

UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Joseph T. Kelliher, Chairman;  
Nora Mead Brownell, and Suedeen G. Kelly.

Creole Trail LNG, L.P.	Docket Nos. CP05-360-000
Cheniere Creole Trail Pipeline, L.P.	CP05-357-000
	CP05-357-001
	CP05-357-002
	CP05-358-000
	CP05-359-000

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

(Issued June 15, 2006)

1. On May 23, 2005, Creole Trail LNG, L.P. (Creole Trail) filed, in Docket No. CP05-360-000, an application under section 3 of the Natural Gas Act (NGA) requesting authority to site, construct, and operate a liquefied natural gas (LNG) terminal in Cameron Parish, Louisiana. Concurrently on May 23, 2005, Cheniere Creole Trail Pipeline, L.P (Cheniere Creole Trail), formerly Cheniere Creole Trail Pipeline Company,<sup>1</sup> filed, in Docket No. CP05-357-000, an application under NGA section 7(c) and subpart A of Part 157 of the Commission's regulations for authorization, as amended in Docket Nos. CP05-357-001 and CP05-357-002, to construct and operate approximately 116.8 miles of dual 42-inch diameter pipeline from the outlet of Creole Trail's proposed LNG terminal through Cameron, Calcasieu, Beauregard, Jefferson

---

<sup>1</sup> On April 28, 2006, Cheniere Creole Trail Pipeline, L.P. filed a letter explaining that on March 31, 2006, Cheniere Creole Trail Pipeline Company was merged, under Delaware law, into Cheniere Creole Trail Pipeline, L.P. as the surviving legal entity.

Davis, Allen and Acadia Parishes, Louisiana.<sup>2</sup> On the same date, Cheniere Creole Trail also requested, in Docket No. CP05-358-000, a blanket construction certificate pursuant to Subpart F of Part 157 of the Commission's regulations, and, in Docket No. CP05-359-000, a blanket transportation certificate pursuant to Subpart G of Part 284 of the Commission's regulations. The order grants the requested authorizations.

## **I. Proposals**

2. Creole Trail proposes to construct and operate an LNG terminal on the Calcasieu Ship Channel in Cameron Parish, Louisiana that will receive, store, and vaporize foreign source LNG.<sup>3</sup> Cheneire Creole Trail, a newly formed company, proposes to construct and operate pipeline facilities designed to receive gas at Creole Trail's LNG terminal for delivery at interconnects with multiple interstate and intrastate pipelines in south Louisiana.<sup>4</sup>

### **A. Creole Trail's LNG Proposal**

3. Creole Trail's proposed LNG terminal is designed to unload LNG ships, store up to 640,000 cubic meters (m<sup>3</sup>) of LNG (equivalent to over 13 Bcf of natural gas), vaporize LNG, and send out an average of 3.3 Bcf per day (with a peak rate of 3.84 Bcf per day). Creole Trail anticipates that the project will be operational for the 2009 winter heating

---

<sup>2</sup> On July 1, 2005 Cheniere Creole Trail, in Docket No. CP05-357-001, amended its application to reflect the withdrawal of its request to construct about 46.9 miles of single 42-inch pipeline extending from the Sabine Pass LNG, L.P. LNG terminal under construction in Cameron Parish, Louisiana to a juncture, also in Cameron Parish, with the proposed 116.8-mile, dual 42-inch pipeline segment. On February 17, 2006 Cheniere Creole Trail, in Docket No. CP05-357-002, amended its application to reflect the withdrawal of its request to construct a 20-inch diameter lateral pipeline, in Cameron Parish, extending approximately 6.8 miles from an interconnection with the proposed 116.8-mile, dual 42-inch pipeline segment.

<sup>3</sup> Creole Trail, a Delaware limited partnership, is a wholly-owned subsidiary of Cheniere LNG, Inc. which is wholly-owned by Cheniere Energy, Inc. Creole Trail does not intend to use the proposed facilities to import LNG on its own behalf, but will provide terminal services to third parties.

<sup>4</sup> Cheniere Creole Trail, a Delaware limited partnership, is a wholly-owned subsidiary of Cheniere LNG, Inc. which is wholly-owned by Cheniere Energy, Inc.

season.<sup>5</sup> Creole Trail requests authority to site, construct, and operate the following facilities:

- a new marine basin with two protected ship berths capable of unloading 300 to 400 LNG ships per year having capacities of up to 250,000 m<sup>3</sup>;
- four 160,000 m<sup>3</sup> (usable volume) LNG storage tanks;
- twenty-one high-pressure LNG submerged combustion vaporizers, of which two would be operated as spares, each capable of producing 183 MMcfd;
- three boil-off gas compressors; and
- ancillary utilities, service buildings, and facilities.

4. The proposed LNG terminal will be located within a 771.6-acre tract of private land located west of the Calcasieu Ship Channel about three miles inland from the Gulf of Mexico. During construction, a total of 367.3 acres of the tract would be impacted. Following construction, 123.7 acres would be required for operation. Of the 123.7 acres, about 49.8 acres would be permanently converted from land to open water for the marine basin and tugboat facilities. An area in the northern portion of the proposed LNG terminal site is currently used by the U.S. Army Corps of Engineers (COE) as a dredged material placement area, referred to as DMPA "O." About 102.9 acres of wetlands would be affected during construction, of which about 34.5 acres would be permanently filled.

#### **B. Cheniere Creole Trail's Pipeline Proposal**

5. Cheniere Creole Trail proposes to construct an approximately 116.8-mile, dual 42-inch pipeline, and appurtenant facilities, to interconnect Creole Trail's LNG terminal

---

<sup>5</sup> Typically, the Commission requires construction of LNG terminal projects to be completed within three years. In this proceeding, we will allow a construction period of four years to accommodate Creole Trail's anticipated in-service date.

to multiple interstate and intrastate pipeline systems in Louisiana.<sup>6</sup> Cheniere Creole Trail states that the capacity of the proposed pipeline will be 3.3 Bcf per day, and estimates that it will cost approximately \$630 million.

6. In addition, Cheniere Creole Trail requests a blanket certificate under Subpart F of Part 157 of the Commission's regulations to authorize it to engage in certain self-implementing routine activities in connection with the construction, maintenance, and operation of the proposed facilities. Cheniere Creole Trail also requests a blanket certificate under Subpart G of Part 284 of the Commission's regulations authorizing it to provide transportation services on an open access basis.

7. In connection with its request for a blanket transportation certificate, Cheniere Creole Trail filed a *pro forma* tariff setting forth the rates, and terms and conditions for firm and interruptible transportation services and for a parking and lending service. Cheniere Creole Trail states that there are no identifiable variable costs associated with the proposed pipeline, so the proposed rate for firm service consists of only a reservation charge of \$2.9511 per Dth, with a 100 per cent load factor interruptible transportation rate of \$0.0970 per Dth.

8. Cheniere Creole Trail states that it has not finalized an agreement with the respondent to its open season for capacity on the project. However, the applicants allude to reports by the Environmental Information Administration<sup>7</sup> and testimony before Congress by Federal Reserve Chairman Alan Greenspan,<sup>8</sup> as well as forecasts by various national and industry organizations, to demonstrate that there is an increasing demand for

---

<sup>6</sup> The proposed pipeline will potentially interconnect with multiple pipeline systems including: Bridgeline Holdings, L.P., ANR Pipeline Company, Sabine Pipeline Company, Targa Louisiana Intrastate L.L.C., Varibus L.L.C., Gulf South Pipeline Company, L.P., Trunkline Gas Company, Transcontinental Gas Pipeline Corporation (Transco), Texas Eastern Transmission Corporation (Texas Eastern), Tennessee Gas Pipeline (Tennessee), Texas Gas Transmission (Texas Gas), Florida Gas Transmission Company, Columbia Gulf Transmission Company, and Cypress Gas Pipeline, L.L.C.

<sup>7</sup> *See, e.g.*, Energy Information Administration Annual Energy Outlook (2005) (noting that the substantial projected future growth in demand is unlikely to be supplied solely by increased imports from Canada).

<sup>8</sup> Alan Greenspan, in his May 21, 2003, testimony before the Joint Economic Committee, stated that limited capacity to import liquefied natural gas effectively restricts our access to the world's abundant supplies of natural gas.

natural gas and that imported LNG will play a critical role in meeting future demand. Applicants argue that the proposed LNG terminal and pipeline project will create access to new, competitively priced supplies to serve new market demand, and enhance the reliability and security of supplies. A number of letters of support for the project were received from Louisiana elected officials and governmental organizations.

## **II. Notice and Interventions**

9. Notice of the Creole Trail and Cheniere Creole Trail applications was published in the *Federal Register* on June 8, 2005 (70 Fed. Reg. 33,465). In addition, Cheniere Creole Trail's amended applications filed in Docket Nos. CP05-357-001 and CP05-357-002 were published in the *Federal Register* on July 14, 2005 (70 Fed. Reg. 40,697) and March 8, 2006 (71 Fed. Reg. 11,597), respectively.

10. A number of parties filed timely motions to intervene listed in Appendix A. Timely, unopposed motions to intervene are granted by operation of Rule 214 of the Commission's Rules of Practice and Procedure.<sup>9</sup> The Lake Charles Harbor and Terminal District (the Port of Lake Charles) filed an untimely motion to intervene. The Commission finds that granting the late-filed motion to intervene will not delay, disrupt, or otherwise prejudice this proceeding, or place an additional burden on existing parties. Therefore, for good cause shown, we will grant the late-filed motion to intervene.<sup>10</sup> The Port of Lake Charles and the KeySpan Delivery Companies (KeySpan) filed comments. There are no protests.

11. The Port of Lake Charles comments that, while it does not necessarily object to the replacement of DMPA "O" with another suitable dredged material placement area, it is concerned about additional costs it may incur as a result. The issue of a replacement for DMPA "O" and the Port of Lake Charles' related comments are addressed in the Final Environmental Impact Statement (FEIS) prepared for this project. The FEIS reflects an understanding that Creole Trail's project can not be implemented as proposed without reaching an agreement on a replacement for DMPA "O." The potential of increased costs for the Port of Lake Charles is an issue that must be resolved among the parties, not by the Commission.

12. KeySpan states that it understands that the construction of new facilities to import and distribute incremental LNG supply is critical to efforts to meet the United States'

---

<sup>9</sup> 18 C.F.R. § 385.214(a)(3) (2004).

<sup>10</sup> 18 C.F.R. § 385.214(d) (2004).

future gas supply needs. However, KeySpan expresses concern, because it is connected to Transco, Tennessee, Texas Eastern, and Texas Gas, with whom Cheniere Creole Trail proposes to interconnect, that the gas quality provisions of Cheniere Creole Trail's *pro forma* tariff are not sufficient to enable those pipelines to deliver merchantable gas to KeySpan's distribution systems. KeySpan states that it is well settled that the Commission cannot certificate new services that degrade the firm services received by existing customers.<sup>11</sup>

13. KeySpan notes that the interim guidelines specified by the Natural Gas Council (NGC), in White Papers concerning gas quality and interchangeability, include: a maximum Btu limit of 1,100 Btu per cubic foot, maximum total inerts of 4 percent, and a maximum Wobbe Index Number limit of 1,400.<sup>12</sup> KeySpan further notes that, Cheniere Creole Trail's gas quality specifications do not set forth a hydrocarbon dew point limit or a Wobbe Index Number requirement, but do include: a combined total of four percent carbon dioxide and/or nitrogen, and a Btu content of not less than 950 or more than 1200 Btu per cubic foot with the provision that Cheniere Creole Trail has the right to reduce Btu specifications to effect flow on downstream pipeline systems.

14. KeySpan states that Tennessee's and Transco's tariffs specify Btu ceilings of 1,100 Btu per cubic foot, and requests that the Commission clarify that Cheniere Creole Trail has an obligation to implement a reduced Btu ceiling when needed to meet the lower Btu requirements of interconnecting downstream pipelines. Finally, KeySpan requests that the Commission ensure that Cheniere Creole Trail's gas quality and interchangeability standards ultimately will enable the delivery of gas to interconnecting pipelines that will not adversely affect those pipelines' ability to deliver merchantable gas to their customers.

