

167 FERC ¶ 61,054
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Neil Chatterjee, Chairman;
Cheryl A. LaFleur, Richard Glick,
and Bernard L. McNamee.

Driftwood LNG LLC
Driftwood Pipeline LLC

Docket Nos. CP17-117-000
CP17-118-000

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

(Issued April 18, 2019)

1. On March 31, 2017, in Docket No. CP17-117-000, Driftwood LNG LLC (Driftwood LNG) filed an application for authorization under section 3 of the Natural Gas Act (NGA)¹ and Part 153 of the Commission's regulations² to site, construct, and operate facilities for the liquefaction and export of natural gas (Driftwood LNG Project) at a proposed liquefied natural gas (LNG) terminal on 790 acres of land near the city of Carlyss in Calcasieu Parish, Louisiana.
2. On the same day, in Docket No. CP17-118-000, Driftwood Pipeline LLC (Driftwood Pipeline) filed an application under NGA section 7(c)³ and Part 157 of the Commission's regulations⁴ for a certificate of public convenience and necessity to construct and operate a new interstate natural gas pipeline system (Driftwood Pipeline Project) in Evangeline, Acadia, Jefferson Davis, and Calcasieu Parishes, Louisiana. The proposed Driftwood Pipeline Project comprises a new 96-mile-long mainline pipeline, a new 3.4-mile-long lateral pipeline, 15 new meter stations, and three new compressor stations to transport natural gas to the Driftwood LNG Project for liquefaction and export.

¹ 15 U.S.C. § 717b (2012).

² 18 C.F.R. pt. 153 (2018).

³ 15 U.S.C. § 717f (2012).

⁴ 18 C.F.R. pt. 157 (2018).

3. For the reasons discussed below, we will authorize Driftwood LNG's proposal under section 3 to site, construct, and operate the Driftwood LNG Project. We will also authorize Driftwood Pipeline's proposal under section 7(c) to construct and operate the Driftwood Pipeline Project. These authorizations are subject to the conditions discussed herein.

I. Background

4. Driftwood LNG and Driftwood Pipeline are Delaware limited liability companies with their principal place of business in Houston, Texas. Both companies are wholly-owned subsidiaries of Tellurian, Inc. Upon commencing the operations proposed in its application, Driftwood Pipeline will become a natural gas company within the meaning of section 2(6) of the NGA,⁵ and, as such, will be subject to the jurisdiction of the Commission.

II. Proposals

A. Driftwood LNG Project (CP17-117-000)

5. Driftwood LNG seeks authorization to construct and operate the Driftwood LNG Project on the west bank of the Calcasieu River near the city of Carlyss in Calcasieu Parish, Louisiana. The project will produce up to 27.6 million metric tonnes per annum of LNG for export.

6. The Driftwood LNG Project consists of the following major components: five liquefaction plants, three LNG storage tanks, marine facilities, and associated infrastructure and support facilities. Each of the liquefaction plants, which will liquefy the natural gas delivered to the facility, will consist of: one gas pre-treatment unit,⁶ one condensate stabilization unit,⁷ and four heavy hydrocarbon removal and liquefaction units. LNG produced by the five plants will be stored in the three on-site, aboveground

⁵ 15 U.S.C. § 717a(6) (2012).

⁶ The gas pre-treatment unit at each liquefaction plant will consist of an acid gas removal unit, a dehydration unit, and a mercury removal unit.

⁷ Condensate will be periodically transported from the liquefaction plants via road tankers with a capacity of 8,000 to 12,000 gallons. The precise number of road tankers per day will depend on the inlet feed-gas quality. At the design feed gas composition, Driftwood LNG estimates there will be about five 10,000-gallon road tankers per day. Road tankers will also periodically deliver and remove other materials (e.g., aqueous ammonia, oily wastewater, biomass, and replacement refrigerants).

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storage tanks. Each full-containment storage tank will have a net capacity of approximately 235,000 cubic meters (m³).

