157 FERC ¶ 61,222
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Norman C. Bay, Chairman;
Cheryl A. LaFleur, and Colette D. Honorable.

Golden Pass Products LLC	Docket Nos. CP14-517-000
Golden Pass Pipeline LLC	CP14-518-000

ORDER GRANTING AUTHORIZATIONS UNDER SECTIONS 3 AND 7 OF THE NATURAL GAS ACT

(Issued December 21, 2016)

1. On July 7, 2014, in Docket No. CP14-517-000, Golden Pass Products LLC (Golden Pass Products) filed an application for authorization under section 3 of the Natural Gas Act (NGA)[1] and Part 153 of the Commission's regulations[2] to site, construct, and operate facilities for the export of liquefied natural gas (LNG) (Export Terminal Project), located at the existing LNG import terminal owned and operated by Golden Pass LNG Terminal LLC (Golden Pass LNG) in the vicinity of Sabine Pass, Texas.

2. On the same day, Golden Pass Pipeline LLC (Golden Pass Pipeline) filed an application in Docket No. CP14-518-000, under NGA section 7(c)[3] and Part 157 of the Commission's regulations,[4] for a certificate of public convenience and necessity to construct and operate compression and looping facilities in Texas and Louisiana (Pipeline Expansion Project). The project will make Golden Pass Pipeline's existing

[1] 15 U.S.C. § 717b (2012).

[2] 18 C.F.R. pt. 153 (2016).

[3] 15 U.S.C. 717f (2012).

[4] 18 C.F.R. pt. 157 (2016).

pipeline facilities bi-directional and, enable it to transport up to 2.5 billion cubic feet per day (Bcf/d) of domestically-sourced natural gas to the Export Terminal Project for liquefaction and export.

3. For the reasons discussed in this order, we will authorize Golden Pass Products' proposal under section 3 to construct and operate the Export Terminal Project. We will also authorize Golden Pass Pipeline's proposal under section 7(c) to construct and operate the Pipeline Expansion Project. These authorizations are subject to the conditions discussed herein.

I. Background

4. Golden Pass Products and Golden Pass Pipeline are limited liability companies organized under the laws of Delaware. Golden Pass Products is owned by QTL U.S. Terminal LLC, an affiliate of Qatar Petroleum International Limited (QPI), and Golden Pass LNG Terminal Investments LLC, an affiliate of Exxon Mobil Corporation (ExxonMobil).

5. Golden Pass Pipeline is a natural gas company under section 2(6) of the NGA,[5] engaged in the transportation of natural gas in interstate commerce under authorizations granted by and subject to the jurisdiction of the Commission. Golden Pass Pipeline is owned by QTL U.S. Terminal LLC, Golden Pass LNG Pipeline Investments LLC, and ConocoPhillips Company.

6. In 2005, the Commission, under section 3 of the NGA, authorized Golden Pass LNG[6] to construct and operate an LNG import terminal near Sabine Pass, Texas, which terminal includes a berthing structure and unloading facilities for LNG ships; five LNG storage tanks, each with an approximate working capacity of 155,000 cubic meters; and associated infrastructure and facilities required to transport natural gas from the import

[5] 15 U.S.C. § 717a(6) (2012).

[6] At the time the order was issued, Golden Pass LNG's legal name was Golden Pass LNG Terminal, LP. On June 9, 2006, Golden Pass LNG Terminal, LP changed its name to Golden Pass LNG Terminal, LLC. See June 19, 2006 Notice in Docket No. CP04-386-000. Golden Pass LNG is an affiliate of Golden Pass Pipeline and Golden Pass Products.

terminal (2005 Order).[7] Golden Pass Products states that due to changed market conditions, the terminal has not received imports since 2011.[8]

7. In the same order, the Commission authorized Golden Pass Pipeline [9] under section 7(c) of the NGA, to construct a pipeline system[10] to transport up to 2.5 Bcf/d of re-vaporized natural gas from the tailgate of the terminal to interconnections with several intrastate and interstate pipelines. This interstate pipeline is the only pipeline connected to the terminal.

II. Proposals

A. Export Terminal Project (Docket No. CP14-517-000)

8. The Export Terminal Project would be constructed and operated by Golden Pass Products, and integrated with the existing import terminal onshore at the Sabine-Neches Waterway, on the existing Port Arthur Ship Channel, in the vicinity of Sabine Pass in

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[7] *Golden Pass LNG Terminal LP and Golden Pass Pipeline LP*, 112 FERC ¶ 61,041 (2005) (2005 Order).

[8] Golden Pass Products' July 7, 2014 Application at fn. 9 (Golden Pass Products' Application).

[9] At the time the order was issued, Golden Pass Pipeline's legal name was Golden Pass Pipeline, LP. On January 17, 2007, Golden Pass Pipeline LP legally changed its name to Golden Pass Pipeline LLC. See February 27, 2007 Notice in Docket No. CP04-400-000.

[10] As originally certificated, the Golden Pass Pipeline system consisted of parallel, 43-mile segments of 36-inch-diameter pipeline extending from the import terminal to an interconnect with American Electric Power Texoma Pipeline (AEP Texoma) in Orange County, Texas, and an approximately 34-mile segment of 36-inch-diameter pipeline extending from the AEP Texoma interconnect and terminating at an interconnection with Transcontinental Pipe Line Corporation (Transco) in Calcasieu Parish, Louisiana. 2005 Order at P 8. Golden Pass Pipeline's certificate was subsequently amended to authorize a single, 42-inch-diameter, approximately 33-mile long pipeline from the import terminal to the AEP Texoma interconnect, and a 42-inch-diameter, approximately 36-mile long pipeline extending from the AEP Texoma interconnect and terminating at the Transco interconnect, with several intra- and interstate interconnections along its route. *Golden Pass Pipeline LP*, 117 FERC ¶ 61,015; *amended*, 117 FERC 61,332 (2006).

Jefferson County, Texas. Golden Pass Products states that the project will expand the capabilities of the existing terminal to enable the export of natural gas, while maintaining LNG import capability.

9. As proposed, the Export Terminal Project would include three liquefaction trains with a total production capacity sufficient to produce 15.6 million (metric) tons per annum (MTPA) of LNG, each train producing 5.2 MTPA. Golden Pass Products also proposes to construct and operate feed gas treatment facilities consisting of a mercury removal system, amine system, and heavy hydrocarbon removal system; and a 200-250 megawatt (MW) self-generation power plant to power the liquefaction trains and other terminal operations.

10. Golden Pass Products proposes to use the existing storage tanks, berths, and other related facilities at the existing import terminal. Certain modifications would be made to the existing import facilities, including modifications to enable segregation of re-gasification facilities from the liquefaction facilities, and construction of a new central control room.

11. Golden Pass Products received authorization from the Department of Energy, Office of Fossil Energy (DOE/FE) in September, 2012 to export annually up to 740 Bcf equivalent (15.6 MPTA) of natural gas in the form of LNG to countries with which the United States has a Free Trade Agreement (FTA).[11] In addition, Golden Pass Products currently has pending before the DOE/FE an application to export LNG to other nations with which the U.S. permits such trade, but has not entered into an FTA providing for the national treatment of trade in natural gas (NFTA countries).[12]

B. Pipeline Expansion Project (Docket No. CP 14-518-000)

12. In conjunction with the Export Terminal Project, Golden Pass Pipeline seeks to expand its current pipeline system to transport up to 2.5 Bcf/d of domestically-sourced natural gas southward to the LNG terminal for liquefaction and export.

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[11] *Golden Pass Products, LLC*, FE Docket No. 12-88-LNG, Order No. 3147 (September 27, 2012).

[12] See application pending before DOE/FE in Docket No. FE12-156-LNG (Filed October 26, 2012).

13. Specifically, Golden Pass Pipeline proposes to construct:

- Mile Post (MP) 1 Compressor Station, consisting of two 5,583 hp electric compressors, to be located near the interconnection with Natural Gas Pipeline Company of America's (Natural) pipeline system in Jefferson County, Texas;
- MP 33 Compressor Station, consisting of two 8,997 hp gas-fired compressors, to be located near the interconnection with AEP Texoma's pipeline system in Orange County, Texas;
- MP 66 Compressor Station, consisting of five 15,128 hp and two 8,475 hp gas-fired compressors, to be located near the interconnection with the Texas Eastern Transmission, LP (TETCO) pipeline system in Calcasieu Parish, Louisiana; and
- approximately three miles of new 24-inch diameter pipeline loop (Calcasieu Loop), parallel and adjacent to the Golden Pass Pipeline mainline, installed between surface facilities operated by TETCO and Tennessee Gas Pipeline Company, L.L.C. (Tennessee) between MP 63 and MP 66 in Calcasieu Parish, Louisiana.

Golden Pass Pipeline will also make modifications and upgrades to five existing delivery point interconnections to provide for bi-directional transportation services.[13]

14. The estimated total cost of the project is approximately $383 million.[14] Golden Pass Pipeline proposes to provide firm and interruptible transportation service on the Pipeline Expansion Project under new Rate Schedules FT-2 and IT-2, respectively.[15] Golden Pass proposes to charge its currently-effective rates under Rate Schedules FT and IT as the recourse rate for service under proposed Rate Schedules FT-2 and IT-2.

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[13] These include interconnections with Natural, AEP Texoma, Tennessee, TETCO and Transco.

[14] Golden Pass Pipeline Application, Exhibit K.

[15] Golden Pass Pipeline proposes to re-designate its existing Rate Schedules FT and IT, as Rate Schedules FT-1 and IT-1, respectively. It states that it is proposing new rate schedules because certain terms and condition of service under existing rate Schedules FT and IT were developed for import service and are inapplicable for export service.

Golden Pass also requests a predetermination that it may roll the costs of the Pipeline Expansion Project into its system rates in a future NGA section 4 rate case.

15. Golden Pass Pipeline states that it held a binding open season from June 2 to June 20, 2014, for the proposed expansion capacity. Golden Pass Pipeline states that it indicated in the open season that it had signed a letter of intent with ExxonMobil Titan Gas Supply LLC (Titan) to subscribe 2.4 Bcf/d of firm transportation capacity and that the letter of intent would constitute a binding bid in the open season. Based upon that level of commitment, Golden Pass Pipeline provided Titan Anchor Shipper status. Golden Pass Pipeline states that no other party submitted a bid in the open season and, ultimately, Titan, agreed to subscribe to the full 2.5 Bcf/d of incremental capacity for a term of 25 years at Golden Pass Pipeline's recourse rates.

III. Notice, Interventions, Comments, and Protests

16. Notice of the applications was published in the *Federal Register* on July 29, 2014, with interventions and protests due on August 11, 2014.[16]

17. The Sierra Club submitted a timely motion to intervene. Timely, unopposed motions to intervene are automatically granted pursuant to Rule 214 of the Commission's Rules of Practice and Procedure.[17]

18. Sierra Club's motion to intervene included a protest. In its protest, Sierra Club argues that the projects are not in the public interest, because they will result in both environmental and economic harm. Golden Pass filed an answer to Sierra Club's intervention and protest, which was followed by an answer by Sierra Club. Answers to protests or answers are not permitted by the Commission's Rules of Practice and Procedure.[18]

[16] 79 Fed. Reg. 44,020.

[17] 18 C.F.R. § 385.214 (2016).

[18] 18 C.F.R. § 385.213(a)(2) (2016).

IV. Discussion

A. Export Terminal Project (Docket No. CP14-517-000)

19. Because the proposed LNG terminal facilities will be used to export natural gas to foreign countries, the construction and operation of the proposed facilities and site of their location require approval by the Commission under section 3 of the NGA.[19] While section 3 provides that an application for the exportation or importation of natural gas shall be approved if the proposal "will not be inconsistent with the public interest," section 3 also provides that an application may be approved "in whole or in part, with such modification and upon such terms and conditions as the Commission may find necessary or appropriate."[20] NGA section 3(a) also provides that for good cause shown, the Commission may make supplemental orders as it may find "necessary or appropriate."

20. Sierra Club asserts that Golden Pass Products' proposal will increase domestic gas prices and likely decrease domestic employment.[21] With respect to environmental harm, Sierra Club contends that the project will result in significant, adverse direct impacts

[19] 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 natural gas import and export facilities and the site at which such facilities shall be located. The most recent delegation is in DOE Delegation Order No. 00-044.00A, effective May 16, 2006. Applications for authorization to import or export natural gas must be submitted to DOE. The Commission does not authorize importation or exportation of the commodity itself.