---

<sup>11</sup> Citing, *Granite City Steel Co. v. FPC*, 320 F.2d 711 (D.C. Cir. 1963); *City of Detroit v. Panhandle Eastern Pipe Line Co.*, 5 FPC 43, 50 (1946); *Panhandle Eastern Pipe Line Co. v. FPC*, 232 F.2d 467 (3<sup>rd</sup> Cir. 1956).

<sup>12</sup> On February 28, 2005, the Natural Gas Council filed, in Docket PL04-3-000, two white papers prepared by a group of stakeholders under its leadership, referred to as NGC+. The NGC+ white papers are titled "Liquid Hydrocarbon Drop Out in Natural Gas Infrastructure" and "Natural Gas Interchangeability and Non-Combustion End Use" (White Papers).

### **III. Discussion**

#### **A. Creole Trail's Proposed LNG Terminal**

##### **Section 3 Authorization**

15. Because the proposed LNG terminal facilities will be used to import gas from foreign countries, the construction and operation of the facilities and site of their location require approval by the Commission under section 3 of the NGA. section 3.<sup>13</sup> The Commission's authority over facilities constructed and operated under section 3 includes the authority to apply terms and conditions as necessary and appropriate to ensure that the proposed construction and siting is in the public interest.<sup>14</sup> Section 3 provides that the Commission "shall issue such order on application..." if it finds that the proposal "will not be inconsistent with the public interest."

16. In recent years, the Commission has chosen to exercise a less intrusive degree of regulation for LNG import terminals, and has not required the applicant to offer open-access service or to maintain a tariff or rate schedules for its terminalling service.<sup>15</sup> On August 8, 2005, the Energy Policy Act of 2005 (EPAAct 2005) was signed into law. Section 311 of EPAAct 2005 amends section 3 of the NGA regarding the Commission's authority over the siting, construction, expansion or operation of an LNG terminal. As pertinent here, section 311(c) of EPAAct 2005 adds a new NGA section 3(e)(3) providing that, before January 1, 2015, the Commission shall not condition an order approving an

---

<sup>13</sup> The regulatory functions of section 3 were transferred to the Secretary of Energy in 1977 pursuant to section 301(b) of the Department of Energy Organization Act (Pub. L. No. 95-91, 42 U.S.C. §§7101 *et seq.*). In reference to regulating the imports or exports of natural gas, the Secretary subsequently delegated to the Commission the authority to approve or disapprove the construction and operation of particular facilities, the site at which facilities shall be located, and with respect to natural gas that involves the construction of new domestic facilities, the place of entry or exit for exports. DOE Delegation Order No. 00-044.00, 67 *Fed. Reg.* 8,946 (2002). However, applications for authority to import natural gas must be submitted to the Department of Energy. The Commission does not authorize importation of the commodity itself.

<sup>14</sup> *Distrigas Corporation v. FPC*, 495 F.2d 1057, 1063-64), *cert. denied*, 419 U.S. 834 (1974); *Dynegy LNG Production Terminal, L.P.*, 97 FERC ¶ 61,231 (2001).

<sup>15</sup> *See Hackberry LNG Terminal, L.L.C.*, 101 FERC ¶ 61,294 (2002), *order issuing certificates and granting reh'g*, 104 FERC ¶ 61,269 (2003)(*Hackberry*).

application to site, construct, expand or operate an LNG terminal: (1) on a requirement that the LNG terminal offer service to customers other than the applicant, or any affiliate of the applicant securing the order; (2) any regulation of the rates, charges, terms or conditions of service of the LNG terminal; or (3) a requirement to file schedules or contracts related to the rates charges, terms or conditions of service of the LNG terminal. Our authorization here is consistent with new NGA section 3(e)(3).

17. The Commission recognizes the important role that LNG will play in meeting future demand for natural gas in the United States and has noted that the public interest is served through encouraging gas-on-gas competition by introducing new imported supplies.<sup>16</sup> The record in this case shows that the Creole Trail LNG terminal will provide such additional supplies of natural gas to consumers. Additionally, because the project will provide incremental capacity at market-based rates, the economic risks of the proposed project will be borne by Creole Trail. Therefore, we find that, subject to the conditions imposed in this order, the Creole Trail project is not inconsistent with the public interest.

## **B. Cheniere Creole Trail's Proposed Pipeline Facilities**

18. Since the proposed pipeline 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 NGA section 7.

### **1. The Certificate Policy Statement**

19. On September 15, 1999, the Commission issued a Policy Statement providing guidance as to how proposals for certificating new construction will be evaluated.<sup>17</sup> Specifically, the Policy Statement explains that the Commission, in deciding whether to authorize the construction of new pipeline facilities, balances the public benefits against the potential adverse consequences. Our 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

---

<sup>16</sup> *Hackberry*, 101 FERC at P 26 (2002).

<sup>17</sup> *Certification of New Interstate Natural Gas Pipeline Facilities (Policy Statement)*, 88 FERC ¶ 61,227 (1999); *Order Clarifying Statement of Policy*, 90 FERC ¶ 61,128 (2000); *Order Further Clarifying Statement of Policy*, 92 FERC ¶ 61,094 (2000)(*Policy Statement*).



capacity, the avoidance of unnecessary disruptions of the environment and the unneeded exercise of eminent domain in evaluating new pipeline construction.

20. 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 the route of a new pipeline. 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.

21. Cheniere Creole Trail's proposed project satisfies the threshold requirement of the Certificate Policy Statement that existing shippers not subsidize the expansion of facilities, because Cheniere Creole Trail will be a new jurisdictional company with no existing customers.

22. In addition, no existing pipelines have objected to the project, and KeySpan's concern that new LNG supplies delivered through the Cheniere Creole Trail pipeline may adversely impact customers of interconnecting pipelines is unsubstantiated. Further, interconnections to those pipelines will be in a producing region where LNG supplies will likely be blended with non-LNG supplies during transportation to markets. Moreover, in any event, Cheniere Creole Trail must meet the gas quality requirements of the interconnecting pipelines to which Cheniere Creole Trail makes deliveries. We also note that we are issuing, concurrently with this order, in Docket No. PL04-3-000, our "Policy Statement on Provisions Governing Natural Gas Quality and Interchangeability in Interstate Natural Gas Pipeline Company Tariffs" which provides direction for addressing gas quality and interchangeability concerns.<sup>18</sup> To the extent, if any, that Cheniere Creole Trail's *pro forma* tariff must be modified to comply with the policy statement there announced, Cheniere Creole Trail should submit those changes at the time it files its actual tariff sheets, 30 to 60 days before commencing service.

---

<sup>18</sup> Policy Statement in Docket No. PL04-3-000 on *Provisions Governing Natural Gas Quality and Interchangeability in Interstate Natural Gas Pipeline Company Tariffs* (2006).

23. The proposed project will disturb approximately 2,730 acres during construction and will require 1,093 acres for operation. Of the 116.8 miles of pipeline, approximately 61.7 miles will parallel existing rights-of-way. There have been few objections to the route by landowners or communities, and the pipeline will be constructed in a manner that mitigates potential adverse environmental impacts. Thus, we find that any adverse impacts on landowners and communities will be minimal.

24. Cheniere Creole Trail has not yet negotiated agreements for capacity on the proposed pipeline; however, the proposed pipeline is a necessary part of the project to deliver new LNG supplies into the nation's pipeline grid. Various national and industry organizations that monitor energy consumption trends forecast growing demand for natural gas, and long-term decline for traditional sources of domestically produced gas. The data indicate that domestic production will be unable to keep pace with demand and that the gap will only widen in the future. It is expected that imports, including LNG, will be necessary to make up the supply gap.<sup>19</sup> The proposed project will provide access to new, competitively priced LNG supplies to meet this growing demand. In conclusion, we find that the very significant benefits of the project outweigh any potential adverse effects.

## 2. Rates

### a. Initial Rates

25. Cheniere Creole Trail proposes to offer cost-based firm (Rate Schedule FTS) and interruptible (Rate Schedules ITS and PALS – parking and lending service) open access transportation services on a non-discriminatory basis under Part 284 of the Commission's regulations.<sup>20</sup> Cheniere Creole Trail Pipeline states that the proposed cost-based rates reflect a straight fixed-variable (SFV) rate design.

---

<sup>19</sup> See, *Corpus Christi LNG, L.P. and Cheniere Corpus Christi Pipeline Company*, 111 FERC ¶ 61,081 (2005); and *Sabine Pass LNG, L.P. and Cheniere Sabine Pass Pipeline Company*, 109 FERC ¶ 61,324 (2004).

<sup>20</sup> See Cheniere Creole Trail's FERC Gas Tariff, Original Volume No. 1 (*pro forma tariff*).

26. The FTS rates are derived using \$122,705,513<sup>21</sup> average first year cost of service and annual FTS reservation determinants of 41,580,000 MMBtu. The annual FTS usage determinants total 822,071,250 MMBTU and represent a 65 percent load factor of the maximum capacity. The proposed maximum cost-based FTS reservation rate is \$2.9511 per MMBtu. Cheniere Creole Trail Pipeline states that it currently has no variable costs, so the proposed FTS usage rate is \$0 per MMBtu.

27. The ITS rate is derived at 100 percent load factor of the FTS rates. Cheniere Creole Trail has not identified any usage determinants associated with its proposed interruptible service. The proposed maximum ITS rate is \$0.0970 per MMBtu, and the same rate is proposed for parking and lending service. Cheniere Creole Trail has elected to provide a 100 percent credit of interruptible revenues, net of variable costs, to firm and interruptible customers. This provision has been set out in section 31 of Cheniere Creole Trail's Original *Pro Forma* FERC Gas Tariff, on Original *Pro Forma* Sheet No. 214. This is consistent with the Commission's policy requiring new interruptible services to either credit 100 percent of the interruptible revenues, net of variable costs, to firm and interruptible customers or to allocate costs and volumes to these services.<sup>22</sup>

28. The Commission has reviewed the proposed cost of service and proposed initial rates, and generally finds them reasonable for a new pipeline entity, such as Cheniere Creole Trail, subject to the modifications and conditions imposed below.

**b. Return on Equity and Capital Structure**

29. Cheniere Creole Trail anticipates that 30 percent of the capital will be furnished by the owners as equity and that 70 percent will consist of debt. Assuming this debt level, Cheniere Creole Trail expects to raise approximately \$441.1 million of debt from commercial banks and/or insurance companies at an effective interest rate of 6.5% to be retired over 15 years. Cheniere Creole Trail states that the terms and conditions applicable to the debt will depend upon financial market conditions existing at the time

---

<sup>21</sup> Cheniere Creole Trail's proposed year 1 \$122,705,513 cost of service includes a \$9,316,029 operation and maintenance expense, a \$5,040,800 administrative and general expense, a \$31,505,000 depreciation expense (at a 5 percent depreciation rate), a \$54,017,002 return allowance, a combined \$18,542,003 in federal and state income taxes (calculated at a tax rate of 35 percent for federal taxes and 8 percent for Louisiana state taxes), and \$4,284,680 in taxes other than income taxes.

<sup>22</sup> See, e.g., *Maritimes & Northeast Pipeline L.L.C.*, 80 FERC ¶ 61,136 at p. 61,475 (1997), *order on reh'g*, 81 FERC ¶ 61,166 at pp. 61,725-26 (1997).

the debt is raised but that it will seek the most favorable terms available in the marketplace at the time of financing, and the debt will be non-recourse to Cheniere Creole Trail. Cheniere Creole Trail also proposes a 14 percent return on equity (ROE) based on such factors as its form of incorporation, project risks, proposed capital structure and anticipated capital market conditions.

30. We find that Cheniere Creole Trail's proposal to finance the instant project is consistent with other recent projects approved by the Commission.<sup>23</sup> In these projects, the Commission approved a capital structure of 70 percent debt and 30 percent equity, as well as a return on equity of 14 percent. Accordingly, we will approve Cheniere Creole Trail's proposed capital structure and rate of return on equity.

**c. Rate Changes and Rate Review**

31. If Cheniere Creole Trail desires to make any other 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. In that filing, Cheniere Creole Trail will need to provide cost data and the required exhibits supporting any revised rates. After the facilities are constructed and placed in service, Cheniere Creole Trail must make a NGA section 4 filing in order to change its rates to reflect revised construction and operating costs.

32. Consistent with Commission precedent, the Commission will require Cheniere Creole Trail 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.<sup>24</sup> In its filing, the projected units of service should be no lower than those upon which Cheniere Creole Trail'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. 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 Creole Trail may make an NGA section 4 filing to propose

---

<sup>23</sup> See *Tractebel Calypso*, 106 FERC ¶ 61,273 (2004), 103 FERC ¶ 61,106 (2003), *AES Ocean Express, LLC*, 106 FERC ¶ 61,090 (2004), 103 FERC ¶ 61,030 (2003).

<sup>24</sup> 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); *Horizon Pipeline Co., L.L.C.*, 92 FERC ¶ 61,205, at 61,687 (2000); *Vector Pipeline Co.*, 85 FERC ¶ 61,083 (1998).

alternative rates to be effective no later than three years after the in-service date for its proposed facilities.

**d. Pro Forma Tariff Issues**

33. Cheniere Creole Trail proposes to offer firm and interruptible transportation services on an open-access basis under the terms and conditions set forth in the *pro forma* tariff attached as Exhibit P to the application. We find Cheniere Creole Trail's proposed tariff generally complies with Part 284 of the Commission's regulations,<sup>25</sup> with the exceptions discussed below and specified in Appendix B attached to this order. The Commission will require Cheniere Creole Trail to file actual tariff sheets consistent with the directives in this order at least 30 days but no more than 60 days prior to the commencement of service.

**i. Force Majeure**

34. A discussion of force majeure events in a tariff is intended to demonstrate that a pipeline and its customers will share the economic risks of a force majeure event, generally through a crediting of reservation charges back to shippers whose service is interrupted.<sup>26</sup> The Commission has approved two approaches to reservation charge crediting.<sup>27</sup> The pipeline may either offer full reservation charge crediting beginning 10 days after the event, or partial reservation charge crediting beginning on the first day of the event.<sup>28</sup> In the tariff's Force Majeure section, beginning on Sheet No. 123, Cheniere Creole Trail must revise its tariff to state that it will award reservation credits to its shippers affected by force majeure situations, either through partial or full reservation charge credits, or through some other methodology that the Commission finds reasonable.

---

<sup>25</sup> 18 C.F.R. Part 284 (2005).

<sup>26</sup> *Tennessee Gas Pipeline Co.*, 80 FERC ¶ 61,070 (1997) (Opinion No. 406-A).

<sup>27</sup> *Tennessee Gas Pipeline Co.*, 76 FERC ¶ 61,022, at 61,089 (1996) (Opinion No. 406), *order on reh'g*, 80 FERC ¶ 61,070 (1997) (Opinion No. 406-A). For two rejected approaches, see *Natural Gas Pipeline Company of America*, 106 FERC ¶ 61,310, at P 24 (2004), and *North Baja*, 111 FERC ¶ 61,101 (2005).

<sup>28</sup> *Id.*, *North Baja*, P 5.

35. Also on Sheet No. 123, section 8C, the mention of “planned” outages must be removed. A force majeure event cannot – by definition – be planned. An outage due to a planned or scheduled maintenance is considered a non-force majeure event requiring the pipeline to provide full restoration charge credits to shippers affected by the outage.<sup>29</sup>

## ii. Imbalances

36. In section 13, on Original Sheet No. 146, the tariff states that, “All imbalances shall be resolved monthly in accordance with the following provisions set forth in this section 13, *unless otherwise agreed between Shipper and Transporter.*” (emphasis added) In subsection B, the tariff states that, “It is the responsibility of the Imbalance Party to eliminate end-of-month imbalances not resolved through the above Imbalance Trading Provisions by in-kind resolution with Transporter *or such other method as may be mutually agreed to between Transporter and Imbalance Party.*” (emphasis added) The emphasized language is too vague and introduces the possibility of undue discrimination. Accordingly, Cheniere Creole Trail is directed to clarify this language or eliminate it. Also on Original Sheet No. 146, subsection A, because there is reference to an Imbalance Trading Agreement, this agreement should be included in the tariff.

## iii. Payments

37. On Original Sheet No. 153, in Paragraph E, the tariff states that, “If such failure to pay continues for thirty (30) days after payment is due, Transporter . . . may . . . suspend . . . or terminate service pursuant to the terms and conditions of the Service Agreement . . . .” This section must be revised to conform to the Commission requirement in section 154.602 of the Commission’s regulations that pipelines must give at least 30 days’ notice to the customer and the Commission before terminating a service agreement. Also, in paragraph F(ii) on Original Sheet No. 154, it states that “Transporter may suspend, or . . . terminate service after expiration of the twenty (20) day [notice] period specified above.” Cheniere Creole Trail must amend this section to allow for 30 days after the Shipper is contacted before service can be suspended or terminated. Cheniere Creole Trail must also state that it will not bill the Shipper if the Shipper’s gas is suspended.

---

<sup>29</sup> *Florida Gas Transmission Co.*, 107 FERC ¶ 61,074, at P 27-28 (2004) (stating that events such as planned outages “could be read as within its [the pipeline’s] control” and disagreeing with the pipeline that “non-discretionary but planned events are appropriately included in its definition of force majeure”).

**iv. Creditworthiness**

38. The Commission has held that if a service provider finds a shipper to be uncreditworthy, it must communicate that finding in writing, and state the reasons for its finding. The Commission has also required that the written communication be made within 10 days of the determination, and that the shipper be provided recourse to challenge the finding.<sup>30</sup> A discussion of these criteria is missing from Cheniere Creole Trail's creditworthiness section, starting on Original Sheet No. 155. Cheniere Creole Trail must add to its tariff a statement that it will contact the shipper in writing within 10 days of when the shipper is found to be uncreditworthy, and in that communiqué it will state the reasons for its finding. There must also be some form of recourse available to the shipper to challenge the finding.

**v. Order of Affected Services**

39. Under section (iii) Rate Schedule FTS, the tariff states that "Shippers paying maximum or higher than maximum rate shall be curtailed or suspended on a pro rata basis." However, the Commission does not allow pipelines to curtail service based on price.<sup>31</sup> Cheniere Creole Trail is directed to revise its tariff language accordingly.

**vi. NAESB Standards**

40. Cheniere Creole Trail's tariff proposal is consistent with Version 1.6 of the North American Energy Standards Board (NAESB) Standards, and the recommendations of NAESB's Wholesale Gas Quadrant (WGQ) adopted by the Commission in Order No. 587-R.<sup>32</sup> On May 9, 2005, the Commission issued Order No. 654 amending its

---

<sup>30</sup> See *Natural Gas Pipeline Company*, 106 FERC ¶ 61,175 at P 80 (2004); See also *Tennessee Gas Pipeline Company*, 103 FERC ¶ 61,275 at P 45 (2003).

<sup>31</sup> Order No. 637-B at 62,013.

<sup>32</sup> *Standards for Business Practices of Interstate Natural Gas Pipelines*, Order No. 587-R, 68 *Fed. Reg.* 13,813 (March 21, 2003), FERC Stats. & Regs. ¶ 31,141 (2003) (Order No. 587-R). By Errata Notice issued June 14, 2005, the Commission changed the Order No. to Order No. 587-S.

regulations, which among other things, adopted Version 1.7 of the NAESB standards.<sup>33</sup> Section 25 of the tariff, NAESB Standards, on Original Sheet No. 199, references NAESB Standards Version 1.6. Cheniere Creole Trail is directed to adopt Version 1.7 standards and update the references. Therefore, when it files actual tariff sheets in this proceeding, Cheniere Creole Trail is directed to revise its tariff to be compliant with Order No. 654 as modified by any future NAESB requirements in effect at the time of the filing. The filing must include a cross-reference showing each NAESB standard number, the tariff section containing the standard, and whether Cheniere Creole Trail incorporated the standard verbatim or by reference. Cheniere Creole Trail should file any information it believes relevant to its compliance with the NAESB standards. Further modifications related to NAESB Standards in the *pro forma* tariff are discussed in Appendix B.

### 3. Accounting

41. Cheniere Creole Trail's proposed straight-line depreciation rate of 5 percent per year based upon a 20-year life is consistent with the Commission's Uniform System of Accounts because it is a systematic and rational depreciation method. Therefore, the Commission approves the use of a 5 percent depreciation rate for Cheniere Creole Trail.

42. An allowance for funds used during construction (AFUDC) is a component part of the cost of constructing Cheniere Creole Trail's facilities. Gas Plant Instruction 3(17) prescribes a formula for determining the maximum amount of AFUDC that may be capitalized as a component of construction cost.<sup>34</sup> That formula, however, uses prior year book balances and cost rates of borrowed funds and other capital. In cases of newly created entities, such as Cheniere Creole Trail, prior year book balances do not exist; therefore, using the formula contained in Gas Plant Instruction 3(17) could produce inappropriate amounts of AFUDC.

---

<sup>33</sup> *Standards for Business Practices of Interstate Natural Gas Pipelines*, Order No. 654, 111 FERC ¶ 61,203 (2005) (amending the regulations to incorporate by reference the most recent version of the standards: Version 1.7 of the consensus standards promulgated December 31, 2003 by the Western Gas Quadrant (WGQ) of the NAESB; the standards ratified by NAESB on June 25, 2004 to implement Order 2004; the standards ratified by NAESB on May 3, 2005 to implement the Order 2004-A; and the standards implementing gas quality requirements ratified by NAESB on October 20, 2004).

<sup>34</sup> 18 C.F.R. Part 201 (2005).



43. Therefore, to ensure that appropriate amounts of AFUDC are capitalized in this project, we will require Cheniere Creole Trail to capitalize the actual cost of borrowed and other funds and for construction purposes not to exceed the amount of debt and equity AFUDC that would be capitalized based on the overall rate of return approved herein. This is consistent with what we have required in other similar cases.<sup>35</sup>

## C. Environmental

### 1. Coordination and Public Involvement

44. The FERC issued a draft EIS addressing Creole Trail's and Cheniere Creole Trail's proposals (collectively, Creole Trail Project) on December 16, 2005. FERC issued the final EIS on May 5, 2006. The United States Environmental Protection Agency (EPA) prepared a *Notice of Availability of the Final Environmental Impact Statement for the Proposed Creole Trail LNG Terminal and Pipeline Project* dated May 12, 2006. The draft and final EIS were mailed to federal, state, and local agencies, elected officials, Native American tribes, newspapers, public libraries, interveners to the FERC proceeding, and other interested parties (i.e., landowners, other individuals, and environmental groups who provided scoping comments). The final EIS addresses the issues and concerns raised in response to the draft EIS. The final EIS also addresses: geology; soils and sediments; water resources; wetlands; upland vegetation; wildlife; aquatic resources; essential fish habitat (EFH); threatened, endangered, and special-status species; land use, recreation, and visual resources; socioeconomics; cultural resources; air quality and noise; reliability and safety, including marine safety; cumulative effects; and alternatives.

45. Staff included an Essential Fish Habitat (EFH) Assessment in the draft EIS that described how the proposed Creole Trail Project could affect EFH. The EFH Assessment was reviewed by the National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NOAA Fisheries), which was a cooperating agency in the preparation of the EIS. NOAA Fisheries provided comments during preparation of the draft EIS, which were incorporated into the draft EIS. NOAA Fisheries has not yet verified EFH impacts described in the final EIS. Our staff recommended in the final EIS that, prior to construction, Creole Trail file with the Secretary a copy of the finalized Aquatic Resources Mitigation Plan (ARMP) that Creole Trail is developing in consultation with the several regulatory agencies, including NOAA Fisheries. This document will include

---

<sup>35</sup> See, e.g., Gulfstream Natural Gas System, L.L.C., 91 FERC ¶ 61,119 (2000); and Buccaneer Gas Pipeline Company L.L.C., 91 FERC ¶ 61,117 (2000).

a description of project-related impacts on EFH and mitigation measures to be implemented to address those impacts.

46. Our staff prepared a final Environmental Impact Statement (EIS) for the Creole Trail Project.<sup>36</sup> On May 12, 2006, the Environmental Protection Agency published in the *Federal Register* a Notice of Availability of the final EIS. Approximately 1,062 copies of the final EIS were mailed to agencies, groups, and individuals on the mailing list.

47. The final EIS addressed purpose and need; alternatives; geology; soils and sediments; water resources; wetlands; upland vegetation; wildlife; aquatic resources; essential fish habitat; threatened, endangered, and special-status species; land use, recreation, and visual resources; socioeconomics; cultural resources; air quality and noise; reliability and safety; and cumulative effects. The United States (U.S.) Army Corps of Engineers (COE), U.S. Department of the Interior, Fish and Wildlife Service (FWS), the U.S. Coast Guard, and the National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NOAA Fisheries) were cooperating agencies in the preparation of the final EIS.

48. FERC staff consulted with the U.S. Department of Defense (DOD) as required by the Energy Policy Act of 2005 and section 3 of the NGA to determine if any training or activities on any active military installations would be affected by the project. No comments or concerns were received, in response to the draft EIS published in December, 2005, from any branch of the military or any military installation.

49. Also, in letters dated December 16, 2005, to the Army, Navy, Air Force at the Pentagon, and January 10, 2006, to the COE, our staff requested any information on the effects on training or activities on any active military installations. Since no effects have been identified, the Commission concludes that there is no effect on military installations from this project. Therefore, no concurrence from the Secretary of Defense is required under the Energy Policy Act. By letter dated May 5, 2006, our staff notified the DOD of this conclusion.

50. The final EIS addressed seven comment letters filed in response to the draft EIS.<sup>37</sup> The commenters' primary concerns related to water quality impacts from dredging of the LNG terminal and pipeline construction; air emissions; wetland impacts and mitigation for temporary and permanent wetland losses; impacts on oyster fisheries; dredge material

---

<sup>36</sup> We issued the final EIS on May 5, 2006.

<sup>37</sup> We issued the draft EIS on December 16, 2005.

placement areas; and use of personal property. The final EIS also incorporates comments from the Coast Guard, COE, FWS, and NOAA Fisheries Protected Resources Division.

51. Based on information provided by Creole Trail and further developed by field investigations, literature research, alternative and route variation analyses, and contacts with federal, state, and local agencies and individual members of the public, the final EIS determined that construction and operation of the Creole Trail Project would result in limited adverse environmental impact.

## **2. Wetlands, Habitat, Dredging and Special Species**

52. As discussed in the final EIS, about 209.6 acres of wetland would be affected by construction of the project. About 34.5 of these acres would be permanently affected by the construction and operation of the LNG terminal, and about 25.4 acres of forested wetland and 2.8 acres of scrub-shrub wetland would be permanently converted to other wetland types as a result of construction and operation of the proposed pipeline facilities. To compensate for permanent wetland impacts, Creole Trail is working with the COE, FWS, NOAA Fisheries, and the Louisiana Department of Wildlife and Fisheries (LADWF) to finalize its ARMP. The draft ARMP (February 2006) was provided in Appendix E of the final EIS. Further consultation with these federal and state agencies is needed to finalize the ARMP. The final version of the plan will be part of the COE's pending section 404 permit for the project.

53. Proposed mitigation for impacts resulting from construction and operation of the LNG terminal site includes the creation or restoration of 154.3 acres of tidal marsh based on Creole Trail's proposed mitigation ratio of 1.5:1 for both tidal wetlands (including EFH) and non-tidal wetlands. To mitigate for impacts on forested wetlands along the pipeline routes, Creole Trail proposes a mitigation ratio of 1:1 for the temporary loss of forested wetlands that would be allowed to revert to pre-construction conditions, and a ratio of 2:1 for the permanent conversion of forested wetland to emergent or scrub-shrub wetland. Creole Trail proposes to purchase wetland mitigation credits from approved wetland mitigation banks. The COE, FWS, and LADWF have stated that compensatory mitigation, including mitigation ratios, should be determined based on an acceptable evaluation method in coordination with the appropriate agencies, and the COE noted that compensatory mitigation would be assessed after Creole Trail's COE application has gone through the section 404 (CWA) avoidance and minimization review process. The final EIS recommended that Creole Trail file its final ARMP with the FERC prior to construction. We concur with this recommendation.

54. Louisiana coastal use regulations (Louisiana Revised Statutes 49:214.30(H)(1) and 49:214.32(F)(1)) require that dredged materials in excess of 500,000 yd<sup>3</sup> be put to

beneficial use. In addition, Creole Trail would need to replace an existing COE dredged material placement area (DMPA), referred to as DMPA “O,” at the LNG terminal site that would no longer be available to the COE once the LNG terminal is constructed. Creole Trail’s preference would be to combine wetland mitigation, replacement of the COE’s DMPA “O,” and beneficial use of project-related dredged material into one site. Creole Trail evaluated six potential DMPA sites in its draft ARMP. The final ARMP will include the beneficial use plan for dredged material.

55. The Energy and Water Development Appropriations Act, Public Law 109-103, section 133, enacted in November 2005, provides for a land exchange in which property tracts within DMPA “O” are to be replaced by another property referred to as “Area M.” Area M was not identified as one of the alternative DMPA locations being evaluated by Creole Trail. However, Area M is a currently approved DMPA for the COE, and all COE DMPAs undergo National Environmental Policy Act (NEPA) review as part of the approval process.

56. In its intervention and comments on the draft EIS, the Port of Lake Charles expressed concern about how incremental costs associated with this exchange would be covered, and requested that the Commission condition any authorization of the Creole Trail Project on Creole Trail taking full responsibility to secure a replacement DMPA with a disposal capacity equivalent to that of DMPA “O” that is acceptable to the COE and the Port of Lake Charles. In response, Creole Trail challenged several of the Port of Lake Charles’ comments.

57. The legal issues related to the COE’s easements covering DMPA “O” and the manner in which incremental costs associated with the use of Area M would be covered are beyond the scope of this Order. However, we recognize that an acceptable replacement for portions of DMPA “O” that would no longer be available to the COE as a result of the construction and operation of the proposed LNG terminal must be secured in order for the project to be implemented as proposed, and incremental costs are certain to be included in the negotiations for determining an acceptable replacement. It is our understanding that the COE will not approve an ARMP without having a final agreement on a replacement for DMPA “O.” Because the draft ARMP is still under review by the agencies, FERC staff recommended that the Port of Lake Charles be included in the process of developing the final ARMP. We concur with this recommendation and do not find it necessary to further condition this order in the manner requested by the Port of Lake Charles.

58. The final EIS concludes that with the exception of the federally endangered red cockaded woodpecker (RCW), the project is not likely to adversely affect federally listed threatened or endangered species. NOAA Fisheries’ Protected Resources Division has concluded that with the implementation of the harm avoidance measures included in

Appendix H of the final EIS, the project is not likely to adversely affect federally listed species (whales and sea turtles) under its jurisdiction. Creole Trail has conducted several surveys for the RCW in consultation with the FWS; however, the FWS recommended that Creole Trail conduct additional nesting habitat surveys and foraging habitat analysis at select locations along Segment 2. Therefore, Endangered Species Act (ESA) consultation is still ongoing until the surveys and survey reports can be completed and the FWS had an opportunity to comment on the project's effect on the RCW and its habitat. The final EIS includes a recommendation for Creole Trail to consult with the FWS after conducting the additional surveys for the red cockaded woodpecker and to file the results of consultations with the FWS, any additional survey reports, and FWS comments on the survey reports with the Secretary as soon as they become available. The final EIS also recommends that project construction may not begin until the FERC concludes ESA consultation with the FWS.

59. Project construction is not expected to have a significant impact on essential fish habitat (EFH). Approximately 64.3 acres of emergent wetlands that provide potential EFH would be temporarily affected by the construction of the LNG terminal facility, and 51.9 acres of existing open water adjacent to the site would be dredged during construction. A total of 15.7 acres of wetlands that provide potential EFH would be lost permanently for operation of the LNG terminal. An additional 49.8 acres of open water habitat would be created by construction of the proposed marine facilities. Pipeline construction would temporarily affect 735.7 acres of EFH, including 692.7 acres of EFH associated with Calcasieu Lake. Use of the HDD method would avoid a total of 0.9 mile of EFH. NOAA Fisheries has not yet verified Creole Trail's estimated EFH impacts. NOAA Fisheries is consulting with Creole Trail and other federal and state agencies in the development of the ARMP for the project. The ARMP will include mitigation for wetlands and EFH temporarily and permanently affected by the project. If the project is constructed and operated in compliance with the requirements of the final ARMP and the recommendations in the final EIS, impacts on EFH will be minimized.

### **3. Air Emissions**

60. Air emissions resulting from construction of the LNG terminal and pipelines would be short term and would not significantly affect air quality in the region. The proposed project would be located in an attainment area; therefore, the General Conformity requirements do not apply. The final EIS considered the use of shell and tube vaporization technology (STV) as an alternative to the proposed submerged compression vaporizers (SCVs) based on comments from the Texas Commission on Environmental Quality. Because Creole Trail has proposed control technologies on the SCVs and turbine generators and would have to demonstrate the use of best available control technology on significant emissions sources, the final EIS did not recommend the use of STV instead of SCV technology. The Creole Trail Project would be located in an

attainment area; therefore, the General Conformity requirements do not apply. As requested by the Louisiana Department of Environmental Quality (LADEQ) in its comments on the draft EIS, information regarding emissions sources and estimated emissions was revised in the final EIS to reflect the information that Creole Trail filed with the LADEQ for its pending air permit application. Creole Trail has filed a copy of its air permit application that it has submitted with the LADEQ.

#### **4. FERC Safety and Coast Guard Coordination**

61. The final EIS evaluated potential congestion impacts from additional LNG ship traffic. The operation of LNG vessels should have a similar impact as other large vessels currently using the Calcasieu Ship Channel and should cause no more disruption than the vessel traffic increases planned by other users of the ship channel. In accordance with 33 CFR Part 127, Creole Trail submitted a Letter of Intent to the Coast Guard on January 21, 2005, conveying its intention to build an LNG terminal at the proposed site and to transport by ship LNG to the terminal. Upon completion of its review, the Coast Guard may issue a Letter of Recommendation to address the suitability of the Calcasieu Ship Channel for the proposed LNG transport. That action is pending.

62. The FEIS evaluated the safety of both the proposed Creole Trail LNG import terminal facility and the related LNG vessel transit through the Calcasieu Ship Channel. The analysis identified the principal properties and hazards associated with LNG, presented a summary of the design and technical review of the cryogenic aspects of the LNG terminal, discussed the types of storage and retention systems, analyzed the thermal radiation and flammable vapor cloud hazards resulting from credible LNG spills, analyzed the safety aspects of LNG transportation by ship, and reviewed issues related to security and terrorism. Requirements for safety of the terminal are in the Coast Guard regulations in 33 CFR Part 127 and for maintaining security are in 33 CFR Part 105 and will be approved by the Captain of the Port.

63. With respect to the onshore facility, a cryogenic design and technical review of the proposed terminal design and safety systems was completed and reported in the FEIS. That review noted several areas of concern, and as a result, the FEIS recommends 52 Environmental Conditions to make certain modifications to the terminal design. Information pertaining to these modifications is to be filed for review and approval by the Director of OEP prior to initial site preparation, prior to construction of final design, prior to commissioning, or prior to commencement of service as indicated by each specific recommendation. The FEIS also evaluated the thermal radiation and flammable vapor dispersion exclusion zones of the proposed LNG terminal. The analysis found that no excluded uses are within these areas.

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

65. Based on the extensive operational experience of LNG shipping, the structural design of an LNG vessel, and the operational controls imposed by the Coast Guard and the local pilots, a cargo containment failure and subsequent LNG spill from a vessel casualty – collision, grounding, or allision – is highly unlikely. For similar reasons, an accident involving the onshore LNG import terminal is unlikely to affect the public. As a result, the FEIS determined that the risk to the public from accidental causes is negligible.

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

67. We have reviewed the information and analysis contained in the final EIS regarding the potential environmental effect of the project. Based on our consideration of this information, we agree with the conclusions presented in the final EIS and find that the Creole Trail Project is environmentally acceptable, if the project is constructed and operated in accordance with the recommended environmental mitigation measures in the

appendix to this order. Thus, we are including the environmental mitigation measures recommended in the final EIS as conditions to the authorizations issued to Creole Trail in this order. Further, we are ensuring that the LNG facilities will be subject to Commission staff technical review and site inspections on at least an annual basis.

68. The Coast Guard cooperated in the preparation of the EIS and plays an important role with regard to maritime issues. With regard to vessel transit to and from the Creole Trail LNG terminal, the Coast Guard has identified no constraints. Further, at this time no outstanding safety and security issues have been identified.

69. The Coast Guard issued, on June 14, 2005, a Navigation and Vessel Inspection Circular – Guidance on Assessing the Suitability of a Waterway for Liquefied Natural Gas (LNG) Marine Traffic (NVIC 05-05). The purpose of this NVIC 05-05 is to provide Coast Guard Captains of the Port (COTP)/Federal Maritime Security Coordinators (FMSC), members of the LNG industry, and port stakeholders with guidance on assessing the suitability and security of a waterway for LNG marine traffic. It provides specific guidance on the timing and scope of the waterway suitability assessment (WSA), which will address both safety and security of the port, the facility, and the vessels transporting the LNG.

70. The WSA process addresses the transportation of LNG from an LNG tanker's entrance into U.S. territorial waters, through its transit to and from the LNG receiving facility, and includes operations at the vessel/facility interface. In addition, the WSA addresses the navigational safety issues and port security issues introduced by the proposed LNG operations. The Coast Guard's letter to FERC on the WSA identifies the relevant safety and security issues from the broad viewpoint of impact on the entire port, as well as provides a detailed review of specific points of concern along the LNG tanker's proposed transit route. The WSA will be reviewed on an annual basis and updated as needed until the facility is placed in service.

71. On August 15, 2005, Creole Trail submitted a WSA for the proposed project to the Captain of the Port for Coast Guard Marine Safety Unit Lake Charles. The Coast Guard, with input from various stakeholders, which included the Lake Charles Harbor and Terminal District, marine pilots, towing industry representatives, and members of the Calcasieu Area Harbor Safety Committee and Area Maritime Security Committee, has completed a review of Creole Trail's WSA in accordance with the guidance in NVIC 05-05. The WSA review focused on the navigation safety and maritime security risks posed by LNG marine traffic, and the measures needed to responsibly manage these security risks.

72. On February 27, 2006, the Coast Guard sent a letter to FERC, based on the above WSA review, providing input on the capability of the port community to implement the



risk management measures necessary to responsibly manage the risks of LNG marine traffic in the port. As described in this document, the Coast Guard has preliminarily determined that the Calcasieu River to the proposed LNG terminal in Cameron, Louisiana may be suitable for accommodating the type and frequency of LNG vessels being proposed by the applicant. This determination, however, is preliminary because the required NEPA analysis has not yet been completed. This determination is also contingent upon the port security community having the appropriate resources to implement all the measures necessary to responsibly manage the safety and security risks of LNG marine traffic in this area. Once these plans are finalized and the resources required to implement them have been identified, Creole Trail will be able to more specifically discuss the funding of such resources. In order to better define how the potential burden on local communities would be addressed, the final EIS recommended that Creole Trail provide a plan that identifies the mechanisms for funding project-specific security/emergency management costs that would be imposed on state agencies and local communities. We agree with that recommendation.

73. The Coast Guard's letter to FERC discusses the relevant safety and security issues from the broad viewpoint of impact on the entire port, as well as provides a detailed review of specific points of concern along the LNG tanker's proposed transit route. A detailed supplemental letter, also based on the WSA review, describing the conceptual prevention/mitigation strategies, along with resource needs, has also been sent from the Coast Guard to the FERC on February 28, 2006. If the Coast Guard issues a Letter of Recommendation finding the waterway suitable for LNG marine traffic, the security measures outlined in the letters to FERC will be further developed into a detailed *Liquefied Natural Gas Vessel Management and Emergency Plan*, which would become the basis for appropriate security measures for each Maritime Security threat level. This plan would clearly spell out roles, responsibilities and specific procedures for an LNG vessel transiting the Calcasieu River up to the proposed Creole Trail LNG terminal, as well as for all agencies involved in implementing security and safety during the operation. It would be required that, prior to the LNG vessel being granted permission to enter the Calcasieu River, both the vessel and facility must be in full compliance with the appropriate requirements of the Maritime Transportation Security Act and International Ship and Port Facility Security Code, and the security protocols to be established by the COTP in the *Liquefied Natural Gas Vessel Management and Emergency Plan*. The plan may include security measures such as: Coast Guard and other law enforcement agency vessels to enforce safety and security zones around the LNG vessels while in transit and moored at the terminal; shoreside surveillance and monitoring along designated sections of the transit route; and other prevention/mitigation strategies.

74. The *Liquefied Natural Gas Vessel Management and Emergency Plan* would be a dynamic document that would be prepared well before import operations would

commence, and the port's overall security picture may change over that time period. New port activities may commence, infrastructure may be added, or population density may change. Improvements in technology to detect, deter and defend against intentional acts may also develop. Therefore, the final EIS recommended that Creole Trail annually review its waterway suitability assessment relating to LNG vessel traffic for the project; update the assessment to reflect changing conditions which may impact the suitability of the waterway for LNG marine traffic; provide the updated assessment to the cognizant COTP/Federal Maritime Security Coordinator (COTP/FMSC) for review and validation and if appropriate, further action by the COTP/FMSC relating to LNG vessel traffic; and provide a copy to FERC staff. We concur with this recommendation.

### **5. Commission Determination**

75. The Commission has reviewed the information and analysis contained in the final EIS regarding the potential environmental effect of the project. Based on our consideration of this information, we agree with the conclusions presented in the final EIS and find that the Creole Trail Project is environmentally acceptable, if the project is constructed and operated in accordance with the conditions discussed above and the EIS's other recommended environmental mitigation measures in the Appendix to this order. Thus, we are including the environmental mitigation measures recommended in the final EIS as conditions to the authorizations granted by this order for the Creole Trail Project.

76. Any state or local permits issued with respect to the jurisdictional facilities authorized herein must be consistent with the conditions of this certificate. We encourage cooperation between interstate pipelines and local authorities. This does not mean, however, that state and local agencies, through application of state or local laws, may prohibit or unreasonably delay the construction or operation of facilities approved by this Commission.<sup>38</sup>

77. Creole Trail shall notify the Commission's environmental staff by telephone or facsimile of any environmental noncompliance identified by other federal, state, or local agencies on the same day that such agency notifies Creole Trail. They shall file written confirmation of such notification with the Secretary of the Commission within 24 hours.

---

<sup>38</sup>See, e.g., *Schneidewind v. ANR Pipeline Co.*, 485 U.S. 293 (1988); *National Fuel Gas Supply v. Public Service Commission*, 894 F.2d 571 (2d Cir. 1990); and *Iroquois Gas Transmission System, L.P.*, 52 FERC ¶ 61,091 (1990) and 59 FERC ¶ 61,094 (1992).

78. For the reasons set forth herein, and subject to the conditions set forth below, we find that Creole Trail's LNG import terminal is in the public interest under section 3. We further find, also subject to the conditions below, that Cheniere Creole Trail's pipeline project is required by the public convenience and necessity under section 7(c). Thus, we grant the requested authorizations to Creole Trail and Cheniere Creole Trail.

79. At a hearing held on June 15, 2006, the Commission on its own motion received and made a part of the record in this proceeding all evidence, including the application and exhibits thereto, submitted in support of the authorizations sought herein, and upon consideration of the record,

The Commission orders:

(A) In Docket No. CP05-360-000, Creole Trail is hereby authorized under section 3 of the NGA to site, construct, and operate its LNG in Cameron Parish, Louisiana, as more fully described in this order and in the application.

(B) In Docket No. CP005-357-000, as amended, a certificate of public convenience and necessity is issued to Cheniere Creole Trail under section 7(c) of the NGA authorizing it to construct and operate a 116.8-mile long, dual 42-inch diameter pipeline, as more fully described in this order and in the application.

(C) The certificate authorized in Ordering Paragraph (B) above is conditioned upon Cheniere Creole Trail's compliance with all applicable Commission regulations under the NGA, particularly paragraphs (a), (c), (e), and (f) of section 157.20 of such regulations.

(D) Construction of the proposed facilities shall be completed and made available for service within four years from the date of this order in accordance with section 157.20(b) of the Commission's regulations.

(E) In Docket No. CP05-358-000, a blanket construction certificate is issued to Cheniere Creole Trail under Subpart F of Part 157 of the Commission's regulations.

(F) In Docket No. CP05-359-000, a blanket transportation certificate is issued to Cheniere Creole Trail under Subpart G of Part 284 of the Commission's regulations.

(G) Cheniere Creole Trail's initial rates and proposed tariff are approved, as conditioned and modified herein in the body of this order and as specified in Appendix B.

(H) Cheniere Creole Trail must file actual tariff sheets consistent with the directions in the body of this order and as specified in Appendix B not less than 30 days and not more than 60 days prior to commencing service.

(I) Cheniere Creole Trail's actual tariff sheets shall include any tariff sheets necessary to comply with the Commission's gas quality policy statement in Docket No. PL04-3-000.

(J) Within three years after its in-service date, as discussed herein, Cheniere Creole Trail must make a filing to justify its existing cost-based firm and interruptible recourse rates. In its filing, the projected units of service should be no lower than those upon which Cheniere Creole Trail's approved initial rates are based. The cost and revenue study must be in the form specified in section 154.313 of the regulations to update cost-of-service data. In the alternative, in lieu of such filing, Cheniere Creole Trail 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.

(K) Cheniere Creole Trail shall comply with the accounting requirements specified in the body of this order.

(L) Creole Trail and Cheniere Creole Trail shall comply with the environmental conditions contained in Appendix C to this order.

(M) Creole Trail and Cheniere Creole Trail shall notify the Commission's environmental staff by telephone or facsimile of any environmental noncompliance identified by other federal, state, or local agencies on the same day that such agency notifies either Creole Trail or Cheniere Creole Trail. Creole Trail or Cheniere Creole Trail shall file written confirmation of such notification with the Secretary of the Commission within 24 hours.

(N) The Port of Lake Charles' untimely motion to intervene is granted.

By the Commission.

( S E A L )

Magalie R. Salas,  
Secretary.

**Appendix A**

**Intervenors**

BG LNG Services  
BP Energy Company  
Cameron LNG, LLC  
CITGO Petroleum Corporation  
Columbia Gulf Transmission Company  
ExxonMobil Gas & Power Marketing Company  
Florida Gas Transmission Company  
The Lake Charles Harbor and Terminal District  
The KeySpan Delivery Companies  
Natural Gas Pipeline Company of America  
NiSource Distribution Companies  
Thomas Spears  
Transcontinental Gas Pipe Line Corporation

## **Appendix B**

### **Cheniere Creole Trail Pipeline, L.P.**

#### **FERC Gas Tariff *Pro Forma* Original Volume No. 1**

Cheniere Creole Trail must make the following tariff revisions when it files the actual tariff sheets required in the body of this order.

#### **Rate Schedule FTS**

##### **Original Sheet No. 11 – Requests for Firm Transportation Service**

The “Extension of Term” heading should be part C, not part D.

#### **General Terms and Conditions**

##### **Original Sheet No. 206 – Secondary Receipt and Delivery Point Authority**

In subsection C, the phrase “Transporter shall interrupt service at such secondary Receipt and Delivery Points for the same reasons and in the same manner as interruptible services at such points...” seems to suggest that secondary firm service will be curtailed before primary firm service, which is not the Commission’s policy.<sup>39</sup> Cheniere Creole Trail Pipeline is directed to revise its tariff language to reflect Commission policy.

##### **Original Sheet No. 207 – Discounting**

In section 27A, Cheniere Creole Trail must add a section detailing the order of discounting, pursuant to 18 CFR § 154.109 (c).

##### **Original Sheet No. 213 – Interruptible Services Revenue Crediting**

The tariff states that “A Revenue Credit Surcharge shall be applied to the Reservation and Usage Charges for Shippers utilizing services under Rate Schedules FTS, ITS and PALS...” However, the revenue credit surcharge should also be applied to AOS. Cheniere Creole Trail is directed to revise its tariff language accordingly.

---

<sup>39</sup> Order No. 637-B at 62,013.

### **NAESB Standards**

Each NAESB Standard is to appear only once in the tariff, either stated verbatim or incorporated by reference. The following NAESB Standards are duplicated in the tariff: 1.2.5, 1.3.24 - 1.3.25, 2.3.17 – 2.3.18, 2.3.20 – 2.3.24, 2.3.26, 5.3.11, 5.3.19, 5.3.24 – 5.3.25. Cheniere Creole Trail is directed to either remove these Standards from section 25 of the tariff, or take the verbatim language out of the section of the tariff where it is located.

NAESB Standard 2.3.11 in section 4.I is incomplete. Cheniere Creole Trail is directed to completely state the Standard verbatim.

On Original Sheet No. 130, there is an error in NAESB Standard 1.32(v), which is to be stated verbatim in the tariff, in the last paragraph of 10.A.2.(b)(iii). The first sentence of that paragraph states, “For purposes of section 10.A.2(a)(ii), (b)(i) and (b)(ii), “provide” shall mean, . . .” However, there is no section 10.A.2.(a)(ii). Cheniere Creole Trail Pipeline is directed to correct this misstatement to read: “For purposes of section 10.A.2(b)(i), (b)(ii), (b)(iii), “provide” shall mean, . . .”

NAESB Standard 5.3.2 is to be stated verbatim in the tariff, but on Original Sheet Nos. 170-171, in sections 19.E.2.(a) and 19.E.(b) of the Standard discussing biddable releases of less than 1 year and of 1 year or more, the following phrase is omitted:

“contract issued within one hour of award posting (with a new contract number, when applicable); nomination possible beginning at the next available nomination cycle for the effective date of the contract (Central Clock Time)”

Cheniere Creole Trail is directed to add this phrase into its tariff to comply with the requirement that Standard 5.3.2 be incorporated verbatim in the tariff.

### Appendix C

#### **Environmental Conditions for Creole Trail LNG, L.P. (Creole Trail) and Cheniere Creole Trail Pipeline, L.P. (Cheniere Creole Trail)**

The authorizations granted in this order are subject to the following environmental conditions:

1. Creole Trail LNG, L.P., and Cheniere Creole Trail Pipeline Company (Creole Trail) shall follow the construction procedures and mitigation measures described in its application(s) and supplement filings (including responses to staff data requests) and as identified in the environmental impact statement (EIS) unless modified by this Order. Creole Trail must:
  - a. request any modification to these procedures, measures, or conditions in a filing with the Secretary of the Commission (Secretary);
  - b. justify each modification relative to site-specific conditions;
  - c. explain how that modification provides an equal or greater level of environmental protection than the original measure; and
  - d. receive approval in writing from the Director of the Office of Energy Projects (OEP) **before using that modification.**
2. For the liquefied natural gas (LNG) facilities, the Director of OEP has delegated authority to take all steps necessary to ensure the protection of life, health, property and the environment during construction and operation of the project. This authority shall include:
  - a. stop-work authority and authority to cease operation; and
  - b. the design and implementation of any additional measures deemed necessary to assure continued compliance with the intent of the conditions of this Order.
3. For the pipeline facilities, the Director of OEP has delegated authority to take whatever steps are necessary to ensure the protection of all environmental resources during construction and operation of the project. This authority shall allow:
  - a. the modification of conditions of this Order; and
  - b. design and implementation of any additional measures deemed necessary (including stop work authority) to assure continued compliance with the intent of the environmental conditions as well as the avoidance or



mitigation of adverse environmental impact resulting from project construction and operation.

4. **Prior to any construction**, Creole Trail shall file an affirmative statement with the Secretary, certified by a senior company official, that all company personnel, environmental inspectors (EI), and contractor personnel will be informed of the EIs' authority and have been or will be trained on the implementation of the environmental mitigation measures appropriate to their jobs **before** becoming involved with construction and restoration activities.
5. The authorized facility locations shall be as shown in the EIS, as supplemented by filed alignment sheets, and shall include all of the staff's recommended facility locations. **As soon as they are available, and before the start of construction**, Creole Trail 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.

Creole Trail's exercise of eminent domain authority granted under Natural Gas Act (NGA) section 7(h) in any condemnation proceedings related to this Order must be consistent with these authorized facilities and locations. Creole Trail's right of eminent domain granted under NGA 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. Creole Trail shall file with the Secretary detailed alignment maps/sheets and aerial photographs at a scale not smaller than 1:6,000 identifying all route realignments or facility relocations, and staging areas, pipe storage yards, new access roads, and other areas that would be used or disturbed and have not been previously identified in filings with the Secretary. Approval for each of these areas must be explicitly requested in writing. For each area, the request must include a description of the existing land use/cover type, and documentation of landowner approval, whether any cultural resources or federally listed threatened or endangered species would be affected, and whether any other environmentally sensitive areas are within or abutting the area. All areas shall be clearly identified on the maps/sheets/aerial photographs. Each area must be approved in writing by the Director of OEP **before construction** in or near that area.

This requirement does not apply to extra workspace allowed by the *Upland Erosion Control, Revegetation, and Maintenance Plan*, minor field realignments

per landowner needs and requirements which do not affect other landowners or sensitive environmental areas such as wetlands.

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

- a. implementation of cultural resources mitigation measures;
- b. implementation of endangered, threatened, or special concern species mitigation measures;
- c. recommendations by state regulatory authorities; and
- d. agreements with individual landowners that affect other landowners or could affect sensitive environmental areas.

7. **Within 60 days of the acceptance of this certificate and before construction begins**, Creole Trail shall file an initial Implementation Plan with the Secretary for review and written approval by the Director of OEP describing how Creole Trail will implement the mitigation measures required by this Order. Creole Trail must file revisions to the plan as schedules change. The plan shall identify:

- a. how Creole Trail will incorporate these requirements into the contract bid documents, construction contracts (especially penalty clauses and specifications), and construction drawings so that the mitigation required at each site is clear to onsite construction and inspection personnel;
- b. the number of EIs assigned per spread, and how the company will ensure that sufficient personnel are available to implement the environmental mitigation;
- c. company personnel, including EIs and contractors, who will receive copies of the appropriate material;
- d. the training and instructions Creole Trail will give to all personnel involved with construction and restoration (initial and refresher training as the project progresses and personnel change), with the opportunity for OEP staff to participate in the training session(s);
- e. the company personnel (if known) and specific portion of Creole Trail's organization having responsibility for compliance;
- f. the procedures (including use of contract penalties) Creole Trail will follow if noncompliance occurs; and
- g. for each discrete facility, a Gantt or PERT chart (or similar project scheduling diagram), and dates for:
  - (1) the completion of all required surveys and reports;
  - (2) the mitigation training of onsite personnel;
  - (3) the start of construction; and

- (4) the start and completion of restoration.
8. Creole Trail shall develop and implement an environmental complaint resolution procedure. The procedure shall provide landowners with clear and simple directions for identifying and resolving their environmental mitigation problems/concerns during construction of the project and restoration of the right-of-way. **Prior to construction**, Creole Trail shall mail the complaint procedures to each landowner whose property would be crossed by the project.
  - a. In its letter to affected landowners, Creole Trail shall:
    - (1) provide a local contact that the landowners should call first with their concerns; the letter should indicate how soon a landowner should expect a response;
    - (2) instruct the landowners that, if they are not satisfied with the response, they should call Creole Trail's Hotline; the letter should indicate how soon to expect a response; and
    - (3) instruct the landowners that, if they are still not satisfied with the response from Creole Trail's Hotline, they should contact the Commission's Enforcement Hotline at (888) 889-8030.
  - b. In addition, Creole Trail shall include in its weekly status report a copy of a table that contains the following information for each problem/concern:
    - (1) the date of the call;
    - (2) the identification number from the certificated alignment sheets of the affected property;
    - (3) the description of the problem/concern; and
    - (4) an explanation of how and when the problem was resolved, will be resolved, or why it has not been resolved.
9. Creole Trail shall employ a team of EIs (at least two per construction spread), with one available at the LNG terminal as appropriate during site preparation. The EIs shall be:
  - a. responsible for monitoring and ensuring compliance with all mitigation measures required by this Order and other grants, permits, certificates, or other authorizing documents;
  - b. responsible for evaluating the construction contractor's implementation of the environmental mitigation measures required in the contract (see condition 6 above) and any other authorizing document;

- c. empowered to order correction of acts that violate the environmental conditions of 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.
10. Creole Trail shall file updated status reports prepared by the lead EI with the Secretary on a weekly basis **until all construction and restoration activities are complete**. On request, these status reports will also be provided to other federal and state agencies with permitting responsibilities. Status reports shall include:
  - a. the current construction status of the project, work planned for the following reporting period, and any schedule changes for stream crossings or work in other environmentally sensitive areas;
  - b. a listing of all problems encountered and each instance of noncompliance observed by the EIs during the reporting period (both for the conditions imposed by the Commission and any environmental conditions/permit requirements imposed by other federal, state, or local agencies);
  - c. corrective actions implemented in response to all instances of noncompliance, and their cost;
  - d. the effectiveness of all corrective actions implemented;
  - e. a description of any landowner/resident complaints which may relate to compliance with the requirements of this Order, and the measures taken to satisfy their concerns; and
  - f. copies of any correspondence received by Creole Trail from other federal, state or local permitting agencies concerning instances of noncompliance, and Creole Trail response.
11. Creole Trail must receive written authorization from the Director of OEP **before commencing service** of the project. Such authorization will only be granted following a determination that the LNG facility has 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 right-of-way is proceeding satisfactorily.
12. **Within 30 days of placing the certificated facilities in service**, Creole Trail shall file an affirmative statement with the Secretary, certified by a senior company official:

- a. that the facilities have been constructed and installed in compliance with all applicable conditions, and that continuing activities will be consistent with all applicable conditions; or
  - b. identifying which of the certificate conditions Creole Trail has complied with or will comply with. This statement shall also identify any areas affected by the project where compliance measures were not properly implemented, if not previously identified in filed status reports, and the reason for noncompliance.
13. Creole Trail shall hire and fund a third-party contractor to work under the direction of the Commission staff for the sole purpose of monitoring compliance with the environmental conditions provided in section 5.0 and all mitigation measures proposed by Creole Trail. Creole Trail shall develop a draft monitoring program and obtain proposals from potential contractors to provide monitoring services, and file the program and proposals with the Secretary **for review and approval by the director of OEP at least 60 days before the anticipated start of pipeline construction.** The monitoring plan shall include:
  - a. the employment of the contractor of one to two full-time on-site monitors per construction spread;
  - b. the employment by the contractor of a full-time compliance manager to direct and coordinate with the monitors, manage the reporting system, and provide technical support to the FERC staff;
  - c. a systematic strategy for the review and approval by the contract compliance manager and monitors of variances to certain construction activities as may be required by Creole Trail based on site-specific conditions;
  - d. the development of internet website for posting daily or weekly inspection reports submitted by both the third-party monitors and Creole Trail's environmental inspectors; and
  - e. a discussion of how the monitoring program can incorporate and/or be coordinated with the monitoring or reporting that may be required by other federal and state agencies.
14. Creole Trail shall prepare a schedule identifying when trenching or blasting would occur within each waterbody greater than 10 feet wide. Creole Trail shall file the schedule with the Secretary **within 30 days** of the acceptance of the certificate and

revise it as necessary to provide **at least 14 days advance notice**. Changes within this last 14-day period must provide for **at least 48 hours advance notice**.

15. Creole Trail shall replace any potable water supply system that it damages during construction and cannot repair to its former capacity and quality. **Within 1 year of completion of construction**, Creole Trail shall file a report with the Secretary identifying all potable water supply systems damaged by construction and how they were repaired.
16. **Before construction**, Creole Trail shall file with the Secretary the location by milepost of all private wells within 150 feet of (pipeline construction or blasting) activities. Creole Trail shall conduct, with the well owner's permission, pre- and post-construction monitoring of well yield and water quality for these wells. **Within 30 days of placing the facilities in service**, Creole Trail shall file a report with the Secretary discussing whether any complaints were received concerning well yield or water quality and how each was resolved.
17. Creole Trail shall limit burial of cleared materials or other construction debris (e.g., timber, slash, mats, garbage, drilling fluids, excess rock) within the construction work area to upland locations other than agricultural or residential land at which it has received explicit permission or requests from the landowner or land management agency as specified in our Plan. If this method of disposal is used, Creole Trail shall monitor for subsidence at the applicable locations during its post-construction monitoring, and shall correct for any subsidence that may occur due to decomposition of the buried construction debris. (page 2-33)
18. Creole Trail shall file with the Secretary the results of the final, detailed slope stability analysis to confirm the stability of the proposed final slopes at the LNG terminal under static and dynamic conditions as recommended by Toulany-Wong Engineers, Inc. (TWEI). Creole Trail shall also file any plans developed to implement the recommendations indicated by this study for review and written approval by the Director of OEP **prior to beginning construction of the LNG terminal**. (page 4-12)
19. Creole Trail shall prepare a Plan for the Discovery and Management of Contaminated Soils and Groundwater for the proposed Creole Trail Project. This plan shall comply with applicable state and federal regulations and shall include procedures for the identification and management of unknown contaminants if any are encountered during construction of the proposed LNG terminal and pipeline facilities. The plan shall be filed with the Secretary for review and written approval by the Director of OEP **prior to construction**. (page 4-15)

20. Creole Trail shall consult further with the U.S. Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (COE) regarding the need to conduct a Tier III evaluation, as described in the Inland Testing Manual, for sampling station CTL-04M. Creole Trail shall file copies of all associated communications with the COE and EPA, as well as the results of any additional testing or evaluation if applicable, with the Secretary **prior to dredging at the LNG terminal.** (page 4-22)
21. Creole Trail shall confirm with the Cameron Parish Water District 10 that the water demands of the proposed project would be met by the water district, and file documentation of this confirmation with the Secretary **prior to beginning construction of the LNG terminal.** (page 4-29)
22. Creole Trail shall file with the Secretary a site-specific plan for the crossing of each waterbody proposed as a horizontal directional drill (HDD) crossing in the event that the HDD is unsuccessful. These site-specific plans shall include scaled drawings identifying all areas that would be disturbed by construction. Creole Trail shall file these plans for review and written approval by the Director of the OEP along with the COE permit **prior to construction across those waterbodies.** (page 4-34)
23. Creole Trail shall evaluate the feasibility of using the HDD method to cross Indian and Marsh Bayous and develop a site-specific construction plan for each of these crossings in coordination with the COE and Louisiana Department of Wildlife and Fisheries (LADWF) that clearly identifies all construction work areas including the laydown area for the pipe string if the HDD method is determined to be feasible. Creole Trail shall file the results of its evaluation, the site-specific construction plans, and any agreed-upon mitigation measures to minimize impacts on riparian areas and the associated forested wetlands. Creole Trail shall file the above information with the Secretary for review and written approval by the director of OEP **prior to construction of the proposed pipeline.** (section 4.3.2.1, page 4-35)
24. Creole Trail shall develop and file a Drilling Mud Contingency Plan for each waterbody proposed to be crossed by the HDD method. Each plan shall address how Creole Trail:
  - a. will handle any inadvertent release of drilling mud into the waterbody or areas adjacent to the waterbody, including procedures to contain inadvertent releases;
  - b. will seal the abandoned drill hole; and
  - c. will clean up any inadvertent releases.

Creole Trail shall file each plan with the Secretary for review and written approval by the Director of OEP **before construction** of each HDD. (page 4-36)

25. Creole Trail shall develop its final plans for construction in Calcasieu Lake in coordination with the COE, Louisiana Department of Natural Resources (LADNR) Coastal Management Division, and LADWF. The plan shall describe in detail the construction methods to be used in Calcasieu Lake and include supporting alignment sheets; scaled drawings identifying all areas that would be disturbed by construction; and typical drawings to illustrate construction methods and workspace requirements. As warranted based on Creole Trail's discussions with the COE, LADNR, and LADWF, the plans shall also address:
- a. locations and dimensions of collection pits to be excavated in the lake for HDD operations;
  - b. final locations and dimensions of land- and water-based workspaces required for HDD operations at the pipeline entrance and exit into and out of Calcasieu Lake;
  - c. locations of turnaround areas;
  - d. locations of turbidity curtains and associated supports (e.g., pilings);
  - e. measures to be implemented to minimize suspension of sediments from stockpiled material excavated from the pipeline trenches; and
  - f. measures to be implemented to ensure that the proper depth of cover is obtained.

In addition to the detailed construction plans, Creole Trail shall file at the same time copies of any related plans required by or developed in coordination with the COE, LADNR, or LADWF such as a lighting/signage plan, turbidity curtain monitoring plan, and/or survey monitoring plan for bottom contours. Creole Trail shall file this information with the Commission for review and written approval by the Director of OEP **prior to beginning pipeline construction**. (page 4-38)

26. **Prior to construction**, Creole Trail shall file with the Secretary a copy of the finalized Aquatic Resources Mitigation Plan developed in consultation with the COE, U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NOAA Fisheries), U.S. Fish



and Wildlife Service (FWS), LADNR, LADWF, and Port of Lake Charles. (page 4-61)

27. Creole Trail shall consult with the FWS after conducting the additional surveys for the red cockaded woodpecker as recommended by the FWS. The results of consultations with the FWS, any additional survey reports, and FWS comments on the survey reports shall be filed with the Secretary **as soon as they become available**. (page 4-106)
28. Creole Trail shall not begin construction activities **until**:
  - a. the FERC completes any necessary consultations with the FWS; and
  - b. Creole Trail receives written notification from the Director of OEP that construction and/or implementation of conservation measures may begin.

If construction has not begun **within 1 year** from the date of issuance of the FERC approval of the project, Creole Trail shall consult with the appropriate offices of the FWS and NOAA Fisheries to update the species list and to verify that previous consultations and determinations of effect are still current. Documentation of these consultations, and the need for additional surveys and survey reports (if required), and FWS or NOAA Fisheries comments on the surveys and survey reports and their conclusions, shall be filed with the Secretary of the Commission **prior to beginning construction**. (page 4-109)

29. Creole Trail shall file information describing how it would remove and dispose of the abandoned petroleum storage tank battery and Apache Corporation pipeline present at the LNG terminal site. This information shall also include a discussion of whether there would be any contamination associated with the abandoned facilities and, if so, how contaminated materials would be managed during removal and disposal of the facilities. Creole Trail shall file this information with the Secretary for review and written approval of the Director of OEP **prior to beginning construction of the LNG terminal**. (page 4-112)
30. Creole Trail shall file:
  - a. an updated site-specific plan (or reconfirmation of the current site-specific plan, if no changes are deemed necessary) for the residence at MP 48.2 on Segment 3 once access to the property becomes available, and
  - b. evidence of landowner concurrence if the construction work area and fencing would be located within 10 feet of a residence.

Creole Trail shall file the above information with the Secretary, for review and

written approval by the Director of OEP, **prior to beginning construction of the pipeline system.** (page 4-124)

31. Creole Trail **shall not begin construction of any facilities** associated with the Creole Trail Project until it files with the Secretary a copy of the Coastal Zone Management Program consistency determination issued by the LADNR. (page 4-130)
32. Creole Trail shall develop a Traffic and Transportation Mitigation Plan and file this plan with the Secretary of the Commission **prior to beginning construction of the LNG terminal.** This plan shall explain the measures that Creole Trail would take to prevent adverse impacts on commuters to and users of the Cameron Ferry associated with heavy construction traffic to and from the LNG terminal site via State Highway 27/82. (page 4-139)
33. Creole Trail shall defer implementation of any treatment plans/measures (including archaeological data recovery), construction of pipeline facilities, and use of associated staging, storage, or temporary work areas and new or to-be-improved access roads **until:**
  - a. Creole Trail files with the Secretary cultural resources survey and evaluation reports, any necessary treatment/avoidance plans, and the Louisiana SHPO comments; and
  - b. the Director of OEP reviews all cultural resources survey reports and plans, and notifies Creole Trail in writing that treatment plans/mitigation measures may be implemented or construction may proceed.

All material filed with the Commission containing **location, character, and ownership information** about cultural resources must have the cover and any relevant pages therein clearly labeled in bold lettering: **“CONTAINS PRIVILEGED INFORMATION - DO NOT RELEASE.”** (page 4-145)

34. Creole Trail shall make all reasonable efforts to ensure its predicted noise levels from the LNG terminal are not exceeded at the noise sensitive areas (NSAs) and file noise surveys with the Secretary **no later than 60 days** after placing the LNG terminal in service. However, if the noise attributable to the operation of the LNG terminal exceeds a day-night sound level of 55 decibels on the A-weighted scale at a NSA, Creole Trail shall file a report on what changes are needed and shall install additional noise controls to meet the level **within 1 year** of the in-service date. Creole Trail shall confirm compliance with these requirements by filing a second noise survey with the Secretary **no later than 60 days** after it installs the additional noise controls. (page 4-168)

35. For areas where the Creole Trail Project would be collocated with one or more planned pipeline(s) adjacent to an existing right-of-way, the first pipeline to be constructed shall be constructed closest to the existing right-of-way. The Creole Trail pipeline shall be constructed with a 25-foot offset from the nearest existing pipeline. For the Creole Trail Project, these areas include:

MILEPOST	POTENTIALLY COLLOCATED PROJECT
(Segment 3)	
1.4 to 10.7	Cameron LNG Project
8.9 to 10.7	Liberty Storage Project
26.5 to 26.8	Liberty Storage Project
26.5 to 26.8	Port Arthur LNG Project
29.0 to 32.0	Liberty Storage Project

**Prior to construction**, Creole Trail shall file alignment sheets and environmental information to support the new alignment with the Secretary for review and written approval by the Director of OEP. (page 4-231)

36. Creole Trail shall **annually** review its waterway suitability assessment relating to LNG vessel traffic for the project; update the assessment to reflect changing conditions which may impact the suitability of the waterway for LNG marine traffic; provide the updated assessment to the cognizant Captain of the Port/Federal Maritime Security Coordinator (COTP/FMSC) for review and validation and if appropriate, further action by the COTP/FMSC relating to LNG vessel traffic; and provide a copy to FERC staff.. (page 4-203)
37. **Prior to accepting** ships greater than 140,000 cubic meters in capacity, Creole Trail should provide the necessary information to demonstrate that the transient hazard areas identified in the final EIS are applicable. Creole Trail shall file this information with the Secretary for review and written approval of the Director of OEP. This information should also be provided to the U.S. Coast Guard (Coast Guard). (page 4-216)

**The following measures shall apply to the LNG terminal design and construction details. Information pertaining to these specific recommendations shall be filed with the Secretary for review and approval by the Director of OEP either: prior to initial site preparation; prior to construction of final design; prior to commissioning; or prior to commencement of service as indicated by each specific recommendation.**

**Items relating to Resource Report 13-Engineering and Design Material and security should be submitted as critical energy infrastructure information (CEII) pursuant to 18 CFR § 388.112 and PL01-1. Information pertaining to items such as: offsite emergency response; procedures for public notification and evacuation; and construction and operating reporting requirements would be subject to public disclosure. This information shall be submitted a minimum of 30 days before approval to proceed is required.**

38. A complete plan and list of the hazard detection equipment shall be filed **prior to initial site preparation**. The information shall include a list with the instrument tag number, type and location, alarm locations, and shutdown functions of the proposed hazard detection equipment. Plan drawings shall clearly show the location of all detection equipment. (page 4-173)
39. Creole Trail 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 hydrocarbon release (LNG, flammable refrigerants, flammable liquids and flammable gases).
  - b. Demonstrates that these areas are adequately covered by hazard detection devices and indicate how these devices would isolate or shutdown any combustion equipment whose continued operation could add to or sustain an emergency.
  - c. Creole Trail LNG shall file this review **prior to initial site preparation**. (page 4-173)
40. A complete plan and list of the fixed and wheeled dry-chemical, fire extinguishing, and high expansion foam hazard control equipment shall be filed **prior to initial site preparation**. The information shall include a list with the equipment tag number, type, size, equipment covered, and automatic and manual remote signals initiating discharge of the units. Plan drawings shall clearly show the planned location of all fixed and wheeled extinguishers. (page 4-173)
41. Facility plans showing the proposed location of, and area covered by, each monitor, hydrant, deluge system, hose and sprinkler, as well as piping and instrumentation diagrams, of the fire water system shall be filed **prior to initial site preparation**. (page 4-173)
42. A copy of the hazard design review and list of recommendations that are to be incorporated in the final facility design shall be provided **prior to initial site preparation**. (page 4-173)

43. The size and location of the line proposed for the accidental process spill calculation, in compliance with National Fire Protection Association (NFPA) 59A 2.2.2.2, shall be identified and the containment configuration drawings, vapor dispersion and thermal radiation calculations for the accidental spill impoundment shall be filed **prior to initial site preparation**. (page 4-173)
44. Procedures shall be developed for offsite contractors' responsibilities, restrictions, limitations and supervision of these contractors by Creole Trail LNG staff **prior to initial site preparation**. (page 4-174)
45. Creole Trail shall demonstrate that the tank impoundment volume is at least 110 percent of the maximum liquid volume of the tank. All thermal radiation and flammable vapor exclusion zones related to resized dikes or impoundments shall be recalculated. This information shall be filed with the Commission **prior to initial site preparation**. (page 4-186)
46. Creole Trail shall develop an Emergency Response Plan (including evacuation) and coordinate procedures with 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 of Cameron and other public use areas that are within any transient hazard areas;
  - e. locations of permanent sirens and other warning devices; and
  - f. an "emergency coordinator" on each LNG vessel to activate sirens and other warning devices.

The Emergency Response Plan shall be filed with the Secretary for review and written approval by the Director of OEP **prior to initial site preparation**. Creole Trail shall notify FERC staff of all planning meetings in advance and shall report progress on the development of its Emergency Response Plan at **3-month** intervals. (page 4-196)

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

- direct transit-related security/emergency management costs, this comprehensive plan should include funding mechanisms for the capital costs associated with any necessary security/emergency management equipment and personnel base. The Cost-Sharing Plan shall be filed with the Secretary for review and written approval by the Director of OEP **prior to initial site preparation**. (page 4-196)
48. Creole Trail shall examine provisions to retain any vapor produced along the transfer line trenches and other areas serving to direct LNG spills to associated impoundments. Measures to be considered may include, but are not limited to: vapor fencing; intermediate sump locations; or trench surface area reduction. Creole Trail LNG shall file final drawings and specifications for these measures with the Secretary **prior to initial site preparation** for review and approval by the Director of OEP. (page 4-189)
  49. The **final design** shall include spill and leak detection in the jetty isolation valve area. (page 4-174)
  50. The **final design** of the hazard detection equipment shall identify manufacturer and model. (page 4-174)
  51. The **final design** shall specify that all hazard detectors be installed with redundancy, fault detection and fault alarm monitoring. (page 4-174)
  52. The **final design** of the hazard detection equipment shall provide flammable gas and ultraviolet/infrared hazard detectors with local instrument status indication as an additional safety feature. (page 4-174)
  53. The **final design** of the fixed and wheeled dry-chemical, fire extinguishing and high expansion foam hazard control equipment shall identify manufacturer and model. (page 4-174)
  54. The **final design** shall include a spectacle blind in the vapor return line, between the vapor block valve and the connection to the LNG unloading line of the dual service unloading arm, on each platform. (page 4-174)
  55. The **final design** shall include details of the LNG flow measurement system provided for the top and bottom fill to each tank. (page 4-174)
  56. The **final design** shall include a discretionary vent for each tank, to be operated through the distributed control system. (page 4-174)
  57. The **final design** shall include provisions to flare all low pressure boiloff and flash gas. (page 4-174)

58. The **final design** shall include drawings and specifications of the spill protection system to be applied to the LNG tank roof and outer shell. (page 4-174)
59. The **final design** shall include details of the storage tank piping support structure. (page 4-174)
60. The **final design** shall include details of the LNG tank tilt settlement and differential settlement limits between each LNG tank and piping and procedures to be implemented in the event that limits are exceeded. (page 4-174)
61. The **final design** shall include a cooldown bypass valve round the discharge control valve of each intank pump. (page 4-174)
62. The **final design** shall include a recycle line from the end of the LNG sendout pump suction header to storage. The line shall be sized to allow the boiloff gas (BOG) condenser and suction header to be stabilized prior to pump cool down. (page 4-174)
63. The **final design** shall specify that at the maximum LNG specific gravity, specified for the design of the system and at full LNG tank conditions and maximum BOG condenser operating pressure, the discharge pressure of the LNG sendout pumps shall not exceed 90 percent of the LNG vaporizer design pressure. (page 4-174)
64. The **final design** shall include installation of a check valve down stream of the minimum flow recycle line in the secondary pump discharge piping. (page 4-175)
65. The **final design** shall include automatic shutoff isolation valves for the suction and discharge of the return blowers. (page 4-175)
66. The **final design** shall include provisions to install temporary high pressure boiloff compression in the event that sendout operation is curtailed, or ceased for a period in excess of thirty days. Details shall include plans and drawings of the boiloff gas recovery system and specifications of the equipment and compressors to be installed. (page 4-175)
67. The **final design** shall include details of the proposed installation of the liquid removal systems associated with the operation of the BOG compressor knock-out drum V-103 and liquid drain pot V-104. (page 4-175)
68. The **final design** shall include provisions to alarm the condition of high liquid level in the drip leg and prevent the return blowers from operating in the event of a High-High level. (page 4-175)

69. The **final design** shall include provisions to pipe unloading line relief valves and other LNG reliefs and vents directly to storage or to an intermediate vent vessel. (page 4-175)
70. The **final design** shall include an LNG sample vaporization system. (page 4-175)
71. The **final design** shall include a fire protection evaluation carried out in accordance with the requirements of NFPA 59A, chapter 9.1.2. (page 4-175)
72. The **final design** shall include details of the shut down logic, including cause and effect matrices for alarms and shutdowns. (page 4-175)
73. 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. (page 4-175)
74. The **final design** shall include details of the air gaps to be installed downstream of all seals or isolations installed at the interface between a flammable fluid system and an electrical conduit or wiring system. Each air gap shall vent to a safe location and be equipped with a leak detection device that: shall continuously monitor for the presence of a flammable fluid; shall alarm the hazardous condition; and shall shutdown the appropriate systems. (page 4-175)
75. The **final design** shall include a hazards and operability review of the completed design. A copy of the review and a list of the recommendations shall be provided. (page 4-175)
76. All valves including drain, vent, instrument root, main and car sealed valves shall be tagged in the field during construction and **prior to commissioning**. (page 4-175)
77. Copies of the Coast Guard security plan and vessel operating plan shall be provided to FERC staff shall be filed **prior to commissioning**. (page 4-176)
78. Security personnel requirements for prior to and during LNG carrier unloading shall be provided **prior to commissioning**. (page 4-176)
79. Operation and maintenance procedures and manuals, as well as safety procedure manuals, shall be filed **prior to commissioning**. (page 4-176)
80. The contingency plan for failure of the LNG tank outer shell shall be filed **prior to commissioning**. (page 4-176)



81. A copy of the criteria for horizontal and rotational movement of the inner vessel for use during and after cool down shall be filed **prior to commissioning**. (page 4-176)
82. **Prior to commissioning**, Creole Trail shall coordinate, as needed, with the Coast Guard to define the responsibilities of Creole Trail's security staff in supplementing other security personnel and in protecting the LNG ships and the terminal. (page 4-194)
83. The FERC staff shall be notified of any proposed revisions to the security plan and physical security of the facility **prior to commencement of service**. (page 4-176)
84. Progress on the construction of the LNG terminal shall be reported in **monthly** reports filed with the Secretary. Details shall include a summary of activities, problems encountered and remedial actions taken. Problems of significant magnitude shall be reported to the FERC **within 24 hours**. (page 4-17)

**The following measures shall apply throughout the life of the facility:**

85. The facility shall be subject to regular FERC staff technical reviews and site inspections on at least a **biennial** basis or more frequently as circumstances indicate. Prior to each FERC staff technical review and site inspection, Creole Trail LNG 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 semi-annual report, shall be submitted. (page 4-176)
86. **Semi-annual** operational reports shall be filed with the Secretary to identify changes in facility design and operating conditions, abnormal operating experiences, activities (including ship arrivals, quantity and composition of imported LNG, vaporization quantities, boil-off/flash gas, etc.), plant modifications including future plans and progress thereof. Abnormalities shall include, but not be limited to: unloading/shipping problems, potential hazardous conditions from offsite vessels, storage tank stratification or rollover, geysering, storage tank pressure excursions, cold spots on the storage tanks, storage tank vibrations and/or vibrations in associated cryogenic piping, storage tank settlement, significant equipment or instrumentation malfunctions or failures, non-scheduled maintenance or repair (and reasons therefore), relative movement of storage tank inner vessels, vapor or liquid releases, fires involving natural gas

and/or from other sources, negative pressure (vacuum) within a storage tank and higher than predicted boiloff rates. Adverse weather conditions and the effect on the facility also shall be reported. Reports shall be 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)" also shall be included in the semi-annual operational reports. Such information would provide the FERC staff with early notice of anticipated future construction/maintenance projects at the LNG facility. (page 4-176)

87. In the event the temperature of any region of any outer tank shell, including 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. (page 4-177)
88. Significant non-scheduled events, including safety-related incidents (i.e., LNG or natural gas releases, fires, explosions, mechanical failures, unusual over pressurization, and major injuries) and security related incidents (i.e., attempts to enter site, suspicious activities) shall be reported to FERC staff. In the event an abnormality is of significant magnitude to threaten public or employee safety, cause significant property damage, or interrupt service, notification shall be made **immediately**, without unduly interfering with any necessary or appropriate emergency repair, alarm, or other emergency procedure. In all instances, notification shall be made to FERC staff **within 24 hours**. This notification practice shall be incorporated into the LNG facility's emergency plan. Examples of reportable LNG-related incidents include:
  - a. fire;
  - b. explosion;
  - c. estimated property damage of \$50,000 or more;
  - d. death or personal injury necessitating in-patient hospitalization;
  - e. free flow of LNG for five minutes or more that results in pooling;
  - f. unintended movement or abnormal loading by environmental causes, such as an earthquake, landslide, or flood, that impairs the serviceability, structural integrity, or reliability of an LNG facility that contains, controls, or processes gas or LNG;
  - g. any crack or other material defect that impairs the structural integrity or reliability of an LNG facility that contains, controls, or processes gas or LNG;
  - h. any malfunction or operating error that causes the pressure of a pipeline or LNG facility that contains or processes gas or LNG to rise above its maximum allowable operating pressure (or working pressure for LNG

- facilities) plus the build-up allowed for operation of pressure limiting or control devices;
- i. a leak in an LNG facility that contains or processes gas or LNG that constitutes an emergency;
  - j. inner tank leakage, ineffective insulation, or frost heave that impairs the structural integrity of an LNG storage tank;
  - k. any 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 operating pressure or shutdown of operation of a pipeline or an LNG facility that contains or processes gas or LNG;
  - l. safety-related incidents to LNG vessels occurring at or en route to and from the LNG facility; or
  - m. an event that is significant in the judgment of the operator and/or management even though it did not meet the above criteria or the guidelines set forth in an LNG facility's incident management plan.

In the event of an incident, the Director of OEP has delegated authority to take whatever steps are necessary to ensure operational reliability and to protect human life, health, property or the environment, including authority to direct the LNG facility to cease operations. Following the initial company notification, FERC staff would 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 investigation results and recommendations to minimize a reoccurrence of the incident. (page 4-177)