸

39. Exhibit N-11 of its application shows that Cheniere Pipeline imputed 2,180,250 Dth per day of billing determinants to firm service and 114,750 Dth per day to interruptible service. However, despite its statement to the contrary, Cheniere Pipeline did not allocate any costs to its interruptible transportation. Cheniere Pipeline calculated its initial firm service recourse rate using its full first year cost of service and its full level of billing determinants. Thus, at that rate, Cheniere Pipeline would recover its full cost of service solely from the firm customers. Hence, if Cheniere Pipeline were to provide any interruptible services, it would over-recover its cost of service. This outcome is contrary to our policy. Thus, we will reject Cheniere Pipeline's initial rates calculation. When Cheniere Pipeline files its tariff in compliance with this order, Cheniere Pipeline is required to revise its initial rates or tariff in accordance with our policy (i.e., either imputing billing determinants and costs to its interruptible service or providing for the crediting of interruptible revenues).

40. We also note that while Cheniere Pipeline proposes to offer parking and lending service, it failed to propose initial rates for this service. We will require Cheniere Pipeline to use its Rate Schedule ITS rate for the Rate Schedule PALS rate.³⁹ Further, in

³⁷ See *Transcontinental Gas Pipe Line Corp.*, 78 FERC ¶ 61,057, at 61,209 (1997).

³⁸ See *Georgia Strait Crossing Pipeline LP*, 98 FERC ¶ 61,271, at 62,055-56 (2002).

³⁹ See *Cheniere Sabine Pass Pipeline Co.*, 109 FERC ¶ 61,324, at PP 34-35 (2004) (the Commission accepted the pipeline's proposal to use Rate Schedule ITS initial rate for Rate Schedule PALS service).

section 5.3.3 (Rates and Charges) of Rate Schedule PALS, Cheniere Pipeline does not list an applicable rate for retainage. We have determined that park and lending service may not be assessed fuel if it can be shown that no fuel is used in performing a transaction, such as proposed here by Cheniere Pipeline, where the receipt and delivery point are the same point.⁴⁰ However, such services are not exempt from being assessed a reimbursement quantity for lost and unaccounted-for gas.⁴¹ We will require Cheniere Pipeline to assess lost and unaccounted-for gas retainage to its Rate Schedule PALS service. The initial retainage charge will be zero percent and subject to change pursuant to Cheniere Pipeline's GT&C section 6.15 (Retainage).⁴²

b. Pro Forma Tariff

41. Cheniere Pipeline requests blanket transportation certificate authority pursuant to Part 284, Subpart G of the Commission's regulations. As part of its request, it filed a *pro forma* open-access tariff for the Commission's approval. Cheniere Pipeline's proposed tariff generally conforms to the Commission's requirements. We will approve the tariff, as conditioned below.

i. Shippers' Rights

42. In sections 5.1.9 of Rate Schedule FTS and 5.2.6 of Rate Schedule ITS, Cheniere Pipeline proposes that:

Transporter agrees that Shipper may protest or contest filings of Transporter, or seek authorization from duly constituted regulatory authorities for such adjustment of Transporter's existing FERC Gas Tariff as may be found necessary in order to assure that the provisions in (a), (b) or (c) above are just and reasonable.

43. Based on its proposed language, Cheniere Pipeline states that its shippers may protest or contest its tariff filings. However, Cheniere Pipeline cannot change its shippers' rights to protest or contest Cheniere Pipeline's filings. A shipper's right to protest or contest a tariff filing is a right that all shippers have under the NGA, and it does

⁴⁰ *Midwestern Gas Transmission Co.*, 139 FERC ¶ 61,276, at P 16 (2012); *Reliant Energy Gas Transmission Co.*, 99 FERC ¶ 61,131, *order on reh'g*, 100 FERC ¶ 61,290, *order on rehearing and compliance filings*, 101 FERC ¶ 61,299 (2002).

⁴¹ *Midwestern Gas Transmission Co.*, 139 FERC ¶ 61,276, at P 16 (2012).

⁴² GT&C section 6.15 (Retainage) may require modification to separately account for fuel and lost and unaccounted-for gas.

not require Cheniere Pipeline's consent or a Commission finding regarding such language in a tariff. Further, there are no "(a), (b) or (c) above" in either sections 5.1.9 or 5.2.6 of its Rate Schedules. Thus, we will reject this proposed tariff language.

44. Cheniere Pipeline proposes in the GT&C's Retainage section 6.15.E (Notice of Responsibility of Deferred Amounts):

In the event this Section 6.15 shall be changed *in any manner* that adversely affects Transporter's recovery of the full amount of retainage gas amounts reflected in its deferred retainage accounts, each Shipper that received transportation service during the period affected by such retainage adjustment deferred account shall be responsible to Transporter for its proportionate share of the amount of Transporter's unrecovered deferred retainage amounts for the transportation services which they were provided [emphasis added].

45. Cheniere Pipeline's proposed fuel tracker mechanism in sections 6.15.A through D is designed to keep Cheniere Pipeline whole as to gas costs. However, section 6.15.E is overly broad because it includes unrecovered costs that may have occurred "*in any manner* that adversely affects Transporter's recovery of the full amount of retainage gas." This provision also compromises shippers' right to protest meaningfully and it undermines the effect of a Commission finding to suspend and order refunds. We will reject this proposed tariff language.

46. In section 7.1.5 (Rates) of Cheniere Pipeline's proposed *pro forma* service agreement under Rate Schedule FTS, Cheniere Pipeline proposes that "[t]ransporter and [s]hipper agree not to initiate any proceeding before the [Commission] with respect to a negotiated rate set forth in Exhibit A herein for the effective term of such negotiated rate."

47. We will reject this proposal. Cheniere cannot require, in a standard provision of its *pro forma* service agreement, that a shipper forgo its rights under the NGA just because it enters into a negotiated rate agreement.⁴³ In addition, Cheniere Pipeline does not propose the same restriction for negotiated rates under Rate Schedules ITS and

⁴³ See *Columbia Gas Transmission Corp.*, 111 FERC ¶ 61,338 (2005), *aff'd*, *Columbia Gas Transmission Corp. v. FERC*, 477 F.3d 739 (D.C. Cir. 2007); *Southern LNG Inc.*, 130 FERC ¶ 61,146, at P 29 (2010); *Southern LNG, Inc.*, 122 FERC ¶ 61,137, at PP 48-49 (2008).

PALS. This finding is without prejudice to Cheniere Pipeline negotiating such a non-conforming term and condition with its shippers.

ii. **GT&C Section 6.8: Force Majeure/Impairment of Service**

a. **GT&C Sections 6.1.p and 6.8: Definition of Force Majeure**

48. The definition of *force majeure* in Cheniere Pipeline's tariff is unclear. GT&C section 6.1.p (Definitions) defines *force majeure* as "an event or effect that cannot be reasonably anticipated or controlled as defined in Section 6.8.C." But GT&C sections 6.8.A through I (Force Majeure/Impairment of Service) define *force majeure* in much more detail than in section 6.8.C. Further, section 6.8.C is not clear that all of its provisions must be read with the qualifications contained in section 6.1.p. We will require Cheniere Pipeline to replace the definition of *force majeure* at section 6.1.p with a cross reference to GT&C section 6.8.

b. **GT&C Sections 6.8.C and 6.8.F: Events Outside of Pipeline's Control**

49. In GT&C section 6.8.C, Cheniere Pipeline proposes that the term *force majeure* include "the necessity for making repairs or alterations to machinery or lines of pipe," or the inability of the pipeline to acquire necessary approvals from any governmental agency.

50. We find Cheniere Pipeline's proposal to include repairs, including the acquisition of necessary government approvals, as part of the definition of *force majeure* and as part of the impairment of service *force majeure* clause is overly broad and includes matters that might not be *force majeure* events. *Force majeure* events are limited to events which are outside the pipeline's control and are unexpected,⁴⁴ and do not include routine, periodic testing and maintenance activities as may be required by government regulation. Consistent with the finding in *TransColorado Gas Transmission Co., LLC*,⁴⁵ we will

⁴⁴ See *Tennessee Gas Pipeline Co.*, Opinion No. 406, 76 FERC ¶ 61,022, at 61,088 (1996), *order on reh'g*, Opinion No. 406-A, 80 FERC ¶ 61,070, *denied reh'g*, 80 FERC ¶ 61,389 (1997).

⁴⁵ 144 FERC ¶ 61,175, at PP 9 and 34-35 (2013).

require Cheniere Pipeline to modify the appropriate sections of GT&C section 6.8 to limit *force majeure* events to unanticipated matters outside Cheniere Pipeline's control.⁴⁶

51. Further, we reject Cheniere Pipeline's GT&C section 6.8.F proposal that it "shall have no liability to [s]hipper or any other party for curtailment or interruption of service." In the context of proposed GT&C section 6.8.F, this sentence can be read to insulate Cheniere Pipeline from liability whether or not the events were outside of Cheniere Pipeline's control. The proposal is inconsistent with our policy that requires pipelines to provide partial reservation charge credits in order to equitably share the risk of an event for which no party is responsible.⁴⁷

c. GT&C Sections 6.8.E and 6.8.H: Quantities Subject to Crediting

52. We require pipelines to provide some level of reservation charge credits whenever the pipeline is unable to schedule reserved primary firm service.⁴⁸ When the interruption in service is the result of a *force majeure* event, the pipeline must provide partial reservation charge credits.⁴⁹ We require that the pipeline provide partial reservation charge credits during *force majeure* outages in order to share the risk of an unexpected event not in the control of the pipeline. Partial credits may be provided pursuant to: (1) the No-Profit method under which the pipeline gives credits equal to its return on equity and income taxes starting on Day 1; (2) the Safe Harbor method under which the pipeline provides full credits after a short grace period when no credit is due (i.e., 10 days or less);⁵⁰ or (3) some other method that achieves equitable sharing in the same ball park as the first two methods.⁵¹ In GT&C section 6.8.E, Cheniere Pipeline proposes to use the Safe Harbor method.

⁴⁶ See *North Baja Pipeline, LLC v. FERC*, 483 F.3d 819, 823 (D.C. Cir. 2007) (affirming the Commission's definition of *force majeure* events as events that are not only uncontrollable but also unexpected).

⁴⁷ See *Northern Natural Gas Co.*, 141 FERC ¶ 61,221, at P 20 (2013); *Panhandle Eastern Pipe Line Co., LP*, 148 FERC ¶ 61,025, at P 45 (2014).

⁴⁸ See *Texas Eastern Transmission, LP*, 140 FERC ¶ 61,216, at P 83 (2012).

⁴⁹ See *Tennessee Gas*, 76 FERC ¶ 61,022 at 61,088.

⁵⁰ See *Natural Gas Supply Ass'n*, 135 FERC ¶ 61,055, at P 17, *order on reh'g*, 137 FERC ¶ 61,051 (2011).

⁵¹ See *Natural Gas*, 135 FERC ¶ 61,055 at P 18.

53. Cheniere Pipeline proposes methods to calculate the quantities that qualify for a *force majeure* reservation charge credit. In GT&C section 6.8.E, Cheniere Pipeline provides that it will “credit Shipper’s reservation charges in proportion to the reduced quantity of service caused by the Force Majeure incident for the period beginning after 10 days following the occurrence and ending at such time that the Force Majeure incident is cured.” The method by which to calculate the proportion is provided in GT&C section 6.8.H. Section 6.8.H provides that a shipper’s “Entitlement Quantity” will be the lesser of the shipper’s average usage of primary Rate Schedule FTS service for the seven days prior to the first day of the interruption of service or the Shipper’s nominations for that gas day.

54. Under Cheniere Pipeline’s tariff, shippers have four windows of opportunity during the day to place bids for service. However, Cheniere Pipeline’s proposed provision fails to specify from which nomination cycle the *force majeure* crediting calculation is to begin. We will require Cheniere Pipeline to revise this provision to correct this deficiency.