7. Three marine berths will be located in a dredged slip, recessed from the Calcasieu River Ship Channel. Each berth will be capable of accommodating LNG carriers up to 216,000 m³. The marine facilities will have cryogenic piping and loading arms for loading LNG carriers, and each berth will include a vapor management system to transfer boil off gas (BOG) from LNG ships to the storage tanks and from there to the BOG handling system. The LNG storage tanks will be fitted with pumps to transfer LNG to ships at each berth at a loading rate of up to 12,000 m³ per hour.⁸ At full capacity, Driftwood LNG proposes to load a ship a day or approximately 365 ships per year.

8. To facilitate construction deliveries, Driftwood LNG proposes to construct a materials off-loading facility where barges will deliver construction supplies. The materials off-loading facility will be a two-berth facility, located on the western bank of the Calcasieu River Ship Channel, to the north of the LNG marine berths.

9. Driftwood LNG also proposes to construct an administration area, consisting of an operations center, maintenance building, warehouse building, laboratory building, foam trailer storage shed, main gate guardhouse, and the associated infrastructure necessary to support operations.

10. The Driftwood LNG Project will comprise four parcels of land, totaling about 790 acres, in an area zoned for heavy industrial use. Driftwood LNG owns two parcels, totaling 140 acres, and has secured the other two parcels, totaling 650 acres, through lease agreements with options to enter longer-term leases for a total duration of 50 years. Land use in, adjacent to, and surrounding the Driftwood LNG Project consists of undeveloped lands, rural residential lands, and developed lands including other industrial facilities.

11. Driftwood LNG received authorization from the Department of Energy, Office of Fossil Energy (DOE/FE) in February 2017 to export annually up to 1,496.5 billion cubic feet (Bcf) equivalent of natural gas in the form of LNG to countries with which the United States has a Free Trade Agreement (FTA).⁹ In addition, Driftwood LNG

⁸ Although up to three ships could berth simultaneously, only two ships could be loaded simultaneously.

⁹ *Driftwood LNG LLC*, FE Docket No. 16-144-LNG, Order No. 3968 (February 28, 2017).

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currently has pending before the DOE/FE an application to export annually up to 1,496.5 Bcf equivalent to non-FTA nations.¹⁰

B. Driftwood Pipeline Project (CP17-118-000)

1. Facilities and Service

12. In conjunction with the Driftwood LNG Project, Driftwood Pipeline proposes to construct and operate a new interstate natural gas transmission system, consisting of a new 96-mile-long mainline pipeline, a new 3.4-mile-long lateral pipeline, 15 new meter stations, and three new compressor stations, to provide up to 3,954,000 dekatherms per day (Dth/d)¹¹ of firm natural gas transportation service. Natural gas transported on Driftwood Pipeline will be delivered to the Driftwood LNG Project for liquefaction and export. The pipeline will interconnect with 14 interstate pipelines along its route.

13. Driftwood Pipeline proposes to construct the Driftwood Pipeline Project in three phases, to match the corresponding construction schedule of the Driftwood LNG Project. Following the completion of Phase 1, the Driftwood Pipeline Project will have sufficient capacity to supply feed gas to up to three liquefaction plants; after the completion of Phase 2, the project will have sufficient capacity to supply up to four plants; and after the completion of Phase 3, the project will have sufficient capacity to support operation of all five proposed liquefaction plants.

14. Facilities to be constructed as part of Phase 1 consist of the following:

- approximately 50.8 miles of 48-inch-diameter pipeline, extending from the Driftwood LNG Project in Calcasieu Parish to a proposed interconnect with Tennessee Gas Pipeline (Tennessee interconnect) near Kinder, Louisiana, in Jefferson Davis Parish;

¹⁰ The application, filed on September 28, 2016, is pending before DOE/FE in FE Docket No. 16-144-LNG.

¹¹ As noted in Exhibit P of Driftwood Pipeline's Application, Driftwood Pipeline uses a heat conversion factor of 1029 british thermal units per cubic foot. The 3,954,000 Dth/d is derived from converting the billing determinants provided by Driftwood Pipeline, which were provided in thousand cubic feet, with the heat conversion factor provided.