[20] For a discussion of the Commission's authority to condition its approvals of LNG facilities under section 3 of the NGA, *see, e.g., Distrigas Corporation v. FPC*, 495 F.2d 1057, 1063-64 (D.C. Cir. 1974), *cert. denied*, 419 U.S. 834 (1974), and *Dynegy LNG Production Terminal, L.P.*, 97 FERC ¶ 61,231 (2001).

[21] See Sierra Club's August 11, 2014, Motion to Intervene and Protest (citing Sierra Club's February 3, 2014 Motion to Intervene, Protest and Comments, at 13, filed in FOE/DE Docket No. 12-156-LNG, attached as Exhibit 2).

from the construction and operation of the terminal and infrastructure itself, as well as indirect impacts from induced national gas production and consumption.[22]

21. We decline to address Sierra Club's economic claims (e.g., that exports will result in increased natural gas prices), as they concern impacts associated with the exportation of the commodity of natural gas, which DOE is authorized to analyze, rather than the proposal before the Commission.

22. Section 3 of the NGA provides, in part, that "no person shall export any natural gas from the United States to a foreign country or import any natural gas from a foreign country without first having secured an order of the Commission authorizing it to do so." As noted above, in 1977, the Department of Energy Organization Act transferred the regulatory functions of section 3 of the NGA to the Secretary of Energy. Subsequently, the Secretary delegated to the Commission authority to "[a]pprove or disapprove the construction and operation of particular facilities, the site at which such facilities shall be located, and with respect to natural gas that involves the construction of new domestic facilities, the place of entry for imports or exit for exports…"[23]

23. However, the Secretary has not delegated to the Commission any authority to approve or disapprove the import or export of the commodity itself.[24] Nor is there any indication that the Secretary's delegation authorized the Commission to consider the types of issues raised by Sierra Club as part of the Commission's public interest determination, thus duplicating and possibly contradicting the Secretary's own decisions. The DOE/FE, pursuant to its authority under NGA section 3(c), issued Golden Pass Products

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[22] Sierra Club's August 11, 2014 Motion to Intervene and Protest at 9. Sierra Club raises a number of additional environmental issues, including construction and operation impacts to local air and water quality and habitats, as well as increased emissions of greenhouse gases and other toxic pollutants. *See* Exhibit 2 at 23 - 62. These issues were addressed in the draft and final Environmental Impact Statements, and are discussed below.

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

[24] *See supra* note 19. *See also National Steel Corp.*, 45 FERC ¶ 61,100, at 61,332-33 (1988) (observing that DOE, "pursuant to its exclusive jurisdiction, has approved the importation with respect to every aspect of it except the point of importation" and that the "Commission's authority in this matter is limited to consideration of the place of importation, which necessarily includes the technical and environmental aspects of any related facilities.").

authorization to export up to 15.6 MTPA, or 2.0 Bcf/d, of domestically-produced natural gas by vessel to all FTA nations from the proposed Golden Pass Export Terminal in Sabine Pass, Texas.[25] DOE/FE's order approving Golden Pass Products' export volumes states that "[i]n light of DOEs statutory obligation to grant the Application without modification or delay, there is no need for DOE to review other arguments asserted by [Golden Pass Products) in support of the Application."[26]

24. Additionally, the proposed project is located on and adjacent to the footprint of the previously approved and currently operating import terminal site. Much of the land in the area was previously disturbed during construction of the terminal and, as a result, the Environmental Impact Statement (EIS) prepared for the proposed project finds that the environmental impacts of the Export Terminal Project are not expected to be significant and can be further mitigated with appropriate measures, recommended in the EIS and adopted in this order. We conclude in this order that, with the conditions we require, the Export Terminal Project results in only minimal environmental impacts and can be constructed and operated safely.

25. Accordingly, we find that, subject to the conditions imposed in this order, Golden Pass Products' proposal is not inconsistent with the public interest.

B. Proposed Pipeline Expansion Project (Docket No. CP14-518-000)

26. 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 section 7 of the NGA.[27]

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[25] See DOE/FE Order No. 3147 (2012). The non-FTA application is currently under DOE review in DOE/FE Docket No. 12-156-LNG.

[26] *Id.* at 5. Section 3(c) provides that the exportation and importation of natural gas to and from countries with which there is in effect a Free Trade Agreement "shall be deemed to be consistent with the public interest and applications for such importation and exportation shall be granted without modification or delay."

[27] 15 U.S.C. §§ 717f(c) and 717f(e) (2006).

1. Certificate Policy Statement

27. The Certificate Policy Statement provides guidance for evaluating proposals to certificate new construction.[28] In the Certificate Policy Statement, the Commission established criteria for determining whether there is a need for a proposed project and whether the proposed project will serve the public interest. The Certificate Policy Statement explained that in deciding whether to authorize the construction of major new natural gas facilities, the Commission balances the public benefits against the potential adverse consequences. The Commission's goal is to give appropriate consideration to the enhancement of competitive transportation alternatives, the possibility of overbuilding, subsidization by existing customers, the applicant's responsibility for unsubscribed capacity, the avoidance of unnecessary disruptions of the environment, and the unneeded exercise of eminent domain in evaluating new pipeline construction.

28. 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.

29. As noted above, the threshold requirement for pipelines proposing new interstate gas pipeline facilities is that the pipeline must be prepared to financially support the project without relying on subsidization from its existing customers. Consistent with Commission policy, Golden Pass Pipeline proposes to utilize its existing Rate Schedule FT rates as the initial rates for the Pipeline Expansion Project because, as described below, incremental rates calculated for comparison purposes for the project are less than the existing system rates. As discussed below, we also are granting Golden Pass Pipeline a predetermination that it may roll the costs of the project into its system rates in its next NGA section 4 general rate proceeding, because Golden Pass Pipeline has demonstrated

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[28] *Certification of New Interstate Natural Gas Pipeline Facilities*, 88 FERC ¶ 61,227 (1999), order on *clarification*, 90 FERC ¶ 61,128 (2000), *order on clarification*, 92 FERC ¶ 61,094 (2000) (Certificate Policy Statement).

that the revenues from the project will exceed the costs. Under these circumstances, we find the project meets the threshold no-subsidy requirement of the Certificate Policy Statement.

30. The proposed pipeline expansion facilities are designed to provide incremental service in a north-to-south direction without degradation of service to Golden Pass Pipeline's existing customers. None of Golden Pass Pipeline's existing customers have raised any concerns that the proposed project will have adverse effects on their services. Nor have any other pipelines or their captive customers filed adverse comments regarding Golden Pass Pipeline's proposal. Thus, we find that Golden Pass Pipeline's proposal will not adversely affect its existing customers or other pipelines and their captive customers.

31. We also find that the proposed project will have minimal adverse impacts on landowners and communities. The approximately three miles of proposed pipeline looping facilities will be located either on or adjacent to existing pipeline right-of-way. Golden Pass Pipeline states that all new compressor stations will be located on land zoned for commercial or industrial development. Further, no local landowners or communities have filed adverse comments.

32. Based on the benefits the proposed project will provide and the minimal adverse effect on existing customers, other pipelines and their captive customers, landowners, and surrounding communities, we find, consistent with the criteria discussed in the Certificate Policy Statement and subject to the environmental discussion below, that the public convenience and necessity requires approval of Golden Pass Pipeline's proposal, as conditioned in this order.

2. Rates

a. Recourse Rates

33. As explained above, Golden Pass Pipeline proposes to provide firm and interruptible transportation service in a southerly direction to the terminal under new Rate Schedules FT-2 and IT-2, respectively. Golden Pass Pipeline proposes to utilize its existing Rate Schedule FT and IT rates as the initial recourse rates for service utilizing the incremental capacity created by the expansion facilities.

34. In its application, Golden Pass Pipeline states that consistent with its currently-effective maximum reservation rate under Rate Schedule FT, the incremental rates were computed based on a levelized cost of service over 25 years by varying its depreciation expense for rate purposes to recover 100 percent of its investment over 25 years, and deferring the difference between its 4.0 percent straight-line book depreciation amount and its variable cost of service depreciation amount as a regulatory asset. In addition, Golden Pass Pipeline has used a cost of debt of 6.0 percent.

35. Golden Pass Pipeline calculated an incremental firm reservation charge of $2.2213 per Dth for transportation over the incremental capacity of the project, which is less than its currently-effective maximum firm transportation charge for service under Rate Schedule FT of $2.9671 per Dth.[29] Under these circumstances, we will approve Golden Pass Pipeline's request to use its existing reservation rate under Rate Schedule FT for service using the expansion capacity. In addition, we approve Golden Pass Pipeline's request to utilize its existing Rate Schedule FT commodity charge of $0.000 for the project. Consistent with Commission policy, we authorize Golden Pass Pipeline to use its system interruptible transportation rate for any interruptible service on the project.[30]

b. Predetermination of Rolled-in Rate Treatment for Project Costs

36. Golden Pass Pipeline seeks a predetermination that it may roll the costs of the project into its system-wide rates in its next general NGA section 4 rate proceeding.[31] In support, Golden Pass Pipeline provides, in Exhibit N, page 1, a comparison of annual revenues, and the annual cost-of-service of the project.

37. To receive authorization for rolled-in rate treatment, a pipeline must demonstrate that rolling in the costs associated with the construction and operation of new facilities will not result in existing customers subsidizing the expansion. In general, this means that a pipeline must show that the revenues to be generated by an expansion project will exceed the costs of the project. For purposes of making a determination in a certificate proceeding as to whether it would be appropriate to roll the costs of a project into the pipeline's system rates in a future section 4 proceeding, we will compare the cost of the project to the revenues generated utilizing actual contract volumes and the maximum

[29] Golden Pass Pipeline LLC, FERC NGA Gas Tariff, G.P. PipelineDB01, 4.1, Rate Schedule FT, 1.0.4.

[30] *See e.g.*, *Trunkline Gas Co., LLC*, 153 FERC ¶ 61,300, at P 62 (2015); *Texas Eastern Transmission LP*, 139 FERC ¶ 61,138, at P 31 (2012); *Gulf South Pipeline Co., LP*, 130 FERC ¶ 61,015, at P 23 (2010); *Transcontinental Gas Pipe Line Corp*., 124 FERC ¶ 61,160, at PP 27-28 (2008).

[31] *See* Golden Pass Pipeline Application at 24.

recourse rate (or the actual negotiated rate if the negotiated rate is lower than the recourse rate).[32]

38. Utilizing actual contract volumes and the maximum Rate Schedule FT recourse rate the estimated first year annual incremental revenues would be $92,605,921, which exceeds Golden Pass Pipeline's estimated annual first year cost of service of $69,340,777 by $23,265,144. Because the revenues exceed the projected costs for the project, the Commission will grant Golden Pass Pipeline a predetermination of rolled-in rate treatment for the costs associated with the project, absent any significant change in circumstances.

39. However, to assure that costs are properly allocated in the case of changed circumstances, the Commission directs Golden Pass Pipeline to keep separate books and accounting of costs attributable to the project. The books should be maintained with applicable cross-references, as required by section 154.309 of the Commission's regulations.[33] This information must be in sufficient detail so that the data can be identified in Statements G, I, and J in any future NGA section 4 or 5 rate case and the information must be provided consistent with Order No. 710.[34]

c. Fuel

40. In addition to charging its existing heater fuel and lost-and-unaccounted-for retainage factor, Golden Pass Pipeline proposes to assess new, incremental electric and natural gas compressor fuel reimbursement components that would apply only to service under Rate Schedules FT-2 and IT-2, and at such times that a shipper requesting a backhaul under Rate Schedules FT-1 or IT-1 may require compression. Golden Pass Pipeline's current system has no compression facilities.

41. As part of its proposal to assess the new fuel components, Golden Pass Pipeline has proposed *pro forma* revisions to section 6.11 of the General Terms and Conditions (GT&C) of its FERC Gas Tariff, as well as a new *pro forma* section 6.44 to the GT&C to periodically adjust and true-up the compressor fuel reimbursement components. Golden Pass Pipeline proposed to track both its electric costs and natural gas compressor

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[32] *See Tennessee Gas Pipeline Company, L.L.C.,* 144 FERC ¶ 61,219, at P 22 (2013).

[33] 18 C.F.R. § 154.309 (2016).

[34] *See Revisions to Forms, Statements, and Reporting Requirements for Natural Gas Pipelines*, Order No. 710, FERC Stats. & Regs ¶ 31,267 (2008).

fuel through one mechanism.[35] However, in its response to the Commission's March 25, 2015 data request, Golden Pass Pipeline proposed to modify section 6.44 to separately assess and track its electric power costs through one true-up mechanism and its natural gas fuel through an in-kind true-up mechanism.

42. Golden Pass Pipeline's proposal to assess the new fuel components for service under Rate Schedules FT-2 and IT-2 is approved. However, the Commission will reject Golden Pass Pipeline's proposal to charge fuel for service under Rate Schedules FT-1 and IT-1 when service is provided at alternate receipt and/or delivery points outside of the shipper's primary path. A section 7 certificate proceeding is not the appropriate forum to consider Golden Pass Pipeline's proposal to modify the rates for existing service. The Commission's rejection of Golden Pass Pipeline's proposal here is without prejudice to Golden Pass Pipeline pursuing similar changes in a future limited section 4 proceeding. Finally, the Commission will approve Golden Pass Pipeline's revisions to section 6.11 of the GT&C and proposed *pro forma* GT&C section 6.44 as amended by its April 2, 2015 response to the Commission's data request, as conditioned herein.

d. *Pro Forma* Tariff Changes

43. In addition to the tariff changes regarding compressor fuel reimbursements discussed above, Golden Pass Pipeline has proposed *pro forma* changes to its tariff to add new Rate Schedules FT-2 and IT-2 to recognize the new bi-directional flow capabilities resulting from the proposed project. In addition, Golden Pass Pipeline has made conforming changes to its GT&C and Form of Service Agreements. These proposed *pro forma* tariff changes are approved.

e. Non-Conforming Service Agreement

44. As part of the open season process, Golden Pass Pipeline and Titan executed a letter of intent containing certain benefits for Titan's commitment to participate as an Anchor Shipper that will be incorporated into the Firm Transportation Agreement. Golden Pass Pipeline states that without the contractual support of Titan, it would not have gone forward with the project. Golden Pass Pipeline requests the Commission approve the Anchor Shipper benefits, and find that they will not disadvantage any other party. The Anchor Shipper benefits provide that (1) there will be no proration of Titan's contract quantity in the open season, and (2) Titan will have two additional ten-year contractual extension rights at the end of its initial 25-year contract term.

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[35] *See* Golden Pass Products' Application, Exhibit P. Revisions to Golden Pass Pipeline's tariff were filed on April 7, 2015, in Docket No. CP14-518.

45. In addition, Golden Pass Pipeline states that the precedent agreement calls for the execution of a Firm Transportation Agreement that will contain certain differences between the Firm Transportation Agreement it will enter into with Titan and the *pro forma* Firm Transportation Agreement set forth in Golden Pass Pipeline's tariff. Golden Pass Pipeline requests that the Commission find that the provisions to be included in the Firm Transportation Agreement are not unduly discriminatory. The difference between the *pro forma* Firm Transportation Agreement and the proposed Firm Transportation Agreement with Titan are as follows:

1. The Firm Transportation Agreement contains "Whereas" clauses that describe the precedent agreement and the specific transaction between Golden Pass Pipeline and Titan;

2. The Firm Transportation Agreement addresses the need for regulatory authorization of the construction and operation of the Golden Pass Pipeline;

3. The Firm Transportation Agreement states that the date of commencement of service under the Firm Transportation Agreement is dependent upon the receipt by Golden Pass Pipeline of authorization for the commencement of service on the project facilities; and

4. The Firm Transportation Agreement states that the Firm Transportation Agreement shall supersede and cancel the Precedent Agreement.

46. The Commission finds that the incorporation of non-conforming provisions in the shipper's service agreement constitutes material deviations from Golden Pass Pipeline's *pro forma* Firm Transportation Agreement. However, in other proceedings, the Commission has found that non-conforming provisions may be necessary to reflect the unique circumstances involved with the construction of new infrastructure and to provide the needed security to ensure the viability of a project.[36] We find the non-conforming provisions identified by Golden Pass Pipeline are permissible because they do not present a risk of undue discrimination, do not affect the operational conditions of providing service, and do not result in any customer receiving a different quality of service.[37]

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[36] *See, e.g., Tennessee Gas Pipeline Co., L.L.C.*, 144 FERC ¶ 61,219 (2013); and *Midcontinent Express Pipeline L.L.C.,* 124 FERC ¶ 61,089 (2008).

[37] *See, e.g. Gulf South Pipeline Co.,* 115 FERC ¶ 61,123 (2006) and *Gulf South Pipeline Co. LP,* 98 FERC ¶ 61,318, at P 4 (2002).

Similarly, providing the Anchor Shipper with contractual extension rights to address its future capacity needs is reasonable and consistent with Commission precedent.[38]

47. As discussed further below, when Golden Pass Pipeline files its non-conforming service agreement, we require it to identify and disclose all non-conforming provisions or agreements affecting the substantive rights of the parties under the tariff or service agreement. This required disclosure includes any such transportation provision or agreement detailed in a precedent agreement that survives the execution of the service agreement.

48. At least 30 days, but not more than 60 days, before providing service to Titan under a non-conforming agreement, Golden Pass Pipeline must file an executed copy of the non-conforming agreement disclosing and reflecting all non-conforming language and a tariff record identifying these agreements as non-conforming agreements consistent with section 154.112 of the Commission's regulations.[39] In addition, the Commission emphasizes that the above determination relates only to those items described by Golden Pass Pipeline in its application and not to the entirety of the precedent agreement or the language contained in the precedent agreement.

3. Temporary Waiver Request Regarding Capacity Reservation

49. Golden Pass Pipeline requests a temporary waiver of the Commission's open season and capacity reservation policies to enable it to enter into a pre-arranged service agreement with Golden Pass Products for service during the commissioning of the export facilities. Golden Pass Pipeline explains that this arrangement is needed to allow Golden Pass Products to deliver gas supply for testing and commissioning of the liquefaction facilities at the terminal.

50. Specifically, Golden Pass Pipeline requests that the Commission authorize Golden Pass Products to reserve all firm capacity on the expansion pipeline for the receipt of commissioning gas, until the first liquefaction train comes into service. Once the first train is commissioned and commences service, Golden Pass Products proposes to make one-third of the firm capacity on its system available for use by shippers, in accordance with the terms of its FERC Gas Tariff. Once the second train is commissioned, an additional one-third of the capacity on the expansion pipeline would become available for use. When the third train goes into service, Golden Pass Products

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[38] *See Tennessee Gas Pipeline Co.*, 136 FERC ¶ 61,173, at PP 40, 43 (2011).

[39] 18 C.F.R. § 154.112 (2016).

would no longer receive reserved access to capacity on the expansion capacity, and all capacity on Golden Pass Pipeline's system will be available to shippers. Golden Pass Pipeline estimates the commissioning process for the three liquefaction trains will last approximately 18 consecutive months.

51. Our policy is to permit a pipeline to reserve capacity as long as there are sufficient safeguards to ensure that the pipeline is not reserving capacity to exercise market power.[40] For example, the Commission permits a pipeline to reserve capacity for future expansions for which an open season has been or will be held during a 12-month period prior to filing the certificate application for the expansion project.[41] Such a limitation assures that the reservation of capacity occurs only as part of a realistic expansion plan.

52. We find that Golden Pass Pipeline's request to reserve capacity in order to enable Golden Pass Products to secure transportation capacity during the initial testing, pre-commissioning, and start-up of its three natural gas liquefaction trains is consistent with our policy and is approved.

V. Environmental Analysis

A. Pre-filing Review

53. On May 30, 2013, Commission staff granted Golden Pass Products' and Golden Pass Pipeline's (collectively, Golden Pass) request to use the pre-filing process in Docket No. PF13-14-000. On September 19, 2013, the Commission issued a Notice of Intent to Prepare an Environmental Assessment for the Planned Golden Pass LNG Export Project and Golden Pass Export Pipeline Project, Request for Comments on Environmental Issues, and Notice of Public Scoping Meetings (NOI). This notice was published in the Federal Register on October 16, 2013, and sent to more than 560 interested entities on the staff's environmental mailing list, including federal, state, and local agencies; elected officials; environmental and public interest groups; Native American tribes; potentially affected landowners as defined in the Commission's regulations; local newspapers; and other stakeholders who had indicated an interest in the Export Terminal and Pipeline Expansion Projects.

54. Commission staff held scoping meetings on October 2, 2013, in Starks, Louisiana and on October 3, 2013, in Sabine Pass, Texas. Four speakers provided comments on the

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[40] *See Gas Transmission Northwest Corp.*, 109 FERC ¶ 61,141, at P 9 (2004).

[41] *See Northern Natural Gas Company*, 105 FERC ¶ 61,057, at P 18 (2003). *See also, Florida Gas Transmission Company LLC*, 136 FERC ¶ 61,008, at P 25 (2011).

projects at the scoping meetings. In addition, 35 letters were filed by federal, state, and local agencies; elected officials; environmental and public interest groups; potentially affected landowners; and other interested stakeholders providing written scoping comments regarding the projects. Transcripts of the scoping meetings were entered into the public record in Docket No. PF13-14-000 on October 18, 2013.

B. Application Review

55. After the applications for the Export Terminal and Pipeline Expansion Projects were filed, Commission staff evaluated the potential environmental impacts of the proposed projects in a draft and final EIS in accordance with National Environmental Policy Act of 1969 (NEPA). The U.S. Environmental Protection Agency (EPA), the U.S. Army Corps of Engineers (Army Corps), the U.S. Department of Energy (DOE), the U.S. Department of Transportation (DOT), and the U.S. Coast Guard participated as cooperating agencies in the preparation of the EIS.

56. Commission staff issued the draft EIS for the projects on March 25, 2016, which addressed the issues raised during the scoping period. The draft EIS was mailed to the environmental mailing list, and a 45-day public comment period followed notice of the draft EIS. Public meetings were held on April 19, 2016, in Starks, Louisiana, and April 20, 2016, in Sabine Pass, Texas, to receive comments on the draft EIS. In total, 20 speakers provided comments at the meetings, and stakeholders submitted 22 letters in response to the draft EIS. The transcript of the public comment meetings and all written comments on the draft EIS are part of the public record for the projects in Docket Nos. CP14-517-000 and CP14-518-000.

57. On July 29, 2016, Commission staff issued the final EIS for the projects, and a public notice of the availability of the final EIS was published in the Federal Register on August 4, 2016. The final EIS addresses timely comments received on the draft EIS. The final EIS was mailed to the same parties as the draft EIS, as well as to additional parties that commented on the draft EIS. The final EIS addresses geology; soils; water resources; wetlands; vegetation; wildlife and fisheries; special status species; land use, recreation, and visual resources; socioeconomics; cultural resources; air quality and noise; reliability and safety; cumulative impacts; and alternatives.

58. The final EIS concludes that if the projects are constructed and operated in accordance with applicable laws and regulations, they will result in some adverse environmental impacts. However, these impacts, as described in the final EIS, will be reduced to less-than-significant levels with the implementation of Golden Pass' proposed mitigation and the Commission staff's recommendations (now adopted as the 83 Environmental Conditions in the Appendix to this order). Based on Commission staff's analysis, public scoping, and agency consultation, the major issues associated with the project that were addressed in the draft and final EIS include impacts on waterbodies

and wetlands, air and noise, safety, cumulative impacts, and indirect impacts. We summarize the final EIS's findings regarding these major issues below.

C. Major Issues Addressed in the EIS

1. Water Resources

59. Several commenters noted the potential for the projects to impact waterbodies and wetlands. For surface waters, these impacts will mostly be the result of dredging activities needed for the supply dock, access, and float channels for the Export Terminal Project. During dredging of the supply dock, access channel, and the associated temporary float channels, Golden Pass Products states that it will use a hydraulic cutterhead dredge, or conduct a dry excavation with a limited hydraulic cutterhead dredge below the existing waterline. Because Golden Pass Products proposes to use a dredge spoil for wetland mitigation, it performed a chemical analysis of sediment and water samples that indicated that the concentrations were below agency action levels; however, Golden Pass Products will continue to determine the need, location, and frequency of future testing. We are revising recommended Environmental Condition 16 to clarify that Golden Pass Products shall consult with the Army Corps and the EPA, as well as appropriate state agencies, on future sediment testing needs as part of the Army Corps' permitting process.

60. Construction of the Pipeline Expansion Project will require the use of municipal or purchased raw water for hydrostatic testing of the pipeline segments. Golden Pass Pipeline will follow the requirements of its Louisiana Department of Environmental Quality (Louisiana DEQ) and the Railroad Commission of Texas (RRC) discharge permits for hydrostatic test water withdrawal and discharge. Golden Pass Pipeline must obtain these permits prior to construction.

61. The final EIS concludes that through implementation of the measures contained in the Commission's *Upland Erosion Control, Revegetation, and Maintenance Plan* (Plan) and *Wetland and Waterbody Construction and Mitigation Procedures* (Procedures), and the requirements listed in the Appendix, no significant impacts on water resources will occur during construction and operation of the projects.[42] We agree with this conclusion.

2. Wetlands

62. Construction of the Export Terminal Project will affect a total of 387.7 acres of wetlands, of which 376.0 acres will be permanently filled. The remaining 11.7 acres will

[42] *See* Final EIS at 5-2.

be allowed to revert to pre-construction conditions. Golden Pass Products states that it will implement the mitigation measures in the Procedures to minimize impacts on wetlands. Golden Pass Products will offset impacts on Army Corps jurisdictional wetlands through the mitigation measures included in its final Compensatory Mitigation Plans. The mitigation measures include restoration of offsite coastal wetland habitat and acquisition of credits at an Army Corps-approved wetland mitigation bank. Because the compensatory mitigation plans have not been finalized, Environmental Condition 17 requires that, prior to construction, Golden Pass Products file final Compensatory Mitigation Plans developed in consultation with federal and state agencies.

63. Construction and operation of the Pipeline Expansion Project will affect about 13.1 acres of wetlands, of which 9.7 acres will be permanently filled. Although less than 0.1 acre of forested wetland along the pipeline construction right-of-way will be cleared for construction of the Pipeline Expansion Project, the anticipated slower growth rate of trees will result in long-term impacts. Golden Pass Pipeline states that it will implement the mitigation measures in the Procedures to control erosion and restore the grade and hydrology after construction in wetlands, and will address permanent impacts and compensation in its final Compensatory Mitigation Plan. We agree with the conclusion in the final EIS that with implementation of the proposed mitigation measures and the Commission's recommendations, the impacts to wetlands from construction and operation of the projects would be reduced to acceptable levels.[43]

3. Air and Noise

64. Most air emissions from the projects will be produced by operation of the expanded LNG terminal and the compressor stations, however construction of the projects will also create temporary, localized emissions from construction equipment and fugitive dust. Golden Pass has not provided specific mitigation measures to control dust during construction, therefore Environmental Condition 18 requires that Golden Pass file an acceptable Fugitive Dust Control Plan prior to construction. The projects are generally located in attainment areas; however, the delivery of equipment and facilities by marine vessels will pass through the Houston-Galveston-Brazoria area, classified as a marginal nonattainment area for the 2008 8-hour ozone standard. Commission staff conducted a General Conformity applicability determination for the estimated emissions from the marine operations through the Houston-Galveston-Brazoria area. The marine operations emissions will not exceed the General Conformity determination thresholds for nitrogen oxides or volatile organic compounds (both precursors for ozone), therefore

[43] *Id.* at 4-54.

General Conformity will not apply to the Project.[44] The EIS concludes, and we agree, that construction equipment emissions will not cause or contribute significantly to a violation of any applicable air quality standard.[45]

65. Operation of the projects will result in long-term impacts on air quality. Golden Pass states that it will minimize impacts on air quality caused by operation of the Export Terminal Project and MP 1 compressor station[46] by installing Best Available Control Technology, and adhering to applicable federal and state regulations, including the air permits issued by the Texas Commission on Environmental Quality (Texas CEQ).[47] Because total emissions from the Export Terminal Project and MP 1 compressor station would exceed the thresholds of Title V of the Clean Air Act, Golden Pass is required to obtain a Title V permit from the Texas CEQ for the operation of the Export Terminal Project and MP 1 compressor station.[48] Golden Pass stated in its May 16, 2016 comments on the draft EIS that it anticipates filing for its Title V permit for the Export Terminal Project and MP 1 compressor station in 2019.

66. The MP 33 compressor station would not exceed Title V thresholds for any pollutant, therefore it does not require a Title V permit. The MP 66 compressor station would exceed Title V thresholds for nitrogen oxides and carbon monoxide, therefore Golden Pass Pipeline is required to obtain a Title V operating permit from the Louisiana DEQ.[49] Golden Pass stated in its May 16, 2016 comments on the draft EIS that it anticipates filing for its Title V permit for the MP 66 compressor station in June, 2018.

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[44] *See id.* at Table 4.11.1-6.

[45] *See id.* at 5-7.

[46] Due to their proximity to one another, the import terminal, Export Terminal Project and MP 1 compressor station are considered a single source for purposes of air pollution analysis.

[47] The Texas Commission on Environmental Quality (Texas CEQ) issued Air Quality Permit 116055 and the Prevention of Significant Deterioration Air Quality Permit PSDTX1386 for the Export Terminal Project and MP 1 compressor station on January 16, 2015. On September 11, 2015, the Texas CEQ issued Permit GHGSDTX100, the final air permit for the Export Terminal Project.

[48] *See* Final EIS at 4-129.

[49] *Id*. at 4-133.

67. Golden Pass Pipeline is required to obtained minor New Source Review (NSR) permits for both the MP 33 and 66 compressor stations from the Texas CEQ and Louisiana DEQ, respectively. Golden Pass Pipeline anticipates filing their minor NSR permit applications for the MP 33 and MP 66 compressor stations no later than the first quarter of 2018 to ensure that the required permit will be obtained no more than 18 months prior to the start of construction, as required by Texas and Louisiana air permitting regulations. We support the conclusions of the final EIS that, with adherence to the applicable permit requirements, impacts on air quality during operation of the projects would not be significant.[50]

68. Noise levels during construction will be intermittent, and any increase to noise levels during construction will be temporary, and depend on the type and number of equipment in use. Commission staff's analysis indicated that noise level increase due to construction activities for the projects will not exceed the Commission's day-night sound level (L_{dn}) limit of 55 A-weighted decibels (dBA). Thus, we support the final EIS' conclusions that construction of the projects will not result in any significant adverse noise impacts at any nearby noise-sensitive area (NSA).[51]

69. Operation of the Export Terminal Project will generate sound levels throughout its operating life, however the increase in noise levels will be just above the "barely detectable" noise level increase of 3 dBA, and will result in minor impacts on the nearest NSA.[52] In addition, the proposed noise level will be slightly above the Commission's criterion of L_{dn} of 55 dBA. Golden Pass Products has agreed to implement several noise mitigation measures at the Export Terminal Project. Environmental Condition 19 requires that Golden Pass Products file a full-load noise survey no later than 60 days after each liquefaction train is placed in service for the first and second liquefaction trains. If noise levels attributable to operation of the Export Terminal Project exceed the FERC L_{dn} of 55 dBA, Golden Pass Products will reduce the terminal's noise contribution to result in a noise level that is no higher than the FERC guideline. Additionally, Environmental Condition 20 requires that Golden Pass Products file a full-load noise survey no later than 60 days after placing all the Export Terminal Project facilities in service. Therefore, we

[50] *Id.* at 5-7.

[51] *Id.* at 4-160 – 4-163.

[52] *See* Final EIS at 5-8.

support the final EIS' conclusion that operational noise from the Export Terminal Project will not result in significant noise impacts to the nearest NSAs.[53]

70. Sound levels will increase during operation of the compressor stations. Golden Pass Pipeline will implement mitigation measures to reduce noise impacts, including installing the compressor units in an acoustically designed building. Based on the noise analysis conducted in the final EIS, the predicted noise levels attributable to compressor station operation will be less than the Commission's criterion of L_{dn} of 55 dBA at all nearby NSAs.[54] To ensure that noise levels will be below 55 dBA, Environmental Condition 21 requires Golden Pass Pipeline to file noise surveys during full-load operations and, if the noise levels exceed the Commission guideline, that Golden Pass Pipeline install additional noise controls to meet the guideline within 1 year of the in-service date. Based on the analyses conducted, mitigation measures proposed, and Environmental Conditions 18, 20, and 21, the final EIS determines that operation of the projects will not result in significant noise impacts on residents and the surrounding communities.[55] We agree with this conclusion.

4. Reliability and Safety

71. As part of the NEPA review, the final EIS evaluates whether the proposed facilities will be able to operate safely and securely. Based on the Commission staff's technical review of the preliminary engineering designs, and with the recommended mitigation measures, the final EIS concludes that the design of the Export Terminal Project includes acceptable layers of protection or safeguards that will reduce the risk of a potentially hazardous scenario from developing into an event that could impact the off-site public.[56] In addition, one of the safety conclusions in the EIS was predicated on the evacuation of the surrounding community in the case of a hurricane storm surge exceeding the design basis of the LNG terminal. While hurricanes are included as part of Golden Pass' existing emergency response plans, they do not explicitly address potential evacuation of the surrounding communities in the event of a hurricane or other event exceeding the design basis of the facilities. Therefore, we have modified Condition 28

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[53] *Id.*

[54] *Id.*

[55] *Id.*

[56] *Id.* at 4-226.

for the emergency response plans to explicitly address a coordinated evacuation in the event of a hurricane or other event that exceeds the design basis of the facilities.

72. As a cooperating agency, DOT assisted Commission staff in evaluating whether Golden Pass Products' proposed design will meet the DOT siting requirements. On June 16, 2015, DOT filed a letter stating that DOT had no objection to Golden Pass Product's methodology for determining the single accidental leakage sources for candidate design spills to be used in establishing DOT siting requirements for the Export Terminal Project.[57] Based on the hazardous area calculations reviewed, the final EIS concludes that potential hazards from the siting of the facility at this location will not have a significant impact on public safety.[58] We agree with this conclusion. The areas impacted by these design spills also appear to meet the DOT's exclusion zone requirements by either being within the facility property boundary or over a navigable body of water. Once construction is complete and the Export Terminal Project becomes operational, it will be subject to DOT's inspection and enforcement program. Final determination of whether a facility is in compliance with DOT requirements will be made by DOT staff.

73. In a letter dated May 13, 2013, the U.S. Coast Guard stated that the existing Water Suitability Assessment and Letter of Recommendation for the Sabine Neches Waterway and existing import terminal are adequate for the service associated with the Export Terminal Project. The Captain of the Port stated that, as the Export Terminal Project will not result in an increase in the size and/or frequency of marine traffic in the Sabine Naches Waterway, neither a revised Water Suitability Assessment nor a Letter of Intent are needed. However, applicable amendments will be needed for the current Operations Manual, Emergency Manual, and Facility Security Plan to capture changes to operations associated with the Export Terminal Project.

74. Golden Pass Pipeline will also design, construct, operate, and maintain its pipeline and aboveground compressor station facilities to meet or exceed the DOT minimum federal safety standards,[59] and other applicable federal and state regulations. By designing and operating the proposed pipeline facilities in accordance with the applicable

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[57] 49 C.F.R. pt. 193 (2016).

[58] *See* Final EIS at 4-226.

[59] 49 C.F.R. pt. 192 (2016).

standards, we concur with the determination in the final EIS that the Pipeline Expansion Project will represent only a slight increase in risk to the nearby public.[60]

5. Cumulative Impacts

75. The Council on Environmental Quality (CEQ) regulations define cumulative impacts as "the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions."[61] A cumulative impacts analysis may require an analysis of actions unrelated to the proposed project if they occur in the project area or region of influence of the project being analyzed.[62] CEQ states that "it is not practical to analyze the cumulative effects of an action on the universe; the list of environmental effects must focus on those that are truly meaningful."[63] An agency is only required to include "such information as appears to be reasonably necessary under the circumstances for evaluation of the project rather than to be so all-encompassing in scope that the task of preparing it would become either fruitless or well-nigh impossible."[64] A project's region of influence varies depending on the resource being discussed.

76. The final EIS considered the impacts of the proposed projects combined with the impacts of other cumulative projects on resources within all or part of the same area and timeframe. The final EIS considered existing projects, projects under construction, projects that are proposed or planned, and reasonably foreseeable projects, including existing LNG terminals and future LNG liquefaction projects, currently operating and future oil and gas projects, land transportation projects, commercial developments, dredging projects, and agricultural and silvicultural activities.[65] The final EIS concludes

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[60] *See* Final EIS at 4-233.

[61] 40 C.F.R. § 1508.7 (2016).

[62] CEQ Guidance, *Considering Cumulative Effects under the National Environmental Policy Act* (January 1997).

[63] *Id.* at 8.

[64] *New York Natural Res. Def. Council, Inc. v. Kleppe*, 429 U.S. 1307, 1311 (1976) (citing *Natural Res. Def. Council v. Calloway*, 524 F. 2d 79, 88 (2d. Cir. 1975)).