55. We will also require several additional changes to Cheniere Pipeline’s proposal concerning how it will calculate the level of reservation credits it will provide. As discussed in *Southern Natural Gas Company*,⁵² if a pipeline has not given advance notice of an outage before the first opportunity to nominate service for the day, the shipper’s credits must be based on the quantities it nominated for scheduling up to its maximum daily quantity (MDQ) that were not delivered, and not on any measure of historical usage. Similarly, if Cheniere Pipeline has given notice of the outage before the first opportunity to submit a Timely Nomination, then the shipper must be given credits based upon an appropriate historical usage up to its MDQ and not on the shipper’s scheduling nominations. Accordingly, there is never a situation, as implied by section 6.8.H, where both the average of the seven prior gas days and shipper’s nominations could apply and a determination between the two calculations as to which provides the least credits.⁵³ We will require Cheniere Pipeline to clarify this provision.

56. Although the discussion in *Southern Natural Gas Company* pertained to credits for outages due to non-*force majeure* events, we have similarly differentiated the methods for calculating credits due to *force majeure* events based on whether such advance notice has been posted.⁵⁴ Thus, Cheniere Pipeline’s revisions to GT&C section 6.8 concerning

⁵² 135 FERC ¶ 61,056, at PP 32-34, *order denying reh’g and granting clarification*, 137 FERC ¶ 61,050 (2011).

⁵³ See *Rockies Express Pipeline LLC*, 142 FERC ¶ 61,075, at P 32 (2013).

⁵⁴ See, e.g., *Midwestern Gas Transmission Co.*, 137 FERC ¶ 61,257, at P 22 (2011).

the calculation of credits should clearly indicate that the crediting methods discussed above are applicable to both *force majeure* and non-*force majeure* outages.

57. In addition, we find that Cheniere Pipeline's proposed section 6.8 fails to address reservation credits during *force majeure* outages in situations where there was no advance notice that the outage would continue on the day in question. Consistent with precedent, Cheniere Pipeline should revise section 6.8 to provide that for each day after the tenth day of the outage, Cheniere Pipeline must use the amount nominated by the shipper up to its contract demand, but not scheduled by Cheniere Pipeline, if there was no advance notice that the *force majeure* outage would continue for the day in question. Section 6.8 should also state that Cheniere Pipeline will only use the seven-day average usage during the period before the *force majeure* outage when there is advance notice that the *force majeure* outage will continue.⁵⁵

d. **GT&C Section 6.8.I: Computation of Non-Force Majeure Event Reservation Charge Credits**

58. We have stated that where the replacement shipper is paying a reservation charge that is lower than the releasing shipper's rate, it is reasonable for the reservation charge credit applicable to the replacement shipper to be based on its lower reservation charge.⁵⁶ This reservation charge credit should not affect how the pipeline bills the releasing shipper by reducing the releasing shipper's rate by the amount of the replacement shipper's reservation charge.⁵⁷ In this situation, because the replacement shipper is not paying the higher reservation charge applicable to the releasing shipper, the pipeline should not provide the replacement shipper a credit in excess of the replacement shipper's reservation charge. However, we have found that the pipeline should continue to credit the replacement shipper's reservation charge to the releasing shipper without regard to the reservation charge credits given to the replacement shipper for the outage.⁵⁸ Otherwise, the releasing shipper would be required, in effect, to subsidize the reservation charge credits we require the pipeline to give to the replacement shipper for the pipeline's failure to provide that shipper its contracted-for service.⁵⁹

⁵⁵ See, e.g., *Rockies Express*, 142 FERC ¶ 61,075 at P 32.

⁵⁶ See *Northern Natural*, 141 FERC ¶ 61,221 at P 85.

⁵⁷ See *id.*

⁵⁸ See *id.*

⁵⁹ See *id.*

59. In a situation where the replacement shipper pays a reservation charge that is higher than the releasing shipper's reservation charge, the releasing shipper is entitled to any profit from releasing its capacity at a rate higher than it pays the pipeline because the capacity-release regulations require the pipeline to credit the entire reservation charge paid by the replacement shipper to the releasing shipper.⁶⁰ The pipeline may limit the credit to the replacement shipper to the releasing shipper's rate, so long as the pipeline credits to the releasing shipper the entire amount of the replacement shipper's reservation charge (that is, both the amount the replacement shipper continues to pay and the amount of any reservation charge credits provided to the replacement shipper). This would put the releasing shipper in the same position as if the outage had not occurred, and thus treats the releasing shipper in a reasonable manner. Although the replacement shipper would not be credited the entire amount of its reservation charge, the Commission has previously found this reasonable,⁶¹ explaining that the pipeline would have no control over the release rate agreed to by the releasing shipper and the replacement shipper and would never have any right to retain the excess amount paid by the replacement shipper.⁶²

60. GT&C Section 6.8.I provides in part:

If a Shipper has released all or a portion of its firm capacity under Section 6.19 of the General Terms and Conditions , Transporter shall determine the total Reservation Charge credit due for the Entitlement Quantity and allocate the applicable Reservation Charge credit among Releasing Shipper and Replacement Shipper in a not unduly discriminatory manner.

61. This language does not clearly state how reservation charge credits above or below the replacement shipper's reservation charge will be credited to the replacement and releasing shippers. Accordingly, we find the provision provides Cheniere Pipeline too much discretion as to how to allocate reservation charge credits among the releasing and replacement shippers, and potentially does not provide a full credit. We will require Cheniere Pipeline to revise its proposed tariff language to clarify that the credits it provides releasing shippers would be unaffected by any reservation charge credits it provides to the replacement shipper in either of the above two described situations. Cheniere Pipeline is not required to provide reservation charge credits to a releasing shipper if the replacement shipper is paying a volumetric rate, as the releasing shipper

⁶⁰ See 18 C.F.R. § 284.8(f) (2014).

⁶¹ See *Northern Natural*, 141 FERC ¶ 61,221 at P 86.

⁶² See *id.*

takes on the risk that it will receive no credits if the replacement shipper does not take any service.⁶³

iii. GT&C Section 6.10.C: Scheduling

62. GT&C section 6.10.C (Scheduling) contains Cheniere Pipeline's proposed scheduling priorities. Cheniere Pipeline proposes to schedule mainline capacity first and, to the extent receipt or delivery point capacity is constrained, it will allocate point capacity. Mainline capacity will be scheduled on the basis of five categories: (a) firm primary receipt and delivery points within the path; (b) firm primary receipt or delivery points within the path; (c) Rate Schedule FTS imbalance payback; (d) firm secondary receipt or delivery points outside of the path; and (e) interruptible services including overrun service from firm contracts. Interruptible services will be scheduled on the basis of effective rate. Receipt and delivery point scheduling is proposed to use four categories: (a) firm primary receipt or delivery points within the path; (b) firm services with a secondary receipt or delivery point, and where the receipt point is within the path of the primary points; (c) Rate Schedule FTS imbalance payback; and (d) interruptible services including overrun service from firm contracts.

63. We will approve Cheniere Pipeline's proposed scheduling priorities, with one exception. Cheniere Pipeline introduces the term "payback," which is not defined in its tariff and is not a service. We will require Cheniere Pipeline to remove these payback provisions from section 6.10.C.⁶⁴

iv. GT&C Section 6.10.G: Incidental Gas Purchases and Sales

64. Cheniere Pipeline proposes in GT&C section 6.10.G for the purchase and sale of natural gas or LNG to the extent necessary to maintain reliable system operations including, but not limited to, system pressure, fuel quantities, and line pack. Cheniere Pipeline states that, unless such purchase or sale must be done on an expedited basis, it will post operational purchase and sales quantities for bidding on its website.

65. Cheniere Pipeline proposes to transport natural gas in a gaseous state. It will not have any facilities capable of either liquefying or gasifying LNG. Thus, it is not apparent

⁶³ See *id.* P 88.

⁶⁴ We note that in GT&C section 6.13.E, Cheniere Pipeline proposes to schedule imbalance nominations at the priority of the service on which the imbalance occurred. This scheduling priority is acceptable, and should be reflected in scheduling priority section of its tariff, GT&C section 6.10.C.

how Cheniere Pipeline intends to manage LNG. Furthermore, incidental gas sales or purchases may be related to a variety of operational reasons under Cheniere Pipeline's tariff, including imbalance management and fuel and lost and unaccounted-for gas. Cheniere Pipeline does not explain how LNG is required for any of these requirements. Pricing structure for LNG is also significantly different than natural gas in its gaseous state. Cheniere Pipeline does not explain how it would recover the costs of incidental LNG purchases and sales. Including LNG in this provision of Cheniere Pipeline's tariff introduces uncertainty to the costs its shippers will be subjected to and the activities Cheniere Pipeline proposes to engage in. For these reasons, we will reject Cheniere Pipeline's proposal to include LNG in its incidental gas purchase and sales provision.⁶⁵

66. Moreover, Cheniere Pipeline's proposed tariff language in section 6.10.G states that it will perform operational purchases and sales as necessary to operate its facilities and provide reliable service. It also provides that Cheniere Pipeline will post notice of its intent to purchase or sell natural gas, which will be made on a nondiscriminatory basis, on its website unless the purchase or sale must be expedited. In *ANR Pipeline Company*, we identified five requirements a pipeline must follow in connection with the purchase and sale of operational gas.⁶⁶ Section 6.10.G provides for the first of those requirements (the posting and bidding for the purchase and sale of gas for operational purposes), but the provision lacks the remaining four requirements. Thus, we will require Cheniere Pipeline to revise its operational purchase and sales tariff language to include the following provisions:

1. operational purchases or sales have a lower transportation priority than firm transportation;
2. operational sales service is unbundled from transportation service;
3. posting and bidding procedures for the purchase and sale of gas for operational purposes; and

⁶⁵ The rejection of the tariff language is not a prohibition against Cheniere Pipeline from engaging in the purchase or sales of LNG. However, to the extent it attempts to recover any of these costs through rates subject to the Commission's jurisdiction, including surcharges and penalties, Cheniere Pipeline has the responsibility to demonstrate that the costs and the resulting rates are just and reasonable pursuant to NGA section 4.

⁶⁶ *ANR Pipeline Co.*, 110 FERC ¶ 61,069, at P 57, *order on reh'g*, 111 FERC ¶ 61,290 (2005).

4. filing of an annual report of sales and purchases and revenues derived from the sale of gas and the crediting of revenues from such sales to shippers. The report must indicate the source of gas, date of the purchase/sale, volumes, purchase/sale price, costs and revenues from the purchase/sale, and the disposition of the costs and revenues.

67. Cheniere Pipeline proposes to place Incidental Gas Purchase and Sales section (section 6.10.G) under its Nominations, Confirmations and Scheduling section in section 6.10. Gas sales authorization is not related to nominations, confirmations and scheduling. This section should be a separate section under the GT&C section 6.⁶⁷

v. **GT&C Section 6.18.C: Curtailment**

68. Cheniere Pipeline's proposed GT&C section 6.18 (Operational Flow Orders) provides that Cheniere Pipeline will issue an operational flow order (OFO) if it is unable to make scheduled deliveries or receipts. Under proposed section 6.18.D, Cheniere Pipeline will first attempt to identify shippers whose actions require an OFO and limit the applicability of the OFO to just that shipper. However, if that action is insufficient, Cheniere Pipeline will issue a broader OFO under proposed section 6.18.C concerning curtailment. Under the broader OFO and if curtailment of scheduled services is necessary, Cheniere Pipeline proposes to curtail service in the following order: (a) Rate Schedule PALS, curtailing first those with the lowest percentage of the maximum rate; (b) Rate Schedule ITS, curtailing first those with the lowest percentage of the maximum rate; and (c) Rate Schedule FTS on a pro rata basis.

69. Cheniere Pipeline does not indicate where overrun service would be placed in the order of curtailment. Overrun is an interruptible service and should be curtailed together with other interruptible services.⁶⁸ We will require Cheniere Pipeline to place overrun service at a curtailment priority level no higher than other interruptible services.

⁶⁷ See 18 C.F.R. § 154.102(b) (2014) (stating "If [the open-access transportation tariff is] filed in sections, each section must include only material related to the subject matter.").

⁶⁸ *Sierrita Gas*, 147 FERC ¶ 61,192 at P 73; *Tennessee Gas Pipeline Co.*, 62 FERC ¶ 61,250, at 62,676 (1993); *National Fuel Gas Supply Corp.*, 63 FERC ¶ 61,291, at 63,024 (1993).

vi. **GT&C Section 6.22.A: Service Request Information**

70. Cheniere Pipeline's proposed GT&C section 6.22.A lists the information required to accompany transportation requests, including requests to change or add receipt and delivery points on a primary or secondary basis. However, there does not appear to be any requirement for the interested customer to identify the service subject to the request for service. If Cheniere Pipeline believes a request for service should provide the information as to which service is being requested, it may include such a provision in the compliance filing we require below.⁶⁹

vii. **GT&C Section 6.22.B.2: Minimum Posting Times**

71. Cheniere Pipeline's proposed GT&C section 6.22.B.2 provides that "capacity shall be posted by Transporter on its Internet Website for a period of one (1) hour for service of less than five (5) months or three (3) days for service of more than five (5) months."

72. These times are absolute times, not minimum times. Because the proposed posting of available capacity times is absolute, it might conflict with the Commission's requirement that pipelines post all available capacity no less frequently than monthly.⁷⁰ If posted capacity does not sell, whether one hour or three days after the posting, it should remain posted as available capacity and not be removed from the pipeline's website. We will require Cheniere Pipeline to modify this tariff language to provide that the posting times are minimum posting times.

viii. **GT&C Section 6.22.B: Allocation of Firm Capacity**

73. Cheniere Pipeline's proposed GT&C section 6.22.B (Procedures to Obtain Firm Capacity) provides the procedures by which it will evaluate shippers' bids for firm capacity. In section 6.22.B.6, Cheniere Pipeline proposes to award capacity to the bidder with the highest acceptable Net Present Value (NPV), using criteria such as the bid rate, the MDQ or maximum daily transportation quantity requested, the term of service requested, the date on which the requested service would commence and such other objective criteria available based on the requests for service received by transporter. GT&C section 6.10.D (Negotiated Rates, Best Bid for Available Firm Capacity) states that where the negotiated rate is greater than the maximum recourse rate, the bid will be evaluated applying the recourse rate. However, GT&C section 6.22.B, which identifies the NPV methodology that Cheniere Pipeline proposes to use to evaluate bids, makes no

⁶⁹ See *infra* PP 90-92.

⁷⁰ See 18 C.F.R. § 284.13(d)(1) (2014).

reference to section 6.10.D, which provides that negotiated rate bids will be evaluated at a rate no more than the recourse rate.

74. The Alternative Rates Policy Statement states that “[f]or purposes of allocating capacity, shippers willing to pay more than the maximum recourse rate would be considered to have paid the maximum recourse rate.”⁷¹ Sections 6.10.D and 6.22.B are ambiguous in their application to the NPV calculation. We find that Cheniere Pipeline’s capacity allocation proposal is contrary to the Alternative Rates Policy Statement because Cheniere Pipeline’s NPV formula permits bid rates in excess of the maximum stated rates. We will require Cheniere Pipeline to modify the proposed NPV methodology to provide that only the NPV of revenue at the maximum reservation rate will be considered.⁷²

ix. GT&C Section 6.23: ACA Charge

75. Cheniere Pipeline proposes a periodic tariff filing to recover through an Annual Charge Adjustment (ACA) surcharge the annual charges that the Commission assesses interstate pipelines. Cheniere Pipeline’s proposed tariff cites to section 154.38(d)(6) of the Commission’s regulations, but this section is no longer effective. Further, after Cheniere Pipeline filed its certificate application, we modified section 154.402 of the regulations to provide that pipelines are not required to file annual tariff filings if the tariff incorporates by reference the ACA unit charge, as posted on the Commission’s website.⁷³ If Cheniere Pipeline chooses to charge an ACA, it should, as part of the compliance filing required below, file tariff records for sections 4 and 6.23 that comply with the requirements of section 154.402 of the Commission’s regulations and Order No. 776.⁷⁴

⁷¹ *Alternatives to Traditional Cost-of-Service Ratemaking for Natural Gas Pipelines*, 74 FERC ¶ 61,076, at 61,241 (1996).

⁷² *See Columbia Gulf Transmission Co.*, 78 FERC ¶ 61,263, at 62,123 (1997); *Columbia Gulf Transmission Co.*, 77 FERC ¶ 61,093, at 61,388 (1996).

⁷³ *See* 18 C.F.R. § 154.402 (2014). *Annual Charge Filing Procedures for Natural Gas Pipelines*, Order No. 776, FERC Stats. & Regs. ¶ 31,345 (2013) (cross-referenced at 142 FERC ¶ 61,209 (2013)).

⁷⁴ *Annual Charge Filing Procedures for Natural Gas Pipelines*, Order No. 776, 142 FERC ¶ 61,209 (2013).

x. **GT&C Section 6.25: Compliance with NAESB Standards**

76. Part 284 of the Commission's regulations incorporates certain North American Energy Standards Board (NAESB) standards on nominations, allocations, balancing measurement, invoicing, capacity release, and electronic communications. Cheniere Pipeline states that its *pro forma* tariff generally complies with the NAESB Standards Version 1.9, which was the latest version of the standards adopted by the Commission at the time Cheniere Pipeline filed its certificate application.

77. At the time Cheniere Pipeline files actual tariff records, Cheniere Pipeline shall comply with the latest NAESB standards adopted by the Commission. The compliance tariff record must also contain all the information required for this record.⁷⁵ The filing must include a cross-reference showing each NAESB standard number, the tariff section containing the standard, and whether Cheniere Pipeline incorporated the standard through tariff text or by reference. Cheniere Pipeline should file any additional information that it believes is relevant to its compliance with the NAESB Standards.

78. Typically, we require natural gas companies to incorporate NAESB standards into their tariffs by reference.⁷⁶ Cheniere Pipeline incorporated the vast majority of the NAESB standards by reference. However, Cheniere Pipeline specifies particular NAESB standards in its tariff that are incomplete and/or do not appear to be the same as or superior to the required NAESB standards.⁷⁷ Consequently, to the extent that Cheniere

⁷⁵ For example, Order No. 587-V added the requirement that each pipeline must identify the tariff provision in the tariff record listing all the NAESB standards and those standards that are not incorporated by reference and state that these provisions comply with the standards. *Standards for Business Practices of Interstate Natural Gas Pipelines*, FERC Stats. & Regs. ¶ 31,332, at P 36 (2012).

⁷⁶ In Order No. 587, we required gas companies to incorporate the standards of NAESB's predecessor, the Gas Industry Standards Board, into their tariffs verbatim or by reference. *Standards for Business Practices of Interstate Natural Gas Pipelines*, Order No. 587, FERC Stats. & Regs. ¶ 31,038, at 30,058-59 (1996).

⁷⁷ For example, Cheniere Pipeline's proposed GT&C section 6.1.q defines "Gas Day" as "[a] period of 24 consecutive hours beginning and ending at 9:00 a.m. Central Clock Time." In contrast, NAESB Standard 1.3.1 defines the gas day as "Standard time for the gas day should be 9 a.m. to 9 a.m. (central clock time)." Cheniere Pipeline's definition of a gas day is also not the equivalent to NAESB Standard 1.3.1 for four days of the year (the two days transitioning between Standard and Daylight Saving time and the two days following those days). Thus, this provision is not in compliance with our requirements.

Pipeline proposes to state NAESB standards in its tariff as opposed to incorporating the standards by reference, it must identify the location of each of these standards in its tariff and support the proposed language if the proposed language is not verbatim.⁷⁸

79. Cheniere Pipeline proposes to incorporate by reference a Trading Partner Agreement found in NAESB Standard 6.3.3. We do not require this standard, but we accept Cheniere Pipeline's proposal to utilize the NAESB Standard 6.3.3's Trading Partner Agreement. However, Cheniere Pipeline must post this form on its website. We note that if Cheniere Pipeline wants to change this form, it must file the revised agreement with the Commission for review. In addition, we find that, in order for parties to easily locate the agreement, Cheniere Pipeline's tariff must state that the agreement can be located on its public website and provide an address to that website.⁷⁹

xi. Penalties and Penalty Revenue Crediting

80. Cheniere Pipeline proposes three penalties in its tariff. The first penalty is an unauthorized overrun penalty in section 5.1.4.B(2) of Rate Schedule FTS. The unauthorized overrun gas penalty is equal to the greater of \$10.00 per Dth or 200 percent of the Spot Price Index for the flow day on which the unauthorized overrun gas is transported. The second penalty is in section 5.3.5.A of Rate Schedule PALS, which provides that the pipeline will take title to any gas parked on its system where the shipper failed to obey instructions to withdraw the gas. The third penalty is in GT&C section 6.18.G(iii)(b), which provides for a penalty of \$25 per Dth transported in excess of the quantity allowed by the OFO.

81. Regarding the unauthorized overrun service penalty under Rate Schedule FTS, Cheniere Pipeline proposes to apply two separate penalties in the event of a single OFO violation: (1) \$10.00 per Dth or 200 percent of the Spot Price Index, if non-offending shippers' obligations could not be satisfied and (2) \$25.00 per Dth. Rate Schedule ITS unauthorized overruns, in comparison, are subject to only a \$25.00 per Dth penalty for violation of an OFO. There is no proposed penalty for Rate Schedule ITS unauthorized overruns. Our policy prohibits multiple penalties for the same infraction.⁸⁰ Further, Cheniere Pipeline does not explain why different services' unauthorized overrun gas

⁷⁸ See *Algonquin Gas Transmission, LLC*, 142 FERC ¶ 61,164 (2013) (discussing reproducing the NAESB standards in a pipeline's tariff).

⁷⁹ See *Viking Gas Transmission Co.*, 128 FERC ¶ 61,095, at P 8 (2009).

⁸⁰ See *Columbia Gas Transmission Corp.*, 100 FERC ¶ 61,084, at P 201 (2002); *Crossroads Pipeline Co.*, 100 FERC ¶ 61,025, at P 51 (2002).

requires the application of different penalties. We will reject Cheniere Pipeline's Rate Schedule FTS unauthorized overrun service penalty.

82. Additionally, our policy on unauthorized overrun penalties is that pipelines can only charge a nominal penalty not to exceed twice their IT rates during non-critical times, or they can charge a substantial penalty but waive the penalty if the unauthorized overrun does not cause operational problems.⁸¹ The nominal charge is permitted to provide shippers an incentive to nominate overrun volumes.⁸² If Cheniere Pipeline chooses to implement a nominal unauthorized overrun penalty, the nominal charge must be equally applicable to unauthorized overrun services originating from both firm and interruptible transportation services. Alternatively, Cheniere Pipeline can retain its proposed authorized overrun penalty, provided all services are subject to the same charge, the penalty must be waived if the unauthorized overrun does not cause operational problems, and the same infraction is not subject to multiple penalties.

83. Section 284.12(b)(2)(v) of the Commission's regulations provides that pipelines may not retain net penalty revenues, but must credit those revenues to its shippers.⁸³ We consider cash-outs, imbalance, overrun, and OFO penalties subject to revenue crediting⁸⁴ to eliminate any financial incentive on the part of pipelines to impose penalties.⁸⁵ Cheniere Pipeline proposes three different penalties that we have found are subject to penalty revenue crediting (the unauthorized overrun penalty, the OFO penalty, and the confiscation of Rate Schedule PAL gas in the event the shipper does not obey instructions to withdraw the gas). However, Cheniere Pipeline's proposed penalty revenue credit provision a GT&C section 6.18.G(ii) only addresses OFO penalties. Cheniere Pipeline does not address unauthorized overrun penalties and confiscated gas revenues. Thus,

⁸¹ See *Colorado Interstate Gas Co.*, 122 FERC ¶ 61,256, at P 86 (2008); *Questar Pipeline Co.*, 98 FERC ¶ 61,159, at 61,584 (2002).

⁸² See *Natural Gas Pipeline Co. of America*, 101 FERC ¶ 61,200, at P 86 (2002).

⁸³ 18 C.F.R. § 284.12(b)(2)(v) (2014).

⁸⁴ See *Regulation of Short-Term Natural Gas Transportation Services and Regulation of Interstate Natural Gas Transportation Services*, Order No. 637, FERC Stats. & Regs. ¶ 31,091, at 31,315 (2000).

⁸⁵ See *id.* at 31,316.

consistent with our regulations, we will require Chenier Pipeline to credit all penalty revenues to all non-offending shippers.⁸⁶

84. In GT&C section 6.18.G(ii), Cheniere Pipeline proposes to retain a portion of the net OFO penalty revenues.⁸⁷ We will require Cheniere Pipeline to modify section 6.18.G(ii) of its proposed tariff to provide for full net penalty revenue crediting to non-offending shippers.

xii. GT&C Section 6.27.A: Discounted Rate Posting Requirement

85. GT&C section 6.27.A provides that Cheniere Pipeline shall post all transportation discounts granted to any shipper on its system. Section 284.13(b)(2) of the Commission's regulations requires pipelines to post on their websites "on a daily basis" no later than the first nomination for service, rate information for all interruptible agreements, not just discounted agreements.⁸⁸ Further, this reporting requirement is an obligation that the pipeline has with the Commission and is not a term and condition of service with the shippers. As the proposed tariff language is inconsistent with the Commission's reporting requirements for pipelines and is not germane to the service obligations between Cheniere Pipeline and its shippers, we will reject the proposed tariff language.

xiii. Pro Forma Section 7.4.7: Capacity Release Transactions

86. *Pro Forma* section 7.4 is Cheniere Pipeline's proposed *pro forma* service agreement for capacity release transactions. Section 7.4.7 is titled "Further Agreement," followed by a blank space saver.

87. The blank space saver on the form of agreement that provides for "further agreement" is contrary to the Commission's policies governing forms of service agreements. As explained in *Northern Natural Gas Company*, "allowing a blank section labeled 'Other' in a *pro forma* service agreement is too broad and vague and could lead to

⁸⁶ As penalty revenue credits are not limited to OFO penalties, Chenier Pipeline should relocate the penalty revenue crediting provision to its own section in the GT&C.

⁸⁷ An example of how Cheniere Pipeline's proposed penalty revenue crediting mechanism would result in the pipeline retaining penalty revenues is shown in Appendix B of this order.

⁸⁸ See 18 C.F.R. § 284.13(b)(2) (2014).

the inclusion of impermissible terms and conditions of service [and that] it could inhibit interested customers from easily tracking and understanding all agreement provisions.”⁸⁹ Contract provisions must be fully transparent⁹⁰ and implemented in a non-discriminatory manner.⁹¹ Thus, we will reject section 7.4.7 of the proposed *pro forma* service agreement and direct Cheniere Pipeline to remove this provision and any similar tariff provisions from its *pro forma* tariff when it files actual tariff records.

xiv. Posting of Offers to Purchase Released Capacity

88. Section 284.8(d) of our regulations states that “[t]he pipeline must provide notice of offers to release or to purchase capacity, the terms and conditions of such offers, and the name of any replacement shipper . . . on an Internet web site, for a reasonable period.”⁹² Chenier Pipeline’s proposed tariff does not provide for such a service. We will require Chenier Pipeline to revise its tariff to provide for the posting of offers to purchase released capacity.⁹³

c. Format

89. Cheniere Pipeline proposes a sectionalized tariff. When it files its actual tariff records, Cheniere Pipeline should remove references to tariff “sheets” at sections 6.30.C.4 and 7.1.5. In addition, Cheniere Pipeline proposes to include “FERC Gas Tariff” in the tariff sections’ headers. We administer two different gas tariff programs.

⁸⁹ *Northern Natural Gas Co.*, 102 FERC ¶ 61,171, at PP 14-18 (2003) (rejecting a blank labeled “Other” in a *pro forma* service agreement).

⁹⁰ *See Duke Energy Carolinas, LLC*, 147 FERC ¶ 61,241, at P 421 (2014); *Kinetica Energy Express, LLC*, 144 FERC ¶ 61,159, at P 17 (2013).

⁹¹ *See Natural Gas Pipeline Co. of America*, 100 FERC ¶ 61,269, at P 29 (2002); *Kinder Morgan Interstate Gas Transmission LLC*, 100 FERC ¶ 61,366, at P 23 (2002).

⁹² 18 C.F.R. § 284.8(d) (2014).

⁹³ *Posting of Offers to Purchase Capacity*, 146 FERC ¶ 61,203 (2014). *See B-R Pipeline Co.*, 149 FERC ¶ 61,031 (2014) for a discussion on acceptable tariff language. *See* UGI LNG Inc., FERC NGA Gas Tariff, UGI LNG Inc., [Section 9.18, GTC - Capacity Release, 3.0.0](#), at section 18.7(a) for an example.

We will require Cheniere Pipeline to properly identify the applicable program as “FERC NGA Gas Tariff.”⁹⁴

d. Compliance Filings

90. If Cheniere Pipeline intends to make changes not specifically authorized by this order prior to placing its facilities into service, it will need to file an application under NGA section 7(c) to amend its certificate authorization. Such an amendment filing may be made no later than 60 days prior to the in-service date. In that filing, Cheniere Pipeline will need to provide cost data and the required exhibits supporting any revised rates, terms, and conditions of service. After the facilities are placed in service, Cheniere Pipeline must make a NGA section 4 filing in order to change its rates, terms, or conditions of service.

91. We will require Cheniere Pipeline to file with the Commission its tariff consistent with the requirements of Part 154 of the regulations no later than sixty days prior to its in-service date.⁹⁵ This filing should include a redlined/strike out version of the tariff that compares the *pro forma* tariff reviewed above and the proposed compliance tariff.

92. Consistent with Commission precedent, we will require Cheniere Pipeline to file a cost-and-revenue study at the end of its first three years of actual operation to justify its existing cost-based firm and interruptible recourse rates.⁹⁶ In its filing, the projected units of service should be no lower than those upon which Cheniere Pipeline’s approved initial rates are based. The filing must include a cost and revenue study in the form specified in section 154.313 of the regulations to update cost-of-service data.⁹⁷ We will require Cheniere Pipeline to file the report using the eTariff portal in the same docket number as its tariff compliance filing, using eTariff TOFC 580. Cheniere Pipeline is advised to include as part of the eTariff description, a reference to Docket No. CP12-508-

⁹⁴ See *Implementation Guide for Electronic Filing of Parts 35, 154, 284, 300, and 341 Tariff Filings* at 7, available at <http://www.ferc.gov/docs-filing/etariff/implementation-guide.pdf> (last updated on April 29, 2014). See also *Kinetica Energy*, 144 FERC ¶ 61,159 at P 21 (for additional guidance).

⁹⁵ Cheniere Pipeline should use eTariff Type of Filing Code (TOFC) 740 for this compliance filing. This filing will receive a new docket number.

⁹⁶ See, e.g., *Trunkline LNG Co.*, 82 FERC ¶ 61,198, at 61,780 (1998), *aff’d sub nom. Trunkline LNG Co. v. FERC*, 194 F.3d 68 (D.C. Cir. 1999).

⁹⁷ 18 C.F.R. § 154.313 (2014).

000 and the cost and revenue study.⁹⁸ After reviewing the data, we will determine whether to exercise our authority under NGA section 5 to establish just and reasonable rates. In the alternative, in lieu of this filing, Cheniere Pipeline may make an NGA section 4 filing to propose alternative rates to be effective no later than three years after the in-service date for its proposed facilities.

C. Environmental Analysis

1. Pre-Filing Review

93. On December 22, 2011, Commission staff granted Corpus Christi Liquefaction's request to use the pre-filing process in Docket No. PF12-3-000. On June 1, 2012, the Commission issued a *Notice of Intent to Prepare an Environmental Assessment* (NOI). The NOI was published in the *Federal Register* on June 8, 2012 and mailed to over 500 interested parties on the environmental mailing list, including federal, state, and local officials; agency representatives; environmental and public interest groups; Native American tribes; local libraries and newspapers in the project areas; and property owners within 0.5 miles of the aboveground facilities and along the proposed pipeline route.⁹⁹

94. On June 26, 2012, Commission staff held a public scoping meeting in Portland, Texas, to provide an opportunity for the public to learn more about the project and provide comments on environmental issues to be addressed in the environmental document. Nine people provided oral comments on environmental issues and three individuals submitted written comments. A transcript of the scoping meeting and all written comments received were entered into the public record in Docket No. PF12-3-000.

95. In October 2012, Commission staff mailed an update of the project to the environmental mailing list. The update notified the stakeholders of the Commission staff's decision to prepare an EIS for Corpus Christi Liquefaction's and Cheniere Pipeline's proposals, in lieu of an environmental assessment.

2. Application Review

96. After the applications for the Corpus Christi Liquefaction and Cheniere Pipeline Projects were filed, Commission staff evaluated the potential environmental impacts of the proposed facilities in the draft and final EIS in accordance with the requirements of

⁹⁸ *Electronic Tariff Filings*, 130 FERC ¶ 61,047, at P 17 (2010).

⁹⁹ 77 Fed. Reg. 34,034 (June 8, 2012).

the National Environmental Policy Act of 1969 (NEPA).¹⁰⁰ The U.S. Army Corps of Engineers (Corps), U.S. Coast Guard, DOE, U.S. Department of Transportation (DOT), and Environmental Protection Agency's Region 6 office (EPA) participated as cooperating agencies in the preparation of the EIS.

97. On June 13, 2014, Commission staff issued the draft EIS, which addressed the substantive issues raised during the scoping period.¹⁰¹ The document was mailed to the Commission's environmental mailing list and a 45-day public comment period followed issuance of the draft EIS. Commission staff held a public comment meeting on the draft EIS on July 15, 2014, in Portland Texas. Thirty-one individuals provided oral comments at the comment meeting and five individuals submitted written comments. The transcript of the public comment meeting and all written comments on the draft EIS are part of the public record for the project.

98. Twenty-nine of the speakers at the public comment meeting spoke in support of the project and two expressed concern about the project's impacts on air quality, noise, and migratory birds. In addition to receiving written and oral comments at the public comment meeting, we also received nine written comments from federal, state, and local agencies; interested parties; Corpus Christi Liquefaction; and Cheniere Pipeline. Concerns raised in the comments included impacts on wetlands and aquatic resources, air quality and noise, public safety and reliability, cumulative impacts, and project alternatives.

99. On October 8, 2014, Commission staff issued the final EIS for the proposed project. The final EIS addresses timely comments received on the draft EIS.¹⁰² The final EIS was mailed to the same parties as the draft EIS, as well as to those who commented on the draft EIS.¹⁰³ The final EIS addresses geology; soils; water resources; wetlands; vegetation; wildlife and aquatic resources; threatened, endangered, and other special status species; land use, recreation, and visual resources; socioeconomics; cultural resources; air quality and noise; safety; cumulative impacts; and alternatives. On November 17, 2014, the EPA filed comments on the final EIS, specifically regarding environmental justice, indirect effects, and greenhouse gas emissions.

¹⁰⁰ 42 U.S.C. §§ 4321 *et seq.* (2012). *See* 18 C.F.R. pt. 380 (2014) (Commission's regulations implementing NEPA).

¹⁰¹ The Commission published notice of the draft EIS in the *Federal Register* on June 20, 2014. 79 Fed. Reg. 35,344 (2014).

¹⁰² Appendix I of the final EIS includes responses to comments on the draft EIS.

¹⁰³ The distribution list is provided in Appendix F of the final EIS.

3. Major Environmental Issues Addressed in the Final EIS

100. The final EIS concludes that if the project is constructed and operated in accordance with applicable laws and regulations, the project will result in some adverse environmental impacts. However, the impacts described in the final EIS will be reduced to less-than-significant levels with the implementation of Corpus Christi Liquefaction's and Cheniere Pipeline's proposed mitigation and Commission staff's recommendations (now adopted as the 104 conditions in the attached Appendix A of this order). Based on Commission staff's analysis, public scoping, and agency consultation, the major issues associated with the project include impacts on wetlands and aquatic resources, including essential fish habitat (EFH); migratory birds; air quality and noise; safety and reliability; and cumulative impacts. We summarize these major issues below and also address EPA's comments on the final EIS.

a. Wetlands and Aquatic Resources

101. As stated in the final EIS, based on consultations with National Oceanic and Atmospheric Administration, National Marine Fisheries Service, and the Corps, the LNG terminal will impact approximately 25.7 acres of wetlands and EFH. Construction of the marine berths at the LNG terminal will result in the loss and permanent conversion of estuarine submerged aquatic seagrass beds, cordgrass salt marsh, emergent marsh, vegetated sand flats, unvegetated sand flats, and unvegetated shallow water EFH. However, the deep water habitat will recolonize with soft-bottom benthic organisms after completion of dredging and will continue to provide a prey base for EFH species.

102. To minimize impacts on wetlands, EFH, and EFH species, Corpus Christi Liquefaction and Cheniere Pipeline reduced their work-space requirements and will use a hydraulic cutterhead dredge to reduce sedimentation and turbidity. Corpus Christi Liquefaction and Cheniere Pipeline will further mitigate project impacts by implementing the mitigation measures contained in their Aquatic Resources Mitigation Plan, the Commission's Wetland and Waterbody Construction and Mitigation Procedures, and the state Water Quality Certification permit that they received from the Texas Railroad Commission on November 14, 2013. We agree with the final EIS's conclusion that constructing and operating the project facilities will not have a significant impact on wetlands, EFH, or EFH habitats.¹⁰⁴

b. Migratory Birds

103. A number of migratory birds, including shore and sea birds, have the potential to fly over the LNG terminal. While the LNG terminal is located in a highly industrial area,

¹⁰⁴ See Final EIS at 5-3 and 5-5.

several areas provide some marginal habitat. To avoid active nesting birds, Corpus Christi Liquefaction will avoid clearing of woody vegetation during peak nest season, between March 1 and August 31 of any year. At the LNG terminal, Corpus Christi Liquefaction will use lighting systems with minimum intensity; use maximum off-phased white strobe lighting per Federal Aviation Administration regulations; use down-shielding lights; and mark guywires with visual markers and bird diverters. For the new bi-directional natural gas pipeline facilities, the greatest impacts on migratory birds will be from clearing of the construction right-of-way. Like Corpus Christi Liquefaction, Cheniere Pipeline will avoid clearing of woody vegetation during peak nest season, between March 1 and August 31 of any year. We agree with the conclusion in the final EIS that Corpus Christi Liquefaction's and Cheniere Pipeline's plan to avoid clearing during the nesting season will ensure that impacts on migratory birds will not be significant.¹⁰⁵

c. Air Quality and Noise

104. Emissions during construction of the project's facilities will be short-term and limited. Most project-related air emissions will be produced by operation of the LNG terminal and the Sinton and Taft Compressor Stations. Both Corpus Christi Liquefaction and Cheniere Pipeline will comply with all applicable air permit requirements for project facilities. Multiple air dispersion modeling analyses, which included LNG carriers and other nearby emission sources, demonstrated that operation of the project facilities will not result in an exceedance of the National Ambient Air Quality Standards at any location, with the exception of nitrogen dioxide for the LNG terminal. However, an expanded analysis determined that operation of the LNG terminal will not contribute significantly to exceedances of the 1-hour nitrogen dioxide National Ambient Air Quality Standard. As a result, the final EIS finds that the project will not result in a significant adverse impact on either the regional or local air quality.¹⁰⁶

105. The final EIS documents the detailed noise assessments for each of Cheniere Pipeline's proposed horizontal directional drilling locations associated with pipeline construction. To mitigate significant noise impacts near the drill entry and exit points, Cheniere Pipeline intends to perform all horizontal directional drilling activities, except the pipe pullback, during daylight hours.

106. During operation of the project, potential noise impacts will be limited to the vicinity of the LNG terminal and the Sinton and Taft Compressor Stations. These facilities will include design measures to minimize sound generation at full load. In

¹⁰⁵ See Final EIS at 4-48.

¹⁰⁶ See Final EIS at 4-227.

addition, sound-level emissions of the gas-turbine driven refrigerant compressors were included in the final EIS analysis, which included computer noise modeling. The final EIS concludes that the project facilities, with Corpus Christi Liquefaction's and Cheniere Pipeline's proposed noise mitigation measures, will comply with the Commission's day-night sound level criterion of 55 decibels on the A-weighted scale at the nearest noise sensitive areas.¹⁰⁷ As recommended in the final EIS and required by Environmental Conditions 19 and 20 of this order, Corpus Christi Liquefaction and Cheniere Pipeline will conduct noise surveys during operation of each facility to ensure that noise levels meet our criterion. We support the conclusions of the final EIS and find that construction and operation of the project facilities will not significantly affect air quality and noise.

d. Safety and Reliability

107. The project facilities will be designed, constructed, operated, and maintained in accordance with the DOT's federal standards, which are intended to protect the public by preventing or mitigating LNG and natural gas pipeline failures or accidents, and ensure safe operation of the facilities.¹⁰⁸ The final EIS evaluates the safety of the LNG terminal, the related LNG carrier transit, and the bi-directional pipeline. As part of the evaluation of the LNG terminal, Commission staff performed a technical review of the preliminary engineering design and concludes in the final EIS that sufficient layers of protection will be included in the facility designs to mitigate the potential for an incident that could impact the safety of the public.¹⁰⁹

108. The DOT reviewed the initial data and methodology Corpus Christi Liquefaction used to determine the design spills from various leakage sources, including piping, containers, and equipment containing hazardous liquids, and stated it had no objection to its methodology for determining the candidate design spills used to establish the required siting for its proposed LNG terminal.

109. The U.S. Coast Guard reviewed the suitability of the Corpus Christi Ship Channel from the entrance approach at Port Aransas to the La Quinta Junction and the entire length of La Quinta Channel. On March 21, 2013, the U.S. Coast Guard issued a Letter of Recommendation, indicating the waterway will be suitable for the type and frequency of the marine traffic associated with the proposed project provided that the strategies and risk management measures identified to the U.S. Coast Guard by Corpus Christi Liquefaction are fully implemented. Based on Commission staff's engineering

¹⁰⁷ See Final EIS at 4-228.

¹⁰⁸ See 49 C.F.R. pt. 193 (2014).

¹⁰⁹ See Final EIS 5-8.

design analysis and recommendations for the LNG terminal, the final EIS concludes that the project will not result in significantly increased public safety risks.¹¹⁰ We agree with this conclusion.

110. The pipeline facilities will comply with DOT regulations at 49 C.F.R. Part 192. These regulations specify material selection, design criteria, corrosion protection, and qualifications for welders and operation personnel. Additionally, Cheniere Pipeline will comply with the Commission's regulations at 18 C.F.R. § 380.15, regarding the siting and maintenance of pipeline right-of-ways.

111. On August 1, 2014, Cheniere Pipeline submitted comments concerning Environmental Recommendation 94 of the draft EIS, which stated that prior to commissioning, Cheniere Pipeline must tag equipment and label pipes. In the final EIS, however, Commission staff changed the timing of equipment tagging and pipe labeling to prior to commencement of service. We now clarify that the timing of equipment tagging should occur prior to commissioning and pipe labeling should occur prior to commencement of service, as reflected in Environmental Conditions 89 and 96 in Appendix A of this order.

e. Cumulative Impacts

112. Most of the cumulative impacts as identified in the section 4.13 of the final EIS, including any impacts on water and air quality, threatened and endangered species, and terrestrial vegetation, will be temporary and minor.¹¹¹ However, construction of the LNG terminal, in addition to several of the identified projects in section 4 of the final EIS, will result in the permanent loss of various wildlife habitats and natural land use types. As a result, construction of the project will contribute to the increasing industrialization of agricultural and open lands in the project area. Additionally, several of the identified projects in section 4 of the final EIS, as well as the proposed project, will contribute to an increase in vessel traffic in Port Aransas. This will be a long-term impact. However, the final EIS concludes that the project will not contribute significantly to cumulative impacts on marine traffic, as the port is large enough to accommodate the increased traffic.¹¹²

113. The project will result in cumulative impacts on wetlands and submerged aquatic vegetation within the region, when combined with dredging and degradation from other

¹¹⁰ *See id.*

¹¹¹ *See* Final EIS at 5-8 – 5-9.

¹¹² *Id.*

projects in the area. Compensatory and voluntary mitigation plans for many of the projects will offset the severity of permanent cumulative impacts on wetlands and submerged aquatic vegetation. Alternatively, there will also be beneficial cumulative impacts from the creation of new wetlands, seagrass, and marsh habitats through the compensatory and voluntary mitigation programs, as well as beneficial use of dredged material.

114. The final EIS recognizes concurrent construction of the project and other projects in the vicinity of the LNG terminal site will result in increased workers in the area, periods of increased traffic, and impacts on public services. With the implementation of Corpus Christi Liquefaction's and Cheniere Pipeline's mitigation measures, as well as the implementation of the environmental and engineering conditions in Appendix A of this order, we concur with the final EIS's conclusion that impacts of the project, when added with other projects' impacts, will not result in any significant cumulative impacts.

f. Environmental Justice

115. We received a comment on the final EIS from EPA requesting a map to show the project's footprint in relation to census block groups of minority or low-income communities. The final EIS identifies demographic information at the Census Tract level, and identifies eight census block groups. Of the block groups identified, the first five correspond to census tracts 105 and 108, which are not crossed by the pipeline and are not located within 0.5 mile of any above-ground facilities. The remaining three block groups identified occur within tract 110. As stated in the final EIS, a small portion of tract 110 would be crossed by the pipeline, but impacts would not be anticipated to be disproportionate, particularly because impacts of pipeline construction are considered temporary. Because only one tract is crossed, we believe it was not necessary to include a map in the EIS.

116. EPA also asks for a discussion of operational impacts the pipeline would have on Tract 110. As stated, the pipeline will cross only a small portion of Tract 110. During pipeline operation, Cheniere Pipeline will conduct maintenance activities, which includes patrolling the pipeline on foot and in the air as part of regularly scheduled gas leak surveys and the inspection of valves and other aboveground facilities. Cheniere Pipeline will also mow the right-of-way seasonally. All of these activities are limited to the existing right-of-way and easements and will be done during daylight hours. Thus, operational impacts are not anticipated to be disproportionate.

117. EPA asks how pipeline emergencies would potentially affect the surrounding communities and how the surrounding communities will be notified in the event of an emergency scenario. Section 4.12.9 of the final EIS states that Cheniere Pipeline is required to prepare, in accordance with DOT regulations, a pipeline operator's

Emergency Response Plan, which will be coordinated with the state, county, and local emergency responders and organizations, prior to operation of the pipeline.¹¹³ The Emergency Response Plan will be prepared for the pipeline and will include all project area communities. DOT requires that each operator establish and maintain liaison with these public officials to learn the resources and responses of each organization that may respond to a pipeline emergency, and also establish a continuing education program. Cheniere Pipeline will provide appropriate training to local emergency service personnel before the pipeline is placed in service. Cheniere Pipeline's compliance with DOT's regulations sufficiently ensures that EPA's pipeline emergency concerns will be addressed.

g. Indirect Impacts

118. EPA recommends a "conceptual-level of discussion of possible impacts from increased natural gas production due to the proposed facilities"¹¹⁴ and incorporation of the results of a recent DOE study regarding LNG exports into our decision in these proceedings.¹¹⁵ As stated in the final EIS, DOE stated that "[w]hile DOE has made broad projections about the types of resources from which additional production may come, DOE cannot meaningfully estimate where, when, or by what method any additional natural gas would be produced."¹¹⁶ DOE concludes that it "cannot meaningfully analyze the specific environmental impacts of such production, which are nearly all local or regional in nature."¹¹⁷ Thus, the DOE Addendum makes no findings with regard to

¹¹³ Section 4.12 of the final EIS discusses safety issues and requirements concerning the LNG terminal.

¹¹⁴ EPA November 17, 2014 Comment on the Final EIS at 2.

¹¹⁵ U.S. DEP'T OF ENERGY, DRAFT ADDENDUM TO ENVIRONMENTAL REVIEW DOCUMENTS CONCERNING EXPORTS OF NATURAL GAS FROM THE UNITED STATES (May 29, 2014) *available at* http://energy.gov/sites/prod/files/2014/05/f16/Addendum_0.pdf (DOE Addendum). On August 15, 2014, DOE issued the Final DOE Addendum to assist in its public interest determination under section 3(a) of the NGA and to provide the public with general information about potential environmental impacts of unconventional natural gas production. The DOE Addendum, however, does not analyze specific environmental impacts of unconventional production because much of the impacts resulting from the production activity induced by LNG production are not "reasonably foreseeable." *See* DOE Addendum at 2-3.

¹¹⁶ DOE Addendum at 2.

¹¹⁷ *Id.*

induced production caused by the specific proposals here and cannot help the Commission determine what, if any, impacts the proposed facilities will have related to increased natural gas production.¹¹⁸

119. The Council on Environmental Quality (CEQ) regulations require agencies to consider the indirect impacts of proposed actions. Indirect impacts are “caused by the proposed action” and occur later in time or farther removed in distance than direct impacts, but are still “reasonably foreseeable.”¹¹⁹ Indirect impacts may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water.¹²⁰ For an agency to include consideration of an impact in its NEPA analysis as an indirect effect, approval of the proposed project and the related secondary effect must be causally related, i.e., the agency action and the effect must be “two links of a single chain.”¹²¹

120. The potential environmental effects associated with additional natural gas production are neither sufficiently causally related to the project to warrant a detailed analysis, nor are the potential environmental impacts reasonably foreseeable, as contemplated by CEQ regulations. It is speculative as to where the gas processed by the project will originate, and the siting and timing of any wells and gathering line are subject to local permitting authorities.. Accordingly, we cannot meaningfully analyze the potential associated environmental impacts..¹²² Thus, we concur with the final EIS’s

¹¹⁸ See Final EIS at 4-212 – 4-213.

¹¹⁹ 40 C.F.R. § 1508.8(b) (2014).

¹²⁰ *Id.*

¹²¹ *Sylvester v. U.S. Army Corps of Engineers*, 884 F.2d 394, 400 (9th Cir. 1980) (in explaining “indirect effects,” the court provides that “[a] better image is that of scattered bits of a broken chain, some segments of which contain numerous links, while others have only one or two. Each segment stands alone, but each link within each segment does not.”).

¹²² See *N. Plains Res. Council v. Surface Transp. Board*, 668 F.3d 1067, 1078 (9th Cir. 2011) (agencies not required to engage in speculative analysis or do the impractical, if not the impossible, if not enough information is available to permit meaningful consideration). See also *Habitat Education Center v. U.S. Forest Service*, 609 F.3d 897 (7th Cir. 2010) (an environmental impact would be considered too speculative for inclusion in the NEPA document if at the time the document is drafted the impact cannot be described with sufficient specificity to make its consideration useful to a reasoned decision maker).

finding that the impact from induced natural gas production is not an indirect effect of the project.

h. Greenhouse Gas Emissions

121. EPA recommends disclosing the greenhouse gas (GHG) emissions associated with the production, transportation, and combustion of natural gas proposed to be exported by the project as part of our NEPA analysis. EPA recommends using a DOE study on GHG emissions due to LNG exports,¹²³ as it could provide a basis for the Commission to review the potential incremental GHG emissions associated with the project. EPA also disagrees with the final EIS's conclusion that "impacts of end use in foreign, likely non-adjacent countries is beyond the scope of a proposed project" because the emissions from the end use would ultimately affect the United States since that is the nature of global climate change.

122. We agree with the final EIS's determination that because we cannot determine the project's incremental physical impacts on climate change, it is not possible to determine whether the project's contribution to cumulative impacts on climate change will be significant. Currently, there is no standard methodology to determine whether, and to what extent, a project's incremental contribution to GHGs would result in physical effects on the environment, either locally or globally. The final EIS does, however, examine the project's impacts on air quality in the region of influence, determining that those impacts will not be significant. With respect to climate change impacts of upstream production and downstream use, we are unable to predict the nature and extent of any such impacts and thus such impacts are not reasonably foreseeable for purposes of our

¹²³ U.S. DEP'T OF ENERGY, LIFE CYCLE GREENHOUSE GAS PERSPECTIVE ON EXPORTING LIQUEFIED NATURAL GAS FROM THE UNITED STATES (May 14, 2014) *available at* <http://www.energy.gov/sites/prod/files/2014/05/f16/Life%20Cycle%20GHG%20Perspective%20Report.pdf> (DOE Life Cycle Report). The purpose of the DOE Life Cycle Report is to compare the GHG emissions life cycle of exported domestic LNG with the GHG life cycle of regional coal for electric power generation in Europe (Rotterdam) and Asia (Shanghai). The report also makes a similar comparison of natural gas exported from Russia to these end-use markets. The report models the GHG life cycle beginning from the acquisition of raw material to energy consumption. *See* DOE Life Cycle Report at 1-2. The report concludes the export of domestic LNG for power production in European and Asian markets will not increase GHG emissions life cycle when compared to regional coal extraction and consumption for power generation. *See id.* at 18.

analysis under NEPA.¹²⁴ The specific source of the natural gas to be exported via the project is currently unknown and will likely change throughout the operation of the project. Similarly, the Commission does not know specifically where natural gas exported via the project will be ultimately used, what fuels it will displace, or other facts necessary to conduct a meaningful analysis of the related effects.

4. Environmental Conclusions

123. We have reviewed the information and analysis contained in the record, including the final EIS, regarding the potential environmental effects of the Liquefaction and Pipeline Projects. Based on our consideration of this information and the discussion above, we agree with the conclusions presented in the final EIS and find that approval of the proposed facilities, if constructed and operated as described in the final EIS, is an environmentally acceptable action. Thus, in Appendix A, we are including the environmental mitigation measures as conditions to the authorizations granted by this order for the project.

124. Any state or local permits issued with respect to the jurisdictional facilities authorized herein must be consistent with the conditions of this authorization. We encourage cooperation between interstate pipelines and local authorities. However, this does not mean 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.¹²⁵

125. The Commission on its own motion received and made part of the record in this proceeding all evidence, including the applications, as supplemented, and exhibits thereto, and all comments submitted, and upon consideration of the record,

¹²⁴ We note that the DOE Life Cycle Report and the EPA's comment regarding the report are not informative to our decision making here. The models are based upon many assumptions about factors, such as lifetime well production rates, flaring rates for extraction and processing, feedstock source, extraction method, ocean tanker routes, transportation pipeline distance, and the ultimate consumption market.

¹²⁵ See, e.g., *Schneidewind v. ANR Pipeline Co.*, 485 U.S. 293 (1988); *National Fuel Gas Supply Corp. v. Public Service Comm'n of State of New York*, 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).

The Commission orders:

(A) In Docket No. CP12-507-000, Corpus Christi Liquefaction is authorized under section 3 of the NGA to site, construct, and operate the proposed Liquefaction Project located in San Patricio and Nueces Counties, Texas, as described and conditioned herein, and as fully described in Corpus Christi Liquefaction's application and supplements, subject to the environmental conditions contained in the Appendix A of this order.

(B) Corpus Christi Liquefaction's proposed Liquefaction Project shall be constructed and made available for service within five years of the date of this order.

(C) In Docket No. CP12-508-000, a certificate of public convenience and necessity under section 7(c) of the NGA is issued to Cheniere Pipeline, authorizing it to construct and operate the proposed Pipeline Project, as described and conditioned herein, and as more fully described in Cheniere Pipeline's application and supplements.

(D) The certificate authorized in Ordering Paragraph (C) above is conditioned on:

(1) Cheniere Pipeline's proposed Pipeline Project being constructed and made available for service within five years of the date of this order.

(2) Cheniere Pipeline's compliance with all applicable Commission regulations under the NGA, particularly the general terms and conditions set forth in Parts 154, 157, and 284, and paragraphs (a), (c), (e), and (f) of section 157.20 of the regulations.

(3) Cheniere Pipeline's compliance with the environmental conditions contained in Appendix A of this order.

(E) Cheniere Pipeline must execute firm contracts equal to the level of service and in accordance with the terms of service represented in its precedent agreement prior to commencement of construction.

(F) Cheniere Pipeline's initial rates and tariff are approved, as conditioned and modified herein in the body of this order.

(G) Cheniere Pipeline shall file actual tariff records that comply with the requirements contained in the body of this order no less than 30 days and no more than 60 days prior to the commencement of interstate service consistent with Part 154 of the Commission's regulations.

(H) Cheniere Pipeline shall file its negotiated rate or a tariff records describing the negotiated rate agreements and non-conforming service agreements no earlier than 60 days, and no later than 30 days, prior to the facilities going into service.

(I) Within three years after its in-service date, as discussed herein, Cheniere Pipeline must file a cost and revenue study to justify its existing cost-based firm and interruptible recourse rates. In the alternative, in lieu of such filing, Cheniere Pipeline may make an NGA section 4 filing to propose alternative rates to be effective no later than three years after the in-service date for its proposed facilities.

(J) Corpus Christi Liquefaction and Cheniere Pipeline 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 Corpus Christi Liquefaction or Cheniere Pipeline. Corpus Christi Liquefaction and Cheniere Pipeline shall file written confirmation of such notification with the Secretary of the Commission within 24 hours.

By the Commission.

(S E A L)

Nathaniel J. Davis, Sr.,
Deputy Secretary.

Appendix A

Environmental Conditions

As recommended in the EIS, this authorization includes the following conditions.

1. Corpus Christi Liquefaction and Cheniere Pipeline (collectively Cheniere) shall follow the construction procedures and mitigation measures described in its applications and supplemental filings (including responses to staff data requests), and as identified in the EIS, unless modified by this order. Cheniere must:
 - a. request any modification to these procedures, measures, or conditions in a filing with the 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 LNG facilities, the Director of the 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 export and import facility (Terminal). 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 ensure compliance with the intent of this order.
3. 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 new bi-directional natural gas pipeline (pipeline). This authority shall allow:
 - a. the modification of conditions of this 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 of mitigation of adverse environmental impact resulting from the project construction and operation.

4. **Prior to any construction**, Cheniere shall file affirmative statements with the Secretary, certified by senior company officials, that all company personnel, environmental inspector's (EI), and contractor personnel will be informed of the EI'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 depicted in the EIS, as supplemented by filed alignment sheets. **As soon as they are available and before the start of construction**, Cheniere 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 this order. All requests for modifications of environmental conditions of this order or site-specific clearances must be written and must reference locations designated on these alignment maps/sheets.

Cheniere's exercise of eminent domain authority granted under the Natural Gas Act section 7(h) in any condemnation proceedings related to this order must be consistent with these authorized facilities and locations. Cheniere's right of eminent domain granted under Natural Gas Act section 7(h) does not authorize it to increase the size of its natural gas pipeline to accommodate future needs or to acquire a right-of-way for a pipeline to transport a commodity other than natural gas.

6. Cheniere shall file 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 will 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, documentation of landowner approval, whether any cultural resources or federally listed threatened or endangered species will 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 workspaces allowed by the Commission's Upland Erosion Control, Revegetation, and Maintenance Plan or minor field realignments per landowner needs and requirements that 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. **Within 60 days of the acceptance of the Authorization and before construction begins**, Cheniere shall file a single Implementation Plan for the review and written approval by the Director of OEP. Cheniere must file revisions to their plan as schedules change. The plan shall identify:

- a. how Cheniere will implement the construction procedures and mitigation measures described in its applications and supplements (including responses to staff data requests), identified in the EIS, and required by this order;
- b. how Cheniere 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;
- c. the number of EIs assigned per spread and aboveground facility sites, and how the company will ensure that sufficient personnel are available to implement the environmental mitigation;
- d. company personnel, including EIs and contractors, who will receive copies of the appropriate materials;
- e. the location and dates of the environmental compliance training and instructions Cheniere 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);
- f. the company personnel (if known) and specific portion of Cheniere's organization having responsibility for compliance;
- g. the procedures (including use of contract penalties) Cheniere will follow if noncompliance occurs; and
- h. 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 environmental compliance training of onsite personnel;
 - 3. the start of construction; and
 - 4. the start and completion of restoration.

8. Cheniere shall employ at least one EI for the Terminal and at least one EI per construction spread for the pipeline. Each EI shall be:
 - a. responsible for monitoring and ensuring compliance with all mitigation measures required by this order and other grants, permits, certificates, or authorizing documents;
 - b. responsible for evaluating the construction contractor's implementation of the environmental mitigation measures required in the contract (see condition 7 above) and any other authorizing document;
 - c. empowered to order correction of acts that violate the environmental conditions of this 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 this order, as well as any environmental conditions/permit requirements imposed by other federal, state, or local agencies; and
 - f. responsible for maintaining status reports.
9. Beginning with the filing of its Implementation Plan, Cheniere shall file updated status reports on a **monthly** basis for the Terminal and on a **weekly** basis for the Pipeline 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. an update on Cheniere's efforts to obtain the necessary federal authorizations;
 - b. the construction status at the Terminal site and of each spread of the Pipeline, work planned for the following reporting period, and any schedule changes for stream crossings or work in other environmentally sensitive areas;
 - c. a listing of all problems encountered and each instance of noncompliance observed by each EI 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);
 - d. a description of the corrective actions implemented in response to all instances of noncompliance, and their cost;
 - e. the effectiveness of all corrective actions implemented;
 - f. a description of any landowner/resident complaints which may relate to compliance with the requirements of this order, and the measures taken to satisfy their concerns; and
 - g. copies of any correspondence received by Cheniere from other federal, state or local permitting agencies concerning instances of noncompliance, and Cheniere's response.

10. **Prior to receiving written authorization from the Director of OEP to commence construction of any project facilities**, Cheniere shall file with the Secretary documentation that each has received all applicable authorizations required under federal law (or evidence of waiver thereof).
11. Cheniere must receive written authorization from the Director of OEP **prior to introducing hazardous fluids into the Terminal facilities**. Instrumentation and controls, hazard detection, hazard control, and security components/systems necessary for the safe introduction of such fluids shall be installed and functional.
12. Cheniere must receive written authorization from the Director of OEP **before placing the Terminal facilities into service**. Such authorization will only be granted following a determination that the facilities have been constructed in accordance with Commission approval and applicable standards, can be expected to operate safely as designed, and the rehabilitation and restoration of the areas affected by the Terminal are proceeding satisfactorily.
13. Cheniere must receive written authorization from the Director of OEP **before placing the pipeline into service**. Such authorization will only be granted following a determination that rehabilitation and restoration of the right-of-way and other areas affected by the Pipeline are proceeding satisfactorily.
14. **Within 30 days of placing the authorized facilities in service**, Cheniere 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 authorization conditions Cheniere 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.
15. **Prior to construction of the pipeline**, Cheniere shall update table 2.3-3 of the EIS to identify the existing utilities/road locations and the milepost ranges of where its construction right-of-way will overlap or collocate other utility/road rights-of-way; and revise its final alignment sheets to reflect the actual right-of-way configurations and workspace needs at these locations.
16. **Prior to construction**, Cheniere shall file the following information, stamped and sealed by the professional engineer-of-record, with the Secretary:
 - a. site preparation drawings and specifications;
 - b. LNG tank and foundation design drawings and calculations based on the seismic design ground motions in Cheniere's Resource Report 13, Appendix I (URS Report – Seismic and Tsunami Evaluation for the LNG

Export Facility dated August 7, 2012) and the settlement analyses prepared during detailed design, indicated in the response to question 4f provided in the Supplemental Responses filed by Cheniere on September 23, 2013;

- c. LNG liquefaction facility structures and foundation design drawings and calculations (including prefabricated and field constructed structures); and
 - d. quality control procedures to be used for civil/structural design and construction.
17. **Prior to construction of any foundations at the Terminal**, Cheniere shall provide documentation of its final greenhouse gas prevention of significant deterioration (GHG PSD) permit from the applicable permitting agency. **Prior to construction of the Sinton Compressor Station**, Cheniere shall provide an update on the status of GHG PSD permitting requirements for the Sinton Compressor Station and documentation of any final GHG PSD permit obtained.
18. **Prior to construction**, Cheniere shall file a revised Fugitive Dust Control Plan with the Secretary for review and written approval from the Director of OEP. The revised Fugitive Dust Control Plan shall include the following:
- a. the use of gravel at construction entrance and exit locations; and
 - b. measures to clean paved roads upon mud or dirt track out.
19. Cheniere shall file a noise survey with the Secretary **no later than 60 days** after placing each liquefaction train and the entire Terminal in service. If a full load condition noise survey is not possible, Cheniere shall provide an interim survey at the maximum possible load and provide the full load survey **within six months**. If the noise attributable to the operation of all of the equipment for a liquefaction train or at the Terminal, under interim or full load conditions, exceeds a day-night average sound level (L_{dn}) of 55 A-weighted decibel (dBA) at any nearby noise sensitive areas (NSAs), Cheniere shall file a report on what changes are needed and shall install the additional noise controls to meet the level **within one year** of the in-service date. Cheniere shall confirm compliance with the above requirement by filing a second noise survey with the Secretary **no later than 60 days** after it installs the additional noise controls.
20. Cheniere shall file noise surveys with the Secretary **no later than 60 days** after placing the Sinton and Taft Compressor Stations in service. If a full load condition noise survey is not possible, Cheniere shall provide an interim survey at the maximum possible horsepower load and provide the full load survey **within six months**. If the noise attributable to the operation of all of the equipment at the Sinton or Taft Compressor Station, under interim or full horsepower load conditions, exceeds an L_{dn} of 55 dBA at any nearby NSAs, Cheniere shall file a report on what changes are needed and shall install the additional noise controls to meet the level **within one year** of the in-service date. Cheniere shall confirm compliance with the above requirement by filing a second noise survey with the Secretary **no later than 60 days** after it installs the additional noise controls.

Recommendations 21 through 104 shall apply to the Cheniere Terminal. Information pertaining to the specific recommendations shall be filed with the Secretary for review and written approval by the Director of OEP either: **prior to initial site preparation; prior to construction of final design; prior to commissioning; prior to introduction of hazardous fluids; or prior to commencement of service**, as indicated by each specific condition. Specific engineering, vulnerability, or detailed design information meeting the criteria specified in Order No. 683 (Docket No. RM06-24-000), including security information, shall be submitted as critical energy infrastructure information pursuant to 18 C.F.R. § 388.112. *See Critical Energy Infrastructure Information*, Order No. 683, 71 Fed. Reg. 58,273 (October 3, 2006), FERC Stats. & Regs. 31,228 (2006). Information pertaining to items such as: offsite emergency response; procedures for public notification and evacuation; and construction and operating reporting requirements, will be subject to public disclosure. All information shall be filed a **minimum of 30 days** before approval to proceed is requested.

21. **Prior to initial site preparation**, Cheniere shall file evidence that demonstrates the inclusion of multiple pumps and pump run-out flow rates will not result in any changes to the conclusions of the siting analyses. In the event that any modifications alter the candidate design spills on which the 49 CFR Part 193 siting analysis was based, Cheniere shall consult with The U.S. Department of Transportation (DOT) on any actions necessary to comply with Part 193.
22. **Prior to initial site preparation**, Cheniere shall provide quality assurance and quality control procedures for construction activities.
23. **Prior to initial site preparation**, Cheniere shall file an overall project schedule, which includes the proposed stages of the commissioning plan.
24. **Prior to initial site preparation**, Cheniere shall provide procedures for controlling access during construction.
25. **Prior to initial site preparation**, Cheniere shall provide a plot plan of the final design showing all major equipment, structures, buildings, and impoundment systems.
26. **Prior to initial site preparation**, Cheniere shall file a complete specification of the proposed LNG tank design and installation.
27. **Prior to initial site preparation**, Cheniere shall develop an Emergency Response Plan (ERP) (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 public use areas that are within any transient hazard areas along the route of the LNG marine 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.

Cheniere shall notify the FERC staff of all planning meetings in advance and shall report progress on the development of its ERP **at 3-month intervals.**

- 28. **Prior to initial site preparation,** Cheniere shall file a Cost-Sharing Plan identifying the mechanisms for funding all project-specific security/emergency management costs that will 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.
- 29. The **final design** shall include drawings of the storage tank piping support structure and support of horizontal piping at grade including pump columns, relief valves, pipe penetrations, instrumentation, and appurtenances.
- 30. The **final design** shall include change logs that list and explain any changes made from the front end engineering design provided in Cheniere’s application and filings. A list of all changes with an explanation for the design alteration shall be provided and all changes shall be clearly indicated on all diagrams and drawings.
- 31. The **final design** shall provide information/revisions pertaining to Cheniere’s responses, as listed in Table 4.12.3-1 of the EIS, which indicated features to be included in the final design and documentation.
- 32. The **final design** shall provide an up-to-date equipment list, process and mechanical data sheets, and specifications.
- 33. The **final design** shall include three-dimensional plant drawings to confirm plant layout for maintenance, access, egress, and congestion.
- 34. The **final design** shall include up-to-date process flow diagrams (PFDs) and piping and instrument diagrams (P&IDs). The PFDs shall include heat and material balances. The P&IDs shall include the following information:

- a. equipment tag number, name, size, duty, capacity, and design conditions;
 - b. equipment insulation type and thickness;
 - c. storage tank pipe penetration size or nozzle schedule;
 - d. piping with line number, piping class specification, size, and insulation type and thickness;
 - e. piping specification breaks and insulation limits;
 - f. all control and manual valves numbered;
 - g. valve high pressure sides and cryogenic ball valve external and internal vent locations;
 - h. relief valves with set points; and
 - i. drawing revision number and date.
35. The **final design** shall include a list of all car-sealed and locked valves consistent with the P&IDs.
36. The **final design** shall include a hazard and operability review prior to issuing the P&IDs for construction. A copy of the review, a list of the recommendations, and actions taken on the recommendations shall be filed.
37. The **final design** shall include spill containment system drawings with dimensions and slopes of curbing, trenches, and impoundments.
38. The **final design** shall provide electrical area classification drawings.
39. The **final design** shall include details of how process seals or isolations installed at the interface between a flammable fluid system and an electrical conduit or wiring system meet the requirements of National Fire Protection Association (NFPA) 59A.
40. The **final design** shall provide an air gap or vent installed downstream of process 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.
41. The **final design** shall include layout and design specifications of the pig trap, inlet separation and liquid disposal, inlet/send-out meter station, and pressure control.
42. The **final design** shall specify fire protection systems, uninterruptable power supply, emergency power generators, emergency lighting, radio communications system, control valves, instrumentation, and shutdown systems associated with the LNG storage tanks and their isolation as Seismic Category 1.

43. The **final design** shall specify that for hazardous fluids, piping and piping nipples 2 inches or less in diameter are to be no less than schedule 160 for carbon steel and no less than schedule 80 for stainless steel, and are designed to withstand external loads, including vibrational loads in the vicinity of rotating equipment and operator live loads in areas accessible by operators.
44. The **final design** shall include a plan for clean-out, dry-out, purging, and tightness testing. This plan shall address the requirements of the American Gas Association's Purging Principles and Practice required by 49 C.F.R. Part 193 and shall provide justification if not using an inert or non-flammable gas for cleanout, dry-out, purging, and tightness testing.
45. The **final design** shall specify that piping and equipment that may be cooled with liquid nitrogen is to be designed for liquid nitrogen temperatures, with regard to allowable movement and stresses.
46. The **final design** shall include any isolation valves necessary for startup, operation, shutdown, restart, and maintenance procedures.
47. The **final design** shall include LNG tank fill flow measurement with high flow alarm.
48. The **final design** shall include boil-off gas (BOG) flow and temperature measurement for each tank.
49. The **final design** shall include an analysis of the structural integrity of the outer containment of the full containment storage tanks when exposed to a roof tank top fire or adjacent tank top fire.
50. The **final design** shall include the details of the LNG storage tank structural design that demonstrates the tanks can withstand overpressures from ignition of design spills.
51. The **final design** shall specify that the minimum flow recycle line from the high pressure LNG pumps to downstream of the isolation valve to the BOG Recondenser shall be the same pressure and temperature rating as the piping at the discharge of the LNG send-out pumps.
52. The **final design** shall specify that a check valve is provided in the LNG send-out pump minimum flow recycle piping.
53. The **final design** shall specify discharge valving to allow the pumps to be recirculated without flowing LNG to the vaporizer control valve during initial startup and provide a cooldown bypass valve to pressurize and cool the vaporizer inlet piping.
54. The **final design** of the LNG vaporization system shall specify that a check valve, vent valve, and manual isolation valve are to be provided downstream of the outlet shut-off valve 00XV-56015.

55. The **final design** shall specify that the LNG loading arms are equipped with a manual isolation valve at the base of each arm.
56. The **final design** shall specify the minimum distance required for valve maintenance, between the LNG loading header and the first valve in the discharge piping to the loading arm.
57. The **final design** shall specify that all drains from high pressure hazardous fluid systems are to be equipped with double isolation and bleed valves.
58. The **final design** of the wet gas flare shall include a drain or shall justify why a drain is not included.
59. The **final design** shall provide the procedures for pressure/leak tests which address the requirements of American Society of Mechanical Engineers (ASME) VIII and ASME B31.3, as required by 49 CFR Part 193.
60. The **final design** shall include the sizing basis and capacity for the final design of pressure and vacuum relief valves for major process equipment, vessels, storage tanks, and vent stacks.
61. The **final design** shall specify that a pressure relief valve is to be provided on the upstream side of the vaporizer outlet shutoff valve. The valve shall be sized in accordance with the requirements of NFPA 59A (2001 ed.) Section 5.4.1, as required by 49 C.F.R. § 193.2101.
62. The **final design** of the LNG vaporization system shall include a relief valve or operated vent valve sized for thermal relief at the discharge of each vaporizer, upstream of the isolation valves. This relief valve is in addition to the relief valve specified in NFPA 59A (2001 ed.) Section 5.4.1, as required by 49 C.F.R. § 193.2101, and shall be set at a lower pressure.
63. The **final design** shall specify that ethylene storage vessels be equipped with redundant full capacity relief valves.
64. The **final design** shall specify that propane storage vessels be equipped with redundant full capacity relief valves.
65. The **final design** shall specify that LNG relief valves and LNG drains shall not discharge into the BOG, vapor return, or fuel gas systems.
66. The **final design** shall include pressure relieving protection for flammable liquid piping (i.e., condensate products) which can be isolated by valves.
67. The **final design** shall demonstrate there will not be a potential hazard of a liquid release from LNG reliefs routed to the dry flare and specify that LNG from all other relief valves and drains are to be returned to storage.

68. The **final design** shall specify that all Emergency Shutdown (ESD) valves are to be equipped with open and closed position switches connected to the Distributed Control System (DCS)/Safety Instrumented System (SIS).
69. The **final design** shall include complete plan drawings of the security fencing and of facility access and egress.
70. The **final design** shall include the cause-and-effect matrices for the process instrumentation, fire and gas detection system, and emergency shutdown system. The cause-and-effect matrices shall include alarms and shutdown functions, details of the voting and shutdown logic, and setpoints.
71. The **final design** shall include a plant-wide ESD button with proper sequencing.
72. The **final design** shall specify that the truck fill line be equipped with an automatic shutoff valve.
73. The **final design** shall include an updated fire protection evaluation of the proposed facilities carried out in accordance with the requirements of NFPA 59A (2001 ed.) section 9.1.2, as required by 49 C.F.R. § 193.2801. A copy of the evaluation, a list of recommendations and supporting justifications, and actions taken on the recommendations shall be filed.
74. The **final design** of the hazard detectors shall account for the calibration gas when determining the lower flammable limit set points for methane, propane, and ethylene, and condensate.
75. The **final design** shall include complete plan drawings and a list of the hazard detection equipment. Plan drawings shall clearly show the location and elevation of all detection equipment. The list shall include the instrument tag number, type and location, alarm indication locations, and shutdown functions of the proposed hazard detection equipment.
76. The **final design** shall provide a technical review of its proposed facility design that:
 - a. identifies all combustion/ventilation air intake equipment and the distances to any possible hazardous fluid release (LNG, flammable refrigerants, flammable liquids and flammable gases); and
 - b. demonstrates that these areas are adequately covered by hazard detection devices and indicates how these devices will isolate or shutdown any combustion equipment whose continued operation could add to or sustain an emergency.
77. The **final design** shall include smoke detection in occupied buildings.
78. The **final design** shall include hazard detection suitable to detect high temperatures and smoldering combustion in electrical buildings and control room buildings.

79. 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.
80. The **final design** shall include clean agent systems in the electrical switchgear and instrumentation buildings.
81. The **final design** shall provide complete plan drawings and a list of the fixed and wheeled dry-chemical, hand-held fire extinguishers, and other hazard control equipment. Drawings shall clearly show the location by tag number of all fixed, wheeled, and hand-held extinguishers. The list shall include the equipment tag number, type, capacity, equipment covered, discharge rate, and automatic and manual remote signals initiating discharge of the units.
82. The **final design** shall include facility plans and drawings showing the proposed location of the firewater and any foam systems. Plan drawings shall clearly show the planned location of firewater and foam piping, post indicator valves, and the location and area covered by, each monitor, hydrant, hose, water curtain, deluge system, foam generator, and sprinkler. The drawings shall also include piping and instrumentation diagrams of the firewater and foam systems.
83. The **final design** shall specify that the firewater pump shelter is designed with a removable roof for maintenance access to the firewater pumps.
84. The **final design** shall specify that the firewater flow test meter is equipped with a transmitter and that a pressure transmitter is installed upstream of the flow transmitter. The flow transmitter and pressure transmitter shall be connected to the DCS and recorded. The firewater main header pressure transmitter, 00PT-33091, shall also be connected to the DCS and recorded.
85. The **final design** shall include certification that the final design is consistent with the information provided to DOT as described in the design spill determination letter dated February 10, 2014 (Accession Number 20140210-4008). In the event that any modifications to the design alters the candidate design spills on which 49 C.F.R. Part 193 siting analysis was based, Cheniere shall consult with DOT on any actions necessary to comply with Part 193.
86. The **final design** shall include the details of the vapor fences as well as procedures to maintain and inspect the vapor barriers provided to meet the siting provisions of 49 C.F.R. § 193.2059.
87. **Prior to commissioning**, Cheniere shall file plans and detailed procedures for: testing the integrity of onsite mechanical installation; functional tests; introduction of hazardous fluids; operational tests; and placing the equipment into service.
88. **Prior to commissioning**, Cheniere shall provide a detailed schedule for commissioning through equipment startup. The schedule shall include milestones for all procedures and tests to be completed: prior to introduction of hazardous fluids; and during commissioning and startup. Cheniere shall file documentation

certifying that each of these milestones has been completed before authorization to commence the next phase of commissioning and startup will be issued.

89. **Prior to commissioning**, Cheniere shall tag all equipment, instrumentation, and valves in the field, including drain valves, vent valves, main valves, and car-sealed or locked valves.
90. **Prior to commissioning**, Cheniere shall file Operation and Maintenance procedures and manuals, including safety procedures, hot work procedures and permits, abnormal operating conditions reporting procedures, and management of change procedures and forms.
91. **Prior to commissioning**, Cheniere shall maintain a detailed training log to demonstrate that operating staff has completed the required training.
92. **Prior to commissioning**, Cheniere shall file a tabulated list and drawings of the proposed hand-held fire extinguishers. The list shall include the equipment tag number, extinguishing agent type, capacity, number, and location. The drawings shall show the extinguishing agent type, capacity, and tag number of all hand-held fire extinguishers.
93. **Prior to commissioning**, Cheniere shall file results of the LNG storage tank hydrostatic test and foundation settlement results. At a minimum, foundation settlement results shall be provided thereafter annually.
94. **Prior to introduction of hazardous fluids**, Cheniere shall complete all pertinent tests (Factory Acceptance Tests, Site Acceptance Tests, Site Integration Tests) associated with the DCS and SIS that demonstrates full functionality and operability of the system.
95. **Prior to introduction of hazardous fluids**, Cheniere shall complete a firewater pump acceptance test and firewater monitor and hydrant coverage test. The actual coverage area from each monitor and hydrant shall be shown on facility plot plan(s).
96. **Prior to commencement of service**, Cheniere shall label piping with fluid service and direction of flow in the field in addition to the pipe labeling requirements of NFPA 59A.
97. **Prior to commencement of service**, Cheniere shall develop procedures for offsite contractors' responsibilities, restrictions, and limitations and for supervision of these contractors by Cheniere staff.
98. **Prior to commencement of service**, Cheniere shall notify FERC staff of any proposed revisions to the security plan and physical security of the facility.
99. **Prior to commencement of service**, Cheniere shall file progress on construction of the Terminal in **monthly** reports. Details shall include a summary of activities, problems encountered, contractor non-conformance/ deficiency logs, remedial

actions taken, and current project schedule. Problems of significant magnitude shall be reported to the FERC **within 24 hours**.

100. **Prior to commencement of service**, Cheniere shall receive written authorization from the Director of OEP. Such authorization will only be granted following a determination by the Coast Guard, under its authorities under the Ports and Waterways Safety Act, the Magnuson Act, the Maritime Transportation Security Act of 2002, and the Safety and Accountability For Every Port Act, that appropriate measures to ensure the safety and security of the facility and the waterway have been put into place by Cheniere or other appropriate parties.

In addition, recommendations 101 through 104 shall apply throughout the **life of the facility**:

101. 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, Cheniere 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 submitted.
102. **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/departures, quantity and composition of imported and exported LNG, liquefied and vaporized quantities, boil-off/flash gas, etc.), and plant modifications including future plans and progress thereof. Abnormalities shall include, but not be limited to: unloading/loading shipping problems, potential hazardous conditions caused by off-site 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, nonscheduled maintenance or repair (and reasons therefore), relative movement of storage tank inner vessels, hazardous fluids releases, fires involving natural gas and/or from other sources, negative pressure (vacuum) within a storage tank and higher than predicted boil-off rates. Adverse weather conditions and the effect on the facility shall also be reported. Reports shall be submitted **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)" shall also be included in the semiannual operational reports. Such information will provide the FERC staff with early notice of anticipated future construction/maintenance projects at the LNG facility.
103. 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.

104. Significant non-scheduled events, including safety-related incidents (e.g., hazardous fluid 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 FERC staff **within 24 hours**. This notification practice shall be incorporated into the LNG facility's emergency plan. Examples of reportable hazardous fluids 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. release of hazardous fluid for five minutes or more;
 - 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 hazardous fluids;
 - g. any crack or other material defect that impairs the structural integrity or reliability of an facility that contains, controls, or processes a hazardous fluid;
 - h. any malfunction or operating error that causes the pressure of a pipeline or facility that contains or processes a hazardous fluid 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 a facility that contains or processes a hazardous fluid 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 safety-related condition that could lead to an imminent hazard and cause (either directly or indirectly by remedial action of the operator), for purposes other than abandonment, a 20 percent reduction in operation of a pipeline or a facility that contains or processes a hazardous fluid;
 - l. safety-related incidents to hazardous material transportation 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, FERC staff will determine the need for a separate follow-up report or follow-up in the upcoming semi-annual operational report. All company follow-up reports shall include investigations results and recommendations to minimize a reoccurrence of the incident.

Appendix B

Penalty Revenue Crediting Examples

Assume three shippers, 100,000 Dth total throughput, and \$1,000 in net OFO penalties. The proposed GT&C section 6.18 method to calculate the penalty revenue credits does not reduce the total throughput for offending Shipper C. As a result, offending Shipper C’s volumes remain in the ratio calculation. Net OFO penalty revenues are allocated to Shipper C, but retained by the pipeline.

| Shipper | As Proposed | | | Full Penalty Revenue Crediting | | |
|---------------------------|-------------|---|------------------------------|--------------------------------|-------------------------------------|--|
| | Throughput | Percent of Total Throughput per GT&C 6.18 | Revenue Credit per GT&C 6.18 | Throughput Non-offending | Percent of Non-Offending Throughput | Revenue Credit to Non-offending Shippers |
| Shipper A (non-offending) | 30,000 | 30.0% | \$300.00 | 30,000 | 50.0% | \$500.00 |
| Shipper B (non-offending) | 30,000 | 30.0% | \$300.00 | 30,000 | 50.0% | \$500.00 |
| Shipper C (offending) | 40,000 | 40.0% | \$0.00 | | | |
| Total of all Shippers | 100,000 | 100% | \$600.00 | 60,000 | 100% | \$1,000.00 |
| Retained by Pipeline | | | \$400.00 | | | \$0.00 |