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- approximately 3.4 miles of 20-inch-diameter pipeline lateral, installed parallel and adjacent to the 48-inch mainline between milepost (MP) 36.5 and 39.9 in Calcasieu and Jefferson Davis Parishes;
- a new compressor station, consisting of three natural gas-fired compressor turbines with a total of 90,000 horsepower (hp),¹² located at MP 39.9 in Jefferson Davis Parish (Gillis Compressor Station); and
- one delivery meter station and five receipt meter stations in Calcasieu and Jefferson Davis Parishes.¹³

15. Facilities to be constructed as part of Phase 2 consist of the following:

- approximately 23.3 miles of 48-inch-diameter pipeline, extending from the Tennessee interconnect to a proposed interconnect with ANR Pipeline (ANR interconnect) near Eunice, Louisiana, in Acadia Parish;
- approximately 5.2 miles of 42-inch-diameter pipeline, extending from the ANR interconnect to a proposed interconnect with Texas Eastern Transmission (Texas Eastern interconnect) near Egan, Louisiana, in Evangeline Parish;
- a new compressor station, consisting of one 18,500-hp natural gas-fired compressor turbine, located at MP 71.7 in Acadia Parish (Basile Compressor Station);¹⁴ and

¹² Three 30,000-hp gas compressor turbines will be installed during Phase 1, but only two will be required for Phase 1 operations. The third unit will be installed as a standby redundant unit to ensure consistent operations during startup and will be removed from standby status for full use in Phase 2.

¹³ The receipt meter stations are located at interconnects with Kinder Morgan Pipeline (MP 0.0), Creole Trail Pipeline (MP 1.8), Cameron Pipeline (MP 7.8), Trunkline Pipeline (MP 65.6), Texas Eastern Transmission (MP 39.9), and Tennessee Gas Pipeline (MP 50.8).

¹⁴ In addition, the 30,000-hp standby unit at the Gillis Compressor Station will be converted to operating status in Phase 2.

- six receipt meter stations in Acadia and Evangeline Parishes.¹⁵
16. Facilities to be constructed as part of Phase 3 consist of the following:
- approximately 5.4 miles of 42-inch-diameter pipeline, extending from the Texas Eastern interconnect to Driftwood Pipeline's new Mamou Compressor Station near Mamou, Louisiana, in Evangeline Parish;
 - approximately 11.3 miles of 36-inch-diameter pipeline, extending from the Mamou Compressor Station to a proposed interconnect with Columbia Gulf Transmission near Ville Platte, Louisiana, in Evangeline Parish;
 - a new compressor station, consisting of two natural gas-fired compressor turbines with a total of 41,000 hp,¹⁶ located at MP 84.6 in Evangeline Parish (Mamou Compressor Station);
 - two additional 30,000-hp natural gas-fired compressor turbines installed at Gillis Compressor Station, for a total of 150,000 hp at the station;
 - two additional 30,000-hp natural gas-fired compressor turbines installed at Basile Compressor Station, for a total of 78,500 hp at the station; and
 - two receipt meter stations in Evangeline Parish.¹⁷
17. Driftwood Pipeline estimates the total cost for the entire Driftwood Pipeline Project to be approximately \$2.34 billion.¹⁸
18. Driftwood Pipeline states that it conducted a binding open season from September 11 to September 22, 2017, for the proposed firm transportation capacity. Driftwood Pipeline states that it received one bid through the open season process, from

¹⁵ The receipt meter stations are located at interconnects with Egan Pipeline (MP 71.7), Texas Gas Pipeline (72.4), Florida Gas Transmission and Pine Prairie Pipeline (MP 73.1), ANR Pipeline (MP 74.0), and Texas Eastern Transmission (MP 79.2).

¹⁶ Two 20,500-hp gas compressor turbines will be installed.

¹⁷ The receipt meter stations are located at interconnects with Transco Pipeline (MP 84.6) and Columbia Gulf Transmission (MP 95.9).

¹⁸ Driftwood Pipeline's Application at Exhibit K.