[65] For a complete list of past, present, and reasonably foreseeable future actions considered in the cumulative impacts assessment, see Final EIS at Table 4.13.1-1.

that the projects' contribution to cumulative impacts on affected resources will not result in significant impacts.[66] We agree with this conclusion.

6. Indirect Impacts/Greenhouse Gas (GHG) Emissions

77. The Council on Environmental Quality's (CEQ) NEPA regulations define indirect impacts as those that are "caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable."[67] An effect is "reasonably foreseeable" if it is "sufficiently likely to occur that a person of ordinary prudence would take it into account in reaching a decision."[68]

78. Sierra Club asserts that the draft EIS fails to provide an analysis of the indirect effects of the Export Terminal Project including upstream natural gas production, domestic gas-to-coal switching, in response to increased natural gas prices related to natural gas exports, as well the downstream effects of the exported LNG's transportation, re-gasification and ultimate combustion in end-use markets.

79. Similarly, in its comments on both the draft and final EIS [69] the EPA recommends that the Commission discuss the potential indirect effects of the projects in regards to future natural gas production and development activities "at a conceptual level" by incorporating the results of a Department of Energy study regarding LNG exports in our decision in these proceedings.[70]

80. EPA also recommends that the EIS include a discussion of GHG emissions associated with the production, transportation, and combustion of natural gas to be exported from the Export Terminal Project. EPA cites to the DOE Addendum, as well as

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[66] *See* Final EIS at 4-238 – 4-256.

[67] 40 C.F.R. § 1508.8(b) (2016).

[68] *Sierra Club v. Marsh*, 976 F.2d 763, 767 (1st Cir. 1992). *See also City of Shoreacres v. Waterworth*, 420 F.3d 440, 453 (5th Cir. 2005) (*Shoreacres*).

[69] EPA's comments on the final EIS also addressed environmental justice, consultation and coordination, and wetlands. Responses to these comments are provided below.

[70] September 16, 2016 EPA Comments at 2 (citing DOE's 2014 *Addendum to Environmental Review Documents Concerning Exports of Natural Gas from the United States* (DOE Addendum), http://energy.gov/sites/prod/files/2014/08/f18/Addendum.pdf.

DOE's 2014 "*Life Cycle Greenhouse Gas Perspective on Exporting Liquefied Natural Gas from the United States*" (Life Cycle Report) which, EPA asserts, provide a helpful overview of GHG emissions from all stages of a project, from production through transmission and combustion.[71] EPA also cites to CEQ's August 1, 2016 Final Guidance on the Consideration of Greenhouse Gas Emissions and the Effects of Climate Change, which states that "if the direct and indirect GHG emissions can be quantified based on available information, including reasonable projections and assumptions, agencies should consider and disclose the reasonably foreseeable direct and indirect emissions when analyzing the direct and indirect effects of the proposed action."[72]

81. As we have found in previous proceedings, the environmental effects resulting from the export of LNG as a commodity, i.e. effects related to future upstream production, gas-to-coal-switching, and foreign end use of natural gas, are neither caused by the Commission's approval of Golden Pass's LNG export facilities, nor reasonably foreseeable consequences of the Commission's approval of these facilities.[73]

82. The United States Court of Appeals for the District of Columbia Circuit recently examined the Commission's NEPA responsibility to study indirect effects relating to the export of natural gas when exercising its NGA section 3 responsibilities.[74] In *Freeport*, the D.C. Circuit explained that NEPA requires a reasonably close causal relationship between a project and its potential effects and thus the Commission need not "examine everything for which the projects could conceivably be a but-for cause."[75] The court

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[71] DOE's National Energy Technology Laboratory, http://energy.gov/fe/life-cycle-greenhouse-gas-perspective-exporting-liquefied-natural-gas-united-states.

[72] September 16, 2016 EPA Comments at 2.

[73] *See, e.g.*, *Magnolia LNG, LLC*, 155 FERC ¶ 61,033, at PP 90-95, 114; *Trunkline Gas Co., LLC*, 155 FERC ¶ 61,328, at PP 6-20 (2016).

[74] *See Freeport LNG Development, L.P.*, 148 FERC ¶ 61,076, *reh'g denied*, 149 FERC ¶ 61,119 (2014), *aff'd sub nom. Sierra Club v. FERC*, 827 F.3d 36 (D.C. Cir. 2016) (*Freeport*); *Sabine Pass Liquefaction, LLC*, 146 FERC ¶ 61,117, *reh'g denied*, 148 FERC ¶ 61,200 (2014), *aff'd sub nom. Sierra Club v. FERC*, 827 F.3d 59 (D.C. Cir. 2016) (*Sabine Pass*); and *Dominion Cove Point LNG, LP*, 148 FERC ¶ 61,244 (2014), *reh'g denied,* 151 FERC ¶ 61,095 (2015), *aff'd sub nom. EarthReports, Inc. v. FERC*, 828 F.3d 949, (D.C. Cir. 2016) (*EarthReports*).

[75] *Freeport*, 827 F.3d at 46.

further found that the "Commission's NEPA analysis did not have to address the indirect effects of the anticipated export of natural gas" "because the Department of Energy, not the Commission, has sole authority to license the export of any natural gas going through the Freeport facilities."[76] The court explained that "[i]n the specific circumstances where, as here, an agency 'has no ability to prevent a certain effect due to' that agency's 'limited statutory authority over the relevant action[],' then that action 'cannot be considered a legally relevant "cause" of the effect' for NEPA purposes."[77] The D.C. Circuit reached a similar result in both *Sabine Pass*[78] and *EarthReports.*[79]

83. Moreover, as explained in the final EIS,[80] these effects, even if causally related, are not reasonably foreseeable. The Commission can only speculate as to where and when the additional production would occur and the extent and nature of the actual infrastructure (wells, pads, gathering lines, etc.) which would be necessary to support such production. Similarly, even if we accepted the proposition that the economic impact of exports will lead to a switch to coal by some end users, we could only speculate on

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[76] *Id.*, at 46.

[77] *Id. See also id.* at 48 ("The Department's independent decision to allow exports—a decision over which the Commission has no regulatory authority—breaks the NEPA causal chain and absolves the Commission of responsibility to include in its NEPA analysis considerations that it 'could not act on' and for which it cannot be 'the legally relevant cause.'") (quoting DOT v. *Public Citizen*, 541 U.S. 752, 769 (2004) (*Public Citizen*)); *id.*, at 49 ("The Supreme Court's decision in *Public Citizen* is explicit that the Commission was not obligated to consider those effects of the Freeport Projects that could only occur after intervening action by the Department of Energy or Congress and that only those actors—and not the Commission—had the authority to prevent.").

[78] *Sabine Pass*, 827 F.3d at 68 ("The challenged Commission orders therefore are not the legally relevant cause of the indirect effects [induced production and gas-to-coal switching] Sierra Club raises.").

[79] *EarthReports* extended the analysis in *Freeport* and *Sabine Pass* to address similar arguments with respect to the end use of the exported natural gas. *EarthReports*, 828F.3d at 956 ("And while [*Freeport* and *Sabine Pass*] did not address whether NEPA reaches the effects of emissions arising from the transport and consumption of exported natural gas, this indirect effect similarly 'cannot occur unless a greater volume of [LNG] is shipped from [Cove Point] and enters the international marketplace.'") (quoting *id.*).

[80] *See* Final EIS at 1-10.

where additional coal supplies would be produced and where they would be used.[81] Finally, as explained in the final EIS, the downstream impacts of LNG imports are not reasonably foreseeable given unknown factors including specifically where the natural gas to be exported from the projects' facilities will be ultimately used, or what fuels it will displace.[82] Without such information, it is impossible for the Commission to study the particular indirect impacts raised by Sierra Club and EPA, including conducting a meaningfully life-cycle analysis of the potential GHG emissions impacts from natural gas production and development, to LNG vessel transits to possible markets, or the emissions resulting from the end use of combustion of natural gas.[83].

84. In any event, with respect to the two DOE studies EPA cites, we note that both provide certain general estimates about the environmental impacts associated with natural gas production and end use. However, these impacts are not specific to the proposal before us. And, as DOE explained, in the absence of information regarding where and when additional gas production will arise, the environmental impacts of such production "are not 'reasonably foreseeable' within the meaning of the CEQ's NEPA regulations" and "cannot [be] meaningfully analyze[d]."[84]

85. Finally, we note the Addendum's conclusion that natural gas development leads to both short- and long-term increases in local and regional air emissions.[85] The Addendum also found that such emissions may contribute to climate change. But to the extent that natural gas production replaces the use of other carbon-based energy sources, DOE found there may be a net positive impact in terms of climate change.[86]

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[81] *See, e.g., Magnolia, LNG, LLC,* 155 FERC ¶ 61,033, at P 95 (2016).

[82] Final EIS at 1-10 to 1-11.

[83] We note that section 4.11.1 of the final EIS discusses air quality, including GHG emissions associated with the construction and operation of the projects.

[84] DOE Addendum at 2.

[85] *Id.* at 32.

[86] *Id.* at 44.

D. Comments and New Information Received After Issuance of the Final EIS

1. Golden Pass

86. On August 23, 2016, Golden Pass submitted a copy of its State Water Quality Certification under section 401 of the Clean Water Act, and Coastal Management Program Consistency Determination, issued by the Railroad Commission of Texas (RRC) on August 22, 2016. In the final EIS, Recommendation 19 stated that Golden Pass must file documentation of concurrence from the Texas RRC that the project is consistent with the Texas Coastal Zone Management Plan. We find that Golden Pass has met the requirements of Recommendation 19, and omit it from this Order.

2. Environmental Protection Agency

87. In its September 16, 2016 comments on the final EIS, EPA makes recommendations on several aspects of the final EIS, including its analysis of environmental justice, cumulative impacts, wetland impacts, and, as discussed above, greenhouse gas emissions.

88. The EPA recommends that the Commission address comments and concerns regarding environmental justice that were received during the 45-day comment period, and the Commission develop a community engagement and outreach plan. During the draft EIS comment period, the EPA was the only commenter to provide concerns regarding environmental justice. As such, the final EIS was supplemented to address EPA's comments, including an evaluation using the available census tract data and the EJSCREEN tool. The evaluation in the final EIS concludes that there is no evidence that the projects would cause a disproportionate share of adverse environmental or socioeconomic impacts on any racial, ethnic or socioeconomic group.[87] Therefore, we conclude that the final EIS adequately addresses the EPA's concerns raised during the comment period and the potential impacts on minority and low income populations.

89. Additionally, Commission staff solicited comments from local communities during the scoping and draft EIS comment periods, and any concerns raised by the public were addressed in the final EIS. The Commission's environmental and certification processes allow ample opportunity for the public and affected communities to participate in the Commission's proceedings; therefore, we conclude that no additional public outreach is necessary for this project.

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[87] *See* Final EIS at 4-113.

90. The EPA requests that table 1.5-1 of the final EIS be updated with the most recent status of coordination with federal, state, and local agencies. Table 1.5-1 generally lists the major federal permits and consultations required for construction and operation of the projects and is not meant to be inclusive of all consultations that may occur. Table 1.5-1 contains the most recent information available at the time of publication of the final EIS.

91. The EPA raises concerns about the impacts to wetlands, including the lack of alternative site evaluations for the Export Terminal Project for equipment laydown areas and pipeline connections that are proposed in aquatic and/or wetland habitats. Since the uses associated with the laydown area will require it to be located adjacent to Export Terminal Project components, and the surrounding areas are also wetland, the final EIS concludes that no viable alternative was available for the laydown areas or pipeline connections, and we support this determination.[88] Wetland impacts will be further mitigated through the Compensatory Wetland Mitigation Plan.

92. The EPA requests that the FERC provide quantitative impacts associated with system alternatives, which demonstrate that the alternatives considered would result in similar or larger impacts as the proposed projects. The EPA also questions why meeting the scheduled construction timeline is an appropriate criteria for removing an alternative from consideration. Section 3.2.1 discusses the system alternatives to the proposed liquefaction terminal that were eliminated from consideration, including existing LNG import terminals that could be modified for export, authorized, proposed, and planned stand-alone LNG export terminals, and announced LNG export projects.[89] The final EIS finds that expanding these facilities to meet the objectives of the Export Terminal Project will only transfer impacts, particularly wetland and aquatic habitat impacts, from one project area to another, and will not result in an environmental advantage.[90] Additionally, the final EIS notes that none of these natural gas transmission systems are proposing an expansion of their facilities that could meet the objectives of the Project. It also concludes that any completion of the permitting authorization process to review those proposals will substantially delay the timeline when compared to Golden Pass' proposed in-service date. Regarding the EPA's comments on our consideration of Golden Pass' scheduled construction timeline, we find that the final EIS featured a sufficient discussion of system alternatives and does not need to be quantified further.

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[88] *See* Final EIS at 5-9 – 5-10.

[89] *Id.* at 3-2 – 3-17.

[90] *Id.* at 3-17.

93. The EPA is concerned that the wetland mitigation plan is not yet finalized. As discussed in the final EIS, Golden Pass will restore wetlands in accordance with the Commission's Procedures and in coordination with the appropriate federal and state agencies. Additionally, Golden Pass is continuing to develop its final wetland mitigation plan in consultation with the Army Corps, the Texas CEQ, the Texas Department of Parks and Wildlife, and the Louisiana Department of Natural Resources. Environmental Condition 17 requires that Golden Pass file its final plan prior to construction.

94. In addition, the EPA expressed concerns regarding the impacts of contaminants contained in dredged material and their disposal. EPA further recommends the Commission discuss the history of dredged material testing. As discussed in section 4.3.2.1 of the final EIS, sampling within the ship slip was conducted in May 2015. While sampling within the ship slip also occurred at this location in 2004 and 2010, the May 2015 dredging results are the most recent and most indicative of the current composition of sediments within the ship slip. Decisions regarding dredged material disposal are within the permitting authority of the Army Corps and the RRC.

95. On August 23, 2016, Golden Pass filed a copy of the RRC consistency determination and 401 Water Quality Certification. As part of its certification, the RRC included several conditions, including those requiring sampling and analysis of dredged sediments. Similarly, as part of this order, Environmental Condition 16 requires that prior to construction, Golden Pass consult with the EPA and the Army Corps and appropriate state agencies regarding the need for sediment testing in the Sabine Neches Waterway and file the results of those consultations, including any sampling plans. Therefore, we conclude that with the environmental conditions required by the Commission and other federal and state agencies impacts from dredging and dredged material will be sufficiently managed.

3. Louisiana Department of Wildlife and Fisheries

96. On September 21, 2016, the Louisiana Department of Wildlife and Fisheries (Louisiana DWF) filed comments on the final EIS, which are largely similar to its comments on the draft EIS. The Louisiana DWF requests that the temporary pipeline right-of-way be limited to 75 feet within wetlands during construction, and the permanent right-of-way be limited to 30 feet. As discussed in section 4.4 of the final EIS, Golden Pass will maintain a 75-foot-wide right-of-way through wetlands during construction, except where an alternative measure is requested.[91] The final EIS found

[91] *See* Final EIS at Table 4.3-4.

that the Golden Pass' requested variances requested are acceptable.[92] We support this finding

97. The Louisiana DWF also requests that Golden Pass use appropriate measures to prohibit sediments and other debris from entering adjacent wetlands and waters, and that cleared forest vegetation be hauled to non-wetland sites. As discussed in sections 4.3 and 4.4 of the final EIS, Golden Pass will follow the measures outlined in our Plan and Procedures, including use of slope breakers, trench plugs, and sediment barriers to minimize sedimentation We determine that these measures are appropriate to protect wetlands and waters.

98. The LDWF request that Golden Pass develop a mitigation plan to offset impacts to wildlife and fish resources in Louisiana. Environmental Condition 17 requires that the Louisiana DWF requests that Golden Pass provide documentation of its consultation with the appropriate agencies for the compensatory wetland mitigation plan. Environmental Condition 17 now requires Golden Pass to include documentation of its consultation with the Army Corps' Galveston District and New Orleans District, as well as the applicable state agencies, when it files its final compensatory wetland mitigation plans.

4. U.S. Fish and Wildlife Service – Louisiana

99. In an email dated September 30, 2016, Mr. Joshua Marceaux from the U.S. Fish and Wildlife Service (FWS), Louisiana Ecological Services Office, states that his office has no concerns regarding federally listed endangered and threatened species for the Louisiana portion of the project. Therefore, with consultation complete in Louisiana, we have omitted the final EIS's recommended Environmental Condition 18 from this order.

E. Environmental Conclusions

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

101. Any state or local permits issued with respect to the jurisdictional facilities authorized herein must be consistent with the conditions of this certificate. The

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[92] *Id.* at Appendix L.

Commission encourages cooperation between interstate pipelines and local authorities. However, this does not mean that state and local agencies, through application of state or local laws, may prohibit or unreasonably delay the construction or operation of facilities approved by this Commission.[93]

VI. Conclusion

102. The Commission on its own motion received and made part of the record in this proceeding all evidence, including the application(s), as supplemented, and exhibits thereto, submitted in support of the authorizations sought herein, and upon consideration of the record,

The Commission orders:

(A) In Docket No. CP14-517-000, Golden Pass Products is authorized under section 3 of the NGA to site, construct, and operate the proposed project located in Jefferson County, Texas, as described and conditioned herein, and as fully described in Golden Pass Products' application and supplements, subject to the environmental conditions contained in the Appendix A of this order.

(B) Golden Pass Products' proposed project shall be made available for service within five years of the date of this order.

(C) In Docket No. CP14-518-000, a certificate of public convenience and necessity under section 7(c) of the NGA is issued to Golden Pass Pipeline authorizing it to construct and operate the proposed project, as described and conditioned herein, and as more fully described in Golden Pass Pipeline's application and supplements.

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[93] *See* 15 U.S.C. § 717r(d) (state or federal agency's failure to act on a permit considered to be inconsistent with Federal law); *see also Schneidewind v. ANR Pipeline Co.*, 485 U.S. 293 (1988) (state regulation that interferes with the Commission's regulatory authority over the transportation of natural gas is preempted) and *Dominion Transmission, Inc. v. Summers,* 723 F.3d 238, 243 (D.C. Cir. 2013) (noting that state and local regulation is preempted by the NGA to the extent it conflicts with federal regulation, or would delay the construction and operation of facilities approved by the Commission).

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

1) Golden Pass Pipeline's proposed project being made available for service within five years of the date of this order.

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

3) Golden Pass Pipeline's compliance with the environmental conditions listed in Appendix A of this order.

(E) Golden Pass Pipeline's request for a temporary waiver regarding capacity reservation is approved.

(F) Golden Pass Pipeline's current Rate Schedules FT and IT rates are approved as the initial recourse rates for service utilizing the project capacity. Golden Pass Pipeline is granted a predetermination of rolled-in rate treatment for the costs of the project in its next general NGA section 4 rate proceeding, barring a significant change in circumstances, as discussed in the body of this order.

(G) Golden Pass Pipeline's proposed tariff revisions, including Rate Schedules FT-2 and IT-2, the new electric and natural gas Compressor Fuel Reimbursement components, as well as section 6.44 of its GT&C are approved, subject to the conditions discussed above.

(H) Golden Pass Pipeline must file actual tariff records setting forth its recourse rates for Rate Schedules FT-2 and IT-2 in accordance with section 154.207 of the Commission's regulations and other proposed changes to its tariff implementing the project not less than 30 days and not more than 60 days prior to placing the project in service.

(I) Golden Pass Pipeline must file an executed copy of each non-conforming agreement, disclosing and reflecting all non-conforming language not less than 30 days and not more than 60 days prior to the commencement of service on the project.

(J) Golden Pass Pipeline shall keep separate books and accounting of costs attributable to the proposed project, as described above.

(K) Golden Pass Products and Golden Pass Pipeline shall notify the Commission's environmental staff by telephone, e-mail, and/or facsimile of any environmental noncompliance identified by other federal, state, or local agencies on the

same day that such agency notifies the respective company. Golden Pass Products and Golden Pass Pipeline shall file written confirmation of such notification with the Secretary of the Commission (Secretary) within 24 hours.

(L) Prior to the commencement of construction, Golden Pass Pipeline shall execute firm contracts for service equivalent to the levels and terms of service represented in its filed precedent agreement.

By the Commission.

(S E A L)

Nathaniel J. Davis, Sr.,
Deputy Secretary.

Appendix A
Environmental Conditions

As recommended in the final environmental impact statement and otherwise amended herein, this authorization includes the following conditions:

1. Golden Pass Products LLC and Golden Pass Pipeline (collectively, Golden Pass) shall follow the construction procedures and mitigation measures described in their applications and supplements (including responses to staff data requests) and as identified in the environmental impact statement (EIS), unless modified by this Order. Golden Pass must:
   a. request any modification to these procedures, measures, or conditions in a filing with the Secretary of the Commission;
   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 Office of Energy Projects (OEP) **before using that modification**.

2. For 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 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. the design and implementation of any additional measures deemed necessary (including stop-work authority) to assure continued compliance with the intent of the environmental conditions as well as the avoidance or mitigation of adverse environmental impact resulting from construction and operation of the project.

4. **Prior to any** construction, Golden Pass shall file affirmative statements with the Secretary, certified by senior company officials, that all company personnel,

environmental inspectors (EIs), 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 for the project.

5. The authorized facility locations shall be as shown in the EIS, as supplemented by filed alignment sheets. **As soon as they are available and before the start of construction of the applicable facility component**, Golden Pass shall file with the Secretary any revised detailed survey alignment maps/sheets at a scale not smaller than 1:6,000 with station positions for all facilities approved by the Order. All requests for modifications of environmental conditions of this Order or site-specific clearances must be written and must reference locations designated on these alignment maps/sheets.
Golden Pass' exercise of eminent domain authority granted under Natural Gas Act section 7(h) in any condemnation proceedings related to the Order must be consistent with these authorized facilities and locations. Golden Pass' right of eminent domain granted under Natural Gas Act section 7(h) does not authorize it to increase the size of its natural gas pipeline or facilities to accommodate future needs or to acquire a right-of-way for a pipeline to transport a commodity other than natural gas.

6. Golden Pass 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, 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. All areas 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 FERC Upland Erosion Control Revegetation and Maintenance Plan and/or minor field realignments per landowner needs and requirements that do not affect other landowners or sensitive environmental areas such as wetlands. Examples of alterations requiring approval include all route realignments and facility location changes resulting from:

   a. implementation of cultural resources mitigation measures;
   b. implementation of endangered, threatened, or special concern species mitigation

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 Order and before construction begins,** Golden Pass shall file Implementation Plans with the Secretary for review and written approval by the Director of OEP. Golden Pass must file revisions to the plans as schedules change. The plans shall identify:
   a. how Golden Pass will implement the construction procedures and mitigation measures described in its application and supplements (including responses to staff data requests), identified in the EIS, and required by the Order;
   b. how Golden Pass will incorporate these requirements into the contract bid documents, construction contracts (especially penalty clauses and specifications), and construction drawings so that the mitigation required at each site is clear to onsite construction and inspection personnel;
   c. the number of EIs assigned per spread and/or facility, and how Golden Pass will ensure that sufficient personnel are available to implement the environmental mitigation;
   d. company personnel, including EIs and contractors, who will receive copies of the appropriate material;
   e. the location and dates of the environmental compliance training and instructions Golden Pass will give to all personnel involved with construction and restoration (initial and refresher training as the project progresses and personnel changes), with the opportunity for OEP staff to participate in the training session(s);
   f. the company personnel (if known) and specific portion of Golden Pass' organizations having responsibility for compliance;
   g. the procedures (including use of contract penalties) Golden Pass will follow if noncompliance occurs; and
   h. for each discrete facility, a Gantt or PERT chart (or similar project scheduling diagram), and dates for:
      i. the completion of all required surveys and reports;
      ii the environmental compliance training of onsite personnel;
      iii the start of construction; and
      iv the start and completion of restoration.

8. Golden Pass shall employ at least one EI for the Project. The EI 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 7 above) and any other authorizing document;

c. empowered to order correction of acts that violate the environmental conditions of this Order, and any other authorizing document;
d. a full-time position, separate from all other activity inspectors;
e. responsible for documenting compliance with the environmental conditions of this Order, as well as any environmental conditions/permit requirements imposed by other federal, state, or local agencies; and
f. responsible for maintaining status reports.

9. Beginning with the filing of the Implementation Plans, Golden Pass shall file updated status reports with the Secretary on a **monthly** basis for the Export Terminal Project and a **weekly** basis for the Pipeline Expansion until all construction and restoration activities are complete. On request, these status reports will also be provided to other federal and state agencies with permitting responsibilities. Status reports shall include:

a. an update on Golden Pass' efforts to obtain the necessary federal authorizations;
b. the current construction status of the Export Terminal Project and Pipeline Expansion Project, work planned for the following reporting period, and any schedule changes for stream crossings or work in other environmentally sensitive areas;
c. a listing of all problems encountered and each instance of noncompliance observed by 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);
d. a description of the corrective actions implemented in response to all instances of noncompliance, and their cost;
e. the effectiveness of all corrective actions implemented;
f. a description of any landowner/resident complaints that may relate to compliance with the requirements of the Order, and the measures taken to satisfy their concerns; and
g. copies of any correspondence received by Golden Pass from other federal, state, or local permitting agencies concerning instances of noncompliance, and Golden Pass' response.

10. **Prior to receiving written authorization from the Director of OEP to commence construction of any project facilities,** Golden Pass shall file with the Secretary documentation that it has received all applicable authorizations for construction of the applicable work scope required under federal law (or evidence of waiver thereof).

11. Golden Pass must receive written authorization from the Director of OEP **prior to**

introducing hazardous fluids into the liquefaction facilities. Instrumentation and controls, hazard detection, hazard control, and security components/systems necessary for the safe introduction of such fluids shall be installed and functional.

12. Golden Pass must receive written authorization from the Director of OEP **before placing into** service the Export Terminal Project and the Pipeline Expansion Project. Such authorization will only be granted following a determination that the facilities have been constructed in accordance with FERC approval and applicable standards, can be expected to operate safely as designed, and the rehabilitation and restoration of the right-of-way and other areas affected by the project are proceeding satisfactorily.

13. **Within 30 days of placing the authorized facilities in service,** Golden Pass shall file an affirmative statement with the Secretary, certified by a senior company official:
    a. that the facilities have been constructed in compliance with all applicable conditions, and that continuing activities will be consistent with all applicable conditions; or
    b. identifying which of the conditions of the Order Golden Pass 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.

14. **Prior to pipeline compressor station construction**, Golden Pass shall file with the Secretary the results of geotechnical studies for the milepost (MP) 33 and MP 66 Compressor Stations. *(section 4.1.3.1)*

15. **Prior to** construction, Golden Pass shall file with the Secretary the following information, stamped and sealed by the professional engineer-of-record in the state of Texas:
    a. site preparation drawings and specifications;
    b. LNG liquefaction facility structures and foundation design drawings and calculations (including prefabricated and field constructed structures);
    c. seismic specifications for procured equipment; and
    d. quality control procedures to be used for civil/structural design and construction.
    e. In addition, Golden Pass shall file, in its *Implementation Plan*, the schedule for producing this information. *(section 4.1.6.3)*

16. **Prior to construction**, Golden Pass shall consult with the U.S. Environmental Protection Agency and the Army Corps, and the appropriate state agencies

regarding the need for sediment testing within the Sabine Natchez Waterway in areas that will require dredging. Golden Pass shall file the results of the consultations, including any sediment sampling plans and results, with the Secretary. (*section 4.3.2.1*)

17. **Prior to construction**, Golden Pass shall file with the Secretary the final Compensatory *Wetland Mitigation Plans* for the Project. These plans shall be developed in consultation with the Army Corps-Galveston District and New Orleans District, the Texas Commission of Environmental Quality (Texas CEQ), the Texas Department of Parks and Wildlife, and the Louisiana Department of Natural Resources; Golden Pass shall file documentation of its consultations with these agencies. *(section 4.4.3)*

18. **Prior to** construction, Golden Pass shall file with the Secretary, for review and approval by the Director of OEP, a *Fugitive Dust Control Plan* that specifies the precautions that Golden Pass would take to minimize fugitive dust emissions from construction activities, including additional mitigation measures recommended by the U.S. Environmental Protection Agency (EPA) to control particulate matter with an aerodynamic diameter less than or equal to 10 microns and 2.5 microns. The plan shall clearly explain how Golden Pass would implement such measures as:
    a. watering the construction workspace and access roads;
    b. providing measures to limit track-out onto the roads;
    c. identifying the speed limit that Golden Pass would enforce on unsurfaced roads;
    d. covering open-bodied haul trucks, as appropriate;
    e. clarifying that the EI has the authority to determine if/when water or an alternative dust suppressant needs to be used for dust control; and
    f. clarifying the individuals with the authority to stop work if the contractor does not comply with dust control measures. (s*ection 4.11.1.4*)

19. Golden Pass shall file a full power load noise survey with the Secretary for the Export Terminal Project **no later than 60 days** after each liquefaction train is placed into service. If the noise attributable to operation of the equipment at the Export Terminal Project Project and MP 1 Compressor Station exceeds an L_{dn} of 55 decibels on the A weighed scale (dBA) at the nearest noise-sensitive area (NSA), Golden Pass shall reduce operation of the liquefaction facilities or install additional noise controls until a noise level below an L_{dn} of 55 dBA at the NSA is achieved. Golden Pass shall confirm compliance with the above requirement by filing a second noise survey with the Secretary **no later than 60 days** after it installs the additional noise controls. *(section 4.11.2.5)*

20. Golden Pass shall file a noise survey with the Secretary **no later than 60 days** after placing the entire Export Terminal Project, including the MP 1 Compressor Station, into service. If a full load condition noise survey is not possible, Golden Pass shall provide an interim survey at the maximum possible horsepower load **within 60 days** of placing the Export Terminal Project and MP 1 Compressor Station into service and provide the full load survey **within 6 months**. If the noise attributable to operation of the equipment at the Export Terminal Project and MP 1 Compressor Station exceeds an L_{dn} of 55 dBA at the nearest NSA under interim or full horsepower load conditions, Golden Pass shall file a report on what changes are needed and shall install the additional noise controls to meet the level within 1 year of the in-service date. Golden Pass shall confirm compliance with the above requirement by filing an additional noise survey with the Secretary **no later than 60 days** after it installs the additional noise controls. *(section 4.11.2.5)*

21. Golden Pass shall file a full power load noise survey for the MP 33 and MP 66 Compressor Stations **no later than 60 days** after placing the stations into service. If a full power load condition noise survey is not possible, Golden Pass shall file an interim survey at the maximum possible power load **within 60 days** of placing the stations into service and file the full power load survey **within 6 months**. If the noise attributable to operation of all equipment at the stations under interim or full power load conditions exceeds an L_{dn} of 55 dBA at any nearby NSA, Golden Pass shall:
    a. file a report with the Secretary, for review and written approval by the Director of OEP, on what changes are needed;
    b. install additional noise controls to meet that level **within 1 year** of the in-service date; and
    c. confirm compliance with this requirement by filing a second full power load noise survey with the Secretary, for review and written approval by the Director of OEP, **no later than 60 days** after Golden Pass installs the additional noise controls. (s*ection 4.11.2.6*)

    Recommendations 24 through 81 shall apply to the project Export Terminal Project facilities. Information pertaining to these specific recommendations shall be filed with the Secretary, for review and written approval by the Director of OEP, **prior to initial site preparation, prior to construction of final design, prior to commissioning, prior to introduction of hazardous fluids, or prior to commencement of service**—as indicated by each specific condition. Specific engineering, vulnerability, or detailed design information meeting the criteria specified in Order No. 683 (Docket No. RM06-24-000), including security information, shall be submitted as critical energy infrastructure information (CEII) pursuant to 18 CFR 388.112. (See Critical Energy Infrastructure Information, Order No. 683, 71 Federal Register 58,273 [October 3, 2006]), FERC Stats. & Regs. ¶31,228 [2006].) Information pertaining to items such as offsite emergency

response; procedures for public notification and evacuation; and construction and operating reporting requirements, would be subject to public disclosure. All information shall **be filed a minimum of 30 days before approval to proceed is requested**. *(section 4.12.1.3)*

22. **Prior to initial site preparation**, Golden Pass shall file an overall project schedule, which includes the proposed stages of the commissioning plan. *(section 4.12.1.3)*

23. **Prior to initial site preparation**, Golden Pass shall file with the Secretary final determinations made by the Federal Aviation Administration (FAA) indicating that there would be no hazard to aircraft from the proposed LNG terminal facilities. *(section 4.12.1.3)*

24. **Prior to initial site preparation**, Golden Pass shall provide quality assurance and quality control procedures for construction activities. *(section 4.12.1.3)*

25. **Prior to initial site preparation**, Golden Pass shall provide procedures for controlling access during construction. *(section 4.12.1.3)*

26. **Prior to initial site preparation,** Golden Pass shall file a comparative analysis to support the rainout results using a computational fluid dynamics model that is able to account for the presence of the pipe rack barriers. *(section 4.12.1.7)*

27. **Prior to initial site preparation**, Golden Pass shall file additional layers of protection in the form of passive mitigation to mitigate the potential for an initiating event to develop into a BLEVE incident or other significant hazard, considering the thermal impacts from ignition of fluids that are handled above their flashpoint. *(section 4.12.1.10)*

28. **Prior to initial site preparation,** Golden Pass shall file an updated Emergency Response Plan to include the Golden Pass LNG Export Project facilities as well as instructions to handle onsite emergencies related to the hazardous Project fluids. The Emergency Response Plan shall also be updated to address coordinated evacuations in the event of a hurricane or other event that exceeds the design basis of the proposed and existing facilities. *(section 4.12.1.12)*

29. **Prior to initial site preparation,** Golden Pass shall file an updated Cost-Sharing Plan identifying the mechanisms for funding all Project-specific security/emergency management costs that would be imposed on state and local agencies. This comprehensive plan shall include funding mechanisms for the capital costs associated with any necessary security/emergency management

equipment and personnel base. *(section 4.12.1.12)*

30. The **final design** shall include change logs that list and explain any changes made from the FEED provided in Golden Pass' application and filings. A list of all changes with an explanation for the design alteration shall be provided and all changes shall be clearly indicated on all diagrams and drawings. *(section 4.12.1.3)*
31. The **final design** shall provide information/revisions pertaining to Golden Pass' response numbers 6, 9, 10, 11, 16, 19, 23, 24, 25, 26, 27, 28, 29, 30, 38, 40, and 43 of its May 5, 2015 filing, which indicated features to be included or considered in the final design. *(section 4.12.1.3)*

32. The **final design** shall provide a plot plan of the final design showing all major equipment, structures, buildings, and impoundment systems. *(section 4.12.1.3)*

33. The **final design** shall provide an up-to-date complete equipment list, process and mechanical data sheets, and specifications. *(section 4.12.1.3)*

34. The **final design** shall include three-dimensional plant drawings to confirm plant layout for maintenance, access, egress, and congestion. *(section 4.12.1.3)*

35. The **final design** shall provide up-to-date Process Flow Diagrams with heat and material balances and Piping and Instrumentation Diagrams (P&ID), which include the following information: *(section 4.12.1.3)*
    a. equipment tag number, name, size, duty, capacity, and design conditions;
    b. equipment insulation type and thickness;
    c. storage tank pipe penetration size and nozzle schedule;
    d. valve high pressure side and internal and external vent locations;
    e. piping with line number, piping class specification, size, and insulation type and thickness;
    f. piping specification breaks and insulation limits;
    g. all control and manual valves numbered;
    h. relief valves with size and set points; and
    i. drawing revision number and date.
36. The **final design** shall provide P&IDs, specifications, and procedures that clearly show and specify the tie-in details required to safely connect the Golden Pass LNG Export Project to the existing Golden Pass Import Terminal. *(section 4.12.1.3)*

37. The **final design** shall include a list of all car-sealed and locked valves consistent

with the P&IDs. *(section 4.12.1.3)*

38. The **final design** shall include a hazard and operability review of the completed design prior to issuing the P&IDs for construction. A copy of the review, a list of recommendations, and actions taken on the recommendations, shall be filed. *(section 4.12.1.3)*
39. The **final design** shall include the cause-and-effect matrices for the process instrumentation, fire and gas detection system, and emergency shutdown system. The cause-and-effect matrices shall include alarms and shutdown functions, details of the voting and shutdown logic, and set points. *(section 4.12.1.3)*

40. The **final design** shall include an analysis of the system for draining the LNG loading and circulating lines that clearly demonstrates that the LNG drain drums (11-MBD69001 and 12-MBD69001) are correctly sized for the surge events and that the emergency shutdown system will prevent overflow of LNG into the boil off system. *(section 4.12.1.3)*

41. The **final design** of all molecular sieve beds shall specify the blowdown conditions required to be taken into consideration when sizing the molecular sieve support system. *(section 4.12.1.3)*

42. The **final** design shall ensure that the LNG storage tank piping supports are adequately designed for the higher rated in-tank pump flow rates. *(section 4.12.1.3)*

43. The **final design** shall demonstrate that, for hazardous fluids, piping and piping nipples 2 inches or less in diameter are designed to withstand external loads, including vibrational loads in the vicinity of rotating equipment and operator live loads in areas accessible by operators. *(section 4.12.1.3)*

44. The **final design** shall include the sizing basis and capacity for the final design of the flares and/or vent stacks as well as the pressure and vacuum relief valves for major process equipment, vessels, and storage tanks. *(section 4.12.1.3)*

45. The **final design** shall include drawings and details of how process seals or isolations installed at the interface between a flammable fluid system and an electrical conduit or wiring system meet the requirements of NFPA 59A (2001 edition). *(section 4.12.1.3)*

46. The **final design** shall provide an air gap or vent installed downstream of process seals or isolations installed at the interface between a flammable fluid system and an electrical conduit or wiring system. Each air gap shall vent to a safe location

and be equipped with a leak detection device that shall continuously monitor for the presence of a flammable fluid, alarm the hazardous condition, and shut down the appropriate systems. *(section 4.12.1.3)*

47. The **final** design shall provide electrical area classification drawings. *(section 4.12.1.3)*

48. The **final design** shall specify that all emergency shutdown valves are to be equipped with open and closed position switches connected to the Distributed Control System /Safety Instrumented System. *(section 4.12.1.3)*

49. The **final design** shall include a drawing showing the location of the emergency shutdown buttons. Emergency shutdown buttons shall be easily accessible, conspicuously labeled, and located in an area which would be accessible during an emergency. *(section 4.12.1.3)*

50. The **final design** shall include an updated fire protection evaluation of the proposed facilities carried out in accordance with the requirements of NFPA 59A (2001 edition), Chapter 9.1.2 as required by 49 CFR 193. A copy of the evaluation, a list of recommendations and supporting justifications, and actions taken on the recommendations shall be filed. Specific consideration shall be given to the use of low expansion foam and other automatic fire protection measures in the condensate and hazardous fluid storage areas. *(section 4.12.1.3)*

51. The **final design** shall provide detailed calculations to confirm that the final fire water volumes would be accounted for when evaluating the capacity of the impoundment system during a spill and fire scenario. *(section 4.12.1.3)*

52. The **final design** shall provide spill containment system drawings with dimensions and slopes of curbing, trenches, impoundments, and capacity calculations considering any foundations and equipment within impoundments, as well as the sizing and design of the down-comer that would transfer spills from the tank top to the ground-level impoundment system. *(section 4.12.1.3)*

53. The **final design** shall provide complete drawings and a list of the hazard detection equipment. The drawings shall clearly show the location and elevation of all detection equipment. The list shall include the instrument tag number, type and location, alarm indication locations, and shutdown functions of the hazard detection equipment. *(section 4.12.1.3)*

54. The **final design** shall include a list of alarm and shutdown set points for all hazard detectors that account for the calibration gas when determining the lower flammability limit set points for methane, propane, ethylene, and condensate.

(section 4.12.1.3)

55. The **final design** shall include a list of alarm and shutdown set points for all hazard detectors that account for the calibration gas when determining the toxic concentration set points for condensates, ammonia, and hydrogen sulfide. *(section 4.12.1.3)*

56. The **final design** shall provide complete plan drawings and a list of the fixed and wheeled, dry-chemical, and hand-held fire extinguishers, and other hazard control equipment. Drawings shall clearly show the location by tag number of all fixed, wheeled, and hand-held extinguishers. The list shall include the equipment tag number, type, capacity, equipment covered, discharge rate, and automatic and manual remote signals initiating discharge of the units. *(section 4.12.1.3)*

57. The **final design** shall provide facility plans and drawings that show the location of the firewater and foam systems. Drawings shall clearly show: firewater and foam piping; post indicator valves; and the location, and area covered by, each monitor, hydrant, deluge system, foam system, water-mist system, and sprinkler. The drawings shall also include piping and instrumentation diagrams of the firewater and foam system. *(section 4.12.1.3)*

58. The **final design** shall provide the procedures for pressure/leak tests which address the requirements of ASME VIII and ASME B31.3 as required by 49 CFR 193. *(section 4.12.1.3)*

59. The **final design** shall include a plan for clean-out, dry-out, purging, and tightness testing. This plan shall address the requirements of the American Gas Association's Purging Principles and Practice required by 49 CFR 193, and shall provide justification if not using an inert or non-flammable gas for clean-out, dry-out, purging, and tightness testing. *(section 4.12.1.3)*

60. The **final design** shall provide confirmation that the piping system in the Truck Loading LNG Containment Sump collection area would not produce a sizing spill greater than that analyzed for the Truck Loading LNG Containment Sump. *(section 4.12.1.5)*

61. Golden Pass shall certify that the **final design** is consistent with the information provided to the DOT as described in the design spill determination letter dated June 11, 2015 (Accession Number 20150616-5185). In the event that any modification to the design alters the candidate design spills on which the 49 CFR 193 siting analysis was based, Golden Pass shall consult with the DOT on any actions necessary to comply with Part 193. *(section 4.12.1.6)*

62. The **final design** shall provide the design details of the pipe rack vapor barriers for the rundown line, along with a demonstration that the thermal effects and mechanical forces from a design spill release would not compromise these barriers. *(section 4.12.1.7)*

63. The **final design** shall provide a technical review of the proposed facility design that evaluates other potential locations for the proposed control room that would increase the time available to shutdown before flammable vapors would reach the building. *(section 4.12.1.7)*

64. The **final design** shall provide vapor dispersion modeling files for a leakage source release of liquid nitrogen to justify the number and location of oxygen sensors to be installed in the dispersion area. *(section 4.12.1.8)*

65. The **final** design shall provide a technical review of its proposed facility design that:
    a. identifies all combustion/ventilation air intake equipment and the distances to any possible hazardous fluid release (LNG, flammable refrigerants, flammable liquids and flammable gases); and
    b. demonstrates that these areas are adequately covered by hazard detection devices and indicates how these devices would isolate or shut down any combustion or ventilation equipment whose continued operation could add to or sustain an emergency. *(section 4.12.1.9)*

66. The **final design** shall provide plant geometry models or drawings that verify the confinement and congestion represented in the FEED or provide revised overpressure calculations indicating that a 1 psi overpressure would not impact the public. *(section 4.12.1.9)*

67. **Prior to commissioning**, Golden Pass shall provide a detailed schedule for commissioning through equipment startup. The schedule shall include milestones for all procedures and tests to be completed: prior to introduction of hazardous fluids and during commissioning and startup. Golden Pass shall file documentation certifying that each of these milestones has been completed before authorization to commence the next phase of commissioning and startup will be issued. *(section 4.12.1.3)*

68. **Prior to commissioning**, Golden Pass shall file plans and detailed procedures for testing the integrity of onsite mechanical installation, functional tests, introduction of hazardous fluids, operational tests, and placing the equipment into service. *(section 4.12.1.3)*

69. **Prior to commissioning**, Golden Pass shall tag all equipment, instrumentation, and valves in the field, including drain valves, vent valves, main valves, and car-sealed or locked valves. *(section 4.12.1.3)*

70. **Prior to commissioning**, Golden Pass shall file a tabulated list and drawings of the proposed hand-held fire extinguishers. The list shall include the equipment tag number, extinguishing agent type, capacity, number, and location. The drawings shall show the extinguishing agent type, capacity, and tag number of all hand-held fire extinguishers. *(section 4.12.1.3)*

71. **Prior to commissioning**, Golden Pass shall file updates, addressing the Golden Pass LNG Export Project facilities, in the existing operation and maintenance procedures and manuals, as well as safety procedures. *(section 4.12.1.3)*

72. **Prior to commissioning**, Golden Pass shall maintain a detailed training log to demonstrate that operating staff has completed the required training. *(section 4.12.1.3)*

73. **Prior to introduction of hazardous fluids**, Golden Pass shall complete all pertinent tests (Factory Acceptance Tests, Site Acceptance Tests, Site Integration Tests) associated with the Distributed Control System and the Safety Instrumented System that demonstrates full functionality and operability of the system. *(section 4.12.1.3)*

74. **Prior to introduction of hazardous fluids**, Golden Pass shall complete a firewater pump acceptance test and firewater monitor and hydrant coverage test. The actual coverage area from each monitor and hydrant shall be shown on facility plot plan(s). *(section 4.12.1.3)*

75. **Prior to loading the first LNG export commissioning cargo**, Golden Pass shall receive written authorization from the Director of OEP. After the loading of the first cargo, Golden Pass shall file weekly reports on the commissioning of the proposed systems that detail the progress toward demonstrating the facilities can safely and reliably operate at or near the design production rate. The reports shall include a summary of activities, problems encountered, and remedial actions taken. The weekly reports shall also include the latest commissioning schedule, including projected and actual LNG production by each liquefaction train, LNG storage inventories in each storage tank, and the number of anticipated and actual LNG commissioning cargoes, along with the associated volumes loaded or unloaded. Further, the weekly reports shall include a status and list of all planned and completed safety and reliability tests, work authorizations, and punch list items. Problems of significant magnitude shall be reported to the FERC **within**

24 hours. *(section 4.12.1.3)*

76. **Prior to commencement of service**, Golden Pass shall update procedures for off-site contractors' responsibilities, restrictions, and limitations and for supervision of these contractors by Golden Pass staff. *(section 4.12.1.3)*

77. **Prior to commencement of service**, Golden Pass shall label piping with fluid service and direction of flow in the field, in addition to the pipe labeling requirements of NFPA 59A (2001 edition). *(section 4.12.1.3)*

78. **Prior to commencement of service**, Golden Pass shall notify the FERC staff of any proposed revisions to the security plan and physical security of the facility. *(section 4.12.1.3)*

79. **Prior to commencement of service**, progress on the construction of the proposed systems shall be reported in **monthly** reports filed with the Secretary. Details shall include a summary of activities, problems encountered, contractor non-conformance/deficiency logs, remedial actions taken, and current Project schedule. Problems of significant magnitude shall be reported to the FERC **within 24 hours**. *(section 4.12.1.3)*

In addition, recommendations 82 through 85 shall apply throughout the life of the Golden Pass facilities:

80. **Prior to accepting trucks with LNG capacities greater than 10,200 gallons**, the applicant shall provide the necessary information to demonstrate that a potential fire in the adjoining trough system would not cause other significant hazards. The applicant shall file this information with the Secretary for review and written approval of the Director of OEP. *(section 4.12.1.5)*

81. The facility shall be subject to regular FERC staff technical reviews and site inspections on at least an **annual basis** or more frequently as circumstances indicate. Prior to each FERC staff technical review and site inspection, Golden Pass 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. *(section 4.12.1.3)*

82. Semi-annual operational reports shall be filed with the Secretary to identify changes in facility design and operating conditions; abnormal operating experiences; activities (e.g., ship arrivals, quantity and composition of imported

and exported LNG, liquefied and vaporized quantities, boil off/flash gas); and plant modifications, including future plans and progress thereof. Abnormalities shall include, but not be limited to, unloading/loading/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, hazardous fluids releases, fires involving hazardous fluids and/or from other sources, negative pressure (vacuum) within a storage tank, and higher than predicted boil off rates. Adverse weather conditions and the effect on the facility 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)" shall be included in the semi-annual operational reports. Such information would provide the FERC staff with early notice of anticipated future construction/maintenance at the LNG facilities. *(section 4.12.1.3)*

83. Significant non-scheduled events, including safety-related incidents (e.g., LNG, condensate, refrigerant, or natural gas releases; fires; explosions; mechanical failures; unusual over pressurization; and major injuries) and security-related incidents (e.g., attempts to enter site, suspicious activities) shall be reported to the FERC staff. In the event that 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 the FERC staff **within 24 hours**. This notification practice shall be incorporated into the LNG facility's emergency plan. Examples of reportable hazardous fluids-related incidents include:

    a. fire;
    b. explosion;
    c. estimated property damage of $50,000 or more;
    d. death or personal injury necessitating in-patient hospitalization;
    e. release of hazardous fluids for 5 minutes or more;
    f. unintended movement or abnormal loading by environmental causes, such as an earthquake, landslide, or flood, that impairs the serviceability, structural integrity, or reliability of an LNG facility that contains, controls, or processes hazardous fluids;
    g. any crack or other material defect that impairs the structural integrity or reliability of an LNG facility that contains, controls, or processes hazardous fluids;
    h. any malfunction or operating error that causes the pressure of a pipeline or

LNG facility that contains or processes hazardous fluids 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 hazardous fluids 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 hazardous fluids;

l. safety-related incidents to hazardous fluids 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, the 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. *(section 4.12.1.3)*