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Driftwood LNG for the full capacity of the pipeline,¹⁹ for which Driftwood Pipeline has executed a precedent agreement.²⁰

19. Driftwood Pipeline also requests approval of its *pro forma* tariff. Driftwood proposes to offer firm transportation service under Rate Schedule FTS, interruptible transportation service under Rate Schedule ITS, and park and loan service under Rate Schedule PALS.

2. Blanket Certificates

20. Driftwood Pipeline requests a blanket certificate of public convenience and necessity pursuant to Part 284, Subpart G of the Commission's regulations, authorizing Driftwood Pipeline to provide transportation service to customers requesting and qualifying for transportation service under its proposed FERC Gas Tariff, with pre-granted abandonment authorization.²¹

21. Driftwood Pipeline also requests a blanket certificate of public convenience and necessity pursuant to Part 157, Subpart F of the Commission's regulations, authorizing certain future facility construction, operation, and abandonment.²²

III. Notice, Interventions, and Comments

22. Notice of the applications was issued on April 11, 2017, and published in the *Federal Register* on April 17, 2017.²³ The notice established May 2, 2017, as the deadline for filing comments and interventions. Magnolia LNG, LLC; Lake Charles Pilots Association LLC; Cameron LNG, LLC; Port Arthur Pipeline, LLC; Cameron Interstate Pipeline, LLC; and Cheniere LNG Terminals, LLC filed timely motions to intervene.²⁴ Kinder Morgan Louisiana Pipeline LLC filed an untimely motion to intervene, which was granted by Secretary's Notice on June 1, 2017. Louisiana

¹⁹ Driftwood Pipeline's September 29, 2017 Supplemental Filing.

²⁰ Driftwood Pipeline's November 26, 2017 Supplemental Filing.

²¹ 18 C.F.R. § 284.221 (2018).

²² 18 C.F.R. § 157.204 (2018).

²³ 82 Fed. Reg. 18,140.

²⁴ Timely, unopposed motions to intervene are granted by operation of Rule 214(c)(1) of the Commission's Rules of Practice and Procedure. 18 C.F.R. § 385.214(c)(1) (2018).

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Department of Wildlife and Fisheries filed comments, noting necessary state authorizations for the proposal and providing recommendations for pipeline construction. The Louisiana Department of Wildlife and Fisheries' comments were addressed in Commission staff's environmental analysis, as discussed below.

IV. Discussion

A. Driftwood LNG Project (CP17-117-000)

23. Because the proposed LNG terminal facilities will be used to export natural gas to foreign countries, the siting, construction, and operation of the facilities require Commission approval under section 3 of the NGA.²⁵ Although section 3 provides that an application for the exportation or importation of natural gas shall be approved unless the proposal "will not be consistent with the public interest," 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."²⁶

24. As noted above, DOE/FE, pursuant to its authority under NGA section 3, issued Driftwood LNG authorization to export annually up to 1,496.5 Bcf equivalent of LNG by vessel to all FTA nations from the proposed Driftwood LNG Project in Calcasieu Parish,

²⁵ The regulatory functions of NGA 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 of Energy subsequently delegated to the Commission the authority to approve or disapprove the construction and operation of natural gas import and export facilities and the site at which such facilities shall be located. The most recent delegation is in DOE Delegation Order No. 00-004.00A, effective May 16, 2006. Applications for authorization to import or export natural gas must be submitted to the Department of Energy (DOE). The Commission does not authorize importation or exportation of the commodity itself. *See EarthReports, Inc. v. FERC*, 828 F.3d 949, 952-53 (D.C. Cir. 2016) (detailing how regulatory oversight for the export of LNG and supporting facilities is divided between the Commission and DOE).

²⁶ 15 U.S.C. §§ 717b(a), (e)(3) (2012). For a discussion of the Commission's authority to condition its approvals of LNG facilities under section 3 of the NGA, see *Distrigas Corp. 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).

Louisiana.²⁷ DOE/FE's order approving Driftwood LNG's export volumes states that "[i]n light of DOE's statutory obligation to grant this Application without modification or delay, there is no need for DOE/FE to review other arguments asserted by Driftwood LNG in support of the Application."²⁸

25. We have reviewed Driftwood LNG's application to determine if the siting, construction, and operation of its LNG facilities would be inconsistent with the public interest.²⁹ The proposed site for the Driftwood LNG Project is an area zoned for heavy industrial use, and the operation of project facilities will be consistent with other industrial facilities along the Calcasieu River. Further, as discussed below, the final Environmental Impact Statement (EIS) prepared for the proposed projects finds that most of the direct environmental impacts from construction of the proposed facilities are expected to be temporary or short-term.³⁰ All impacts from construction and operation of the facilities will be reduced to less-than-significant levels if the projects are constructed and operated in accordance with applicable laws and regulations and the environmental mitigation measures recommended in the final EIS and adopted by this order.³¹

26. In accordance with the Memorandum of Understanding signed on August 31, 2018, by the Commission and the Pipeline and Hazardous Materials Safety

²⁷ *Driftwood LNG LLC*, FE Docket No. 16-144-LNG, Order No. 3968 (February 28, 2017). Driftwood LNG's non-FTA application is currently under DOE review in FE Docket No. 16-144-LNG.

²⁸ *Id.* at 6. Section 3(c) of the NGA 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." 15 U.S.C. § 717b(c) (2012).

²⁹ *See National Steel Corp.*, 45 FERC ¶ 61,100, at 61,332-33 (1998) (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.").

³⁰ Final EIS at 5-1 (noting the projects would result in permanent impacts on soils, water, wetlands, vegetation, wildlife, visual resources, land use, socioeconomics, air quality, and noise).

³¹ *Id.* at ES-14 to ES-15 and 5-1.

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Administration (PHMSA) within the U.S. Department of Transportation (DOT),³² PHMSA undertook a review of the proposed facility's ability to comply with the federal safety standards contained in Part 193, Subpart B, of Title 49 of the Code of Federal Regulations.³³ On December 18, 2018,³⁴ PHMSA issued a Letter of Determination (LOD) indicating Driftwood LNG has demonstrated that the siting of its proposed LNG facilities complies with those federal safety standards. If the proposed project is subsequently modified so that it differs from the details provided in the documentation submitted to PHMSA, further review would be conducted by PHMSA.

27. Driftwood LNG is proposing to operate its LNG terminal under the terms and conditions mutually agreed to by its customers and will solely bear the responsibility for the recovery of any costs associated with construction and operation of the terminal. Accordingly, Driftwood LNG's proposal does not trigger NGA section 3(e)(4).³⁵

28. Accordingly, we find that, subject to the conditions imposed in this order, Driftwood LNG's proposal is not inconsistent with the public interest. Therefore, we will grant Driftwood LNG's application for authorization under NGA section 3 to site, construct, and operate its proposed LNG terminal facilities.

B. Driftwood Pipeline Project (CP17-118-000)

29. Because Driftwood Pipeline's 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.³⁶

³² *Memorandum of Understanding Between the Department of Transportation and the Federal Energy Regulatory Commission Regarding Liquefied Natural Gas Transportation Facilities* (Aug. 31, 2018), <https://www.ferc.gov/legal/mou/2018/FERC-PHMSA-MOU.pdf>.

³³ 49 C.F.R. pt. 193, Subpart B (2018).

³⁴ See Commission staff's December 19, 2018 Memo filed in Docket No. CP17-17-000 (containing PHMSA's Letter of Determination).

³⁵ 15 U.S.C. § 717b(e)(4) (2012) (governing orders for LNG terminal offering open access service).

³⁶ 15 U.S.C. §§ 717f(c), (e) (2012).

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1. Certificate Policy Statement

30. The Certificate Policy Statement provides guidance for evaluating proposals to certificate new construction.³⁷ The Certificate Policy Statement establishes criteria for determining whether there is a need for a proposed project and whether the proposed project will serve the public interest. The Certificate Policy Statement explains that in deciding whether to authorize the construction of major new natural gas facilities, the Commission balances the public benefits against the potential adverse consequences. The Commission's goal is to give appropriate consideration to the enhancement of competitive transportation alternatives, the possibility of overbuilding, subsidization by existing customers, the applicant's responsibility for unsubscribed capacity, the avoidance of unnecessary disruptions of the environment, and the unneeded exercise of eminent domain in evaluating new pipeline construction.

31. Under this policy, the threshold requirement for applicants proposing new projects is that the applicant must be prepared to financially support the project without relying on subsidization from its 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, and landowners and communities affected by the construction of the new natural gas facilities. 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 proceed to consider the environmental analysis where other interests are addressed.

32. As noted above, the threshold requirement for applicants 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. Driftwood Pipeline is a new company with no existing shippers. Thus, there is no potential for subsidization on Driftwood Pipeline's system or degradation of service to existing customers.

33. In addition, there is no evidence that the Driftwood Pipeline Project will adversely affect other pipelines or their customers. The project is not intended to replace service on other pipelines. Further, no pipeline company or their captive customers have protested Driftwood Pipeline's application.

³⁷ *Certification of New Interstate Natural Gas Pipeline Facilities*, 88 FERC ¶ 61,227 (1999), *clarified*, 90 FERC ¶ 61,128, *further clarified*, 92 FERC ¶ 61,094 (2000) (Certificate Policy Statement).

34. We are also satisfied that Driftwood Pipeline has taken appropriate steps to minimize adverse impacts on landowners and surrounding communities. Approximately 70 percent of the pipeline route will be collocated with or adjacent to existing pipeline, roadway, or utility rights-of-way corridors. Some of the remaining portion of the route will cross private land. Driftwood Pipeline engaged in public outreach during the pre-filing process, working with all interested stakeholders, soliciting input on any route concerns, and engaging in reroutes where practicable to minimize impacts on landowners and communities.³⁸ Accordingly, for purposes of our consideration under the Certificate Policy Statement, we find that Driftwood Pipeline has taken sufficient steps to minimize impacts on landowners and surrounding communities.

35. Driftwood Pipeline's proposed project will enable it to transport natural gas to the Driftwood LNG Project, where the gas will be liquefied for export. Driftwood Pipeline executed a precedent agreement with Driftwood LNG for the full capacity of the pipeline. Based on the benefits the proposed project will provide, the lack of adverse effects on existing customers, other pipelines and their captive customers, and the minimal adverse impacts on landowners and surrounding communities, we find, consistent with the Certificate Policy Statement and section 7 of the NGA, that the public convenience and necessity requires approval of Driftwood Pipeline's proposal, as conditioned in this order.

2. Blanket Certificates

36. Driftwood Pipeline requests a Part 284, Subpart G blanket certificate in order to provide open-access transportation services. Under a Part 284 blanket certificate, Driftwood Pipeline will not need individual authorizations to provide transportation services to particular customers. Driftwood Pipeline filed a *pro forma* Part 284 tariff to provide open-access transportation services. Because a Part 284 blanket certificate is required for Driftwood Pipeline to participate in the Commission's open-access regulatory regime, we will grant Driftwood Pipeline a Part 284 blanket certificate, subject to the conditions imposed herein.

37. Driftwood Pipeline also requests a Part 157, Subpart F blanket certificate. The Part 157 blanket certificate gives an interstate pipeline NGA section 7 authority to automatically, or after prior notice, perform a restricted number of routine activities related to the construction, acquisition, abandonment, replacement, and operation of existing pipeline facilities provided the activities comply with constraints on costs and environmental impacts.³⁹ Because the Commission has previously determined through a rulemaking that these blanket-certificate eligible activities are in the public convenience

³⁸ See Final EIS at Appendix A, Table 1.3-3.

³⁹ 18 C.F.R. § 157.203 (2018).

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and necessity,⁴⁰ it is the Commission's practice to grant new natural gas companies a Part 157 blanket certificate if requested.⁴¹ Accordingly, we will grant Driftwood Pipeline a Part 157 blanket certificate, subject to the conditions imposed herein.

3. Rates

a. Initial Rates

38. Driftwood Pipeline proposes to offer firm transportation service under Rate Schedule FTS, interruptible transportation service under Rate Schedule ITS, and park and loan service under Rate Schedule PALS. Driftwood Pipeline proposes a capital structure comprising 50 percent long-term debt and 50 percent common equity, with a proposed return on equity of 14 percent and a cost of debt of 6.50 percent. These figures render an overall rate of return of 10.25 percent. Driftwood Pipeline proposes to use a depreciation rate of 4.0 percent based on an estimated 25-year life of the project. Driftwood Pipeline states that the cost of constructing the pipeline will be approximately \$1,151,639,133 for Phase 1; \$1,782,578,998 for Phases 1 and 2; and \$2,342,251,700 for Phases 1, 2, and 3 (i.e., the entire pipeline project).

39. On February 2, 2018, in response to a staff data request, Driftwood Pipeline provided adjusted costs of service and recalculated its originally proposed initial recourse rates for Phases 1, 2, and 3 to reflect changes in the federal tax code, as per the Tax Cuts and Jobs Act of 2017,⁴² which became effective January 1, 2018.⁴³ For Phase 1, based on

⁴⁰ *Revisions to the Blanket Certificate Regulations and Clarification Regarding Rates*, Order No. 686, 117 FERC ¶ 61,074, at P 9 (2006), *order on reh'g*, Order No. 686-A, 119 FERC ¶ 61,303, *order on reh'g*, Order No. 686-B, 120 FERC ¶ 61,249 (2007).

⁴¹ *C.f. Rover Pipeline LLC*, 161 FERC ¶ 61,244, at P 13 (2017) (denying a request for a blanket certificate where the company's actions had eroded the Commission's confidence it would comply with all the requirements of the blanket certificate program, including the environmental requirements).

⁴² Pub. L. No. 115-97, 131 Stat. 2054 (Dec. 22, 2017).

⁴³ On April 23, 2018, in response to a staff data request, Driftwood Pipeline indicated that its proposed income tax allowance is reflected in the revised Exhibit P submitted on February 2, 2018. Driftwood Pipeline also stated that it is not a Master Limited Partnership and that its "income or loss will be reported through its parent company's income tax returns, which are the tax returns of Tellurian Investments, Inc."

a first year cost of service of \$228,947,040 and billing determinants of 2,335,000 Dth/d,⁴⁴ Driftwood Pipeline proposes a maximum reservation charge under Rate Schedule FTS of \$8.3273/Dth, a maximum usage charge of \$0.0027/Dth, and an authorized overrun charge of \$0.2765/Dth. For services under Rate Schedule ITS and Rate Schedule PALS, Driftwood Pipeline proposes a maximum usage charge of \$0.2765/Dth.

40. Upon in-service of the Phase 2 facilities, based on a first year cost of service of \$353,323,141 and total billing determinants of 2,574,000 Dth/d, Driftwood Pipeline proposes a maximum reservation charge under Rate Schedule FTS of \$11.6824/Dth, a maximum usage charge of \$0.0030/Dth, and an authorized overrun charge of \$0.3870/Dth. For services under Rate Schedule ITS and Rate Schedule PALS, Driftwood Pipeline proposes a maximum usage charge of \$0.3870/Dth.

41. Upon in-service of the Phase 3 facilities, based on a first year cost of service of \$469,097,425 and total billing determinants of 3,954,000 Dth/d, Driftwood Pipeline proposes a maximum reservation charge under Rate Schedule FTS of \$10.0405/Dth, a maximum usage charge of \$0.0044/Dth, and an authorized overrun charge of \$0.3345/Dth. For services under Rate Schedule ITS and Rate Schedule PALS, Driftwood Pipeline proposes a maximum usage charge of \$0.3345/Dth. Driftwood Pipeline indicates that its proposed ITS, PALS, and overrun rates are based on a 100 percent load factor equivalent of its proposed FTS rates.

42. On June 11, 2018, in response to a staff data request, Driftwood Pipeline provided updated accumulated depreciation figures to account for the different in-service dates of the Phase 1, 2, and 3 services. Because this will have an impact on its proposed rates, Driftwood Pipeline is directed to revise its proposed rates to account for its updated accumulated depreciation figures.

43. In addition, in its June 11, 2018 response, Driftwood Pipeline provided revised proposed retainage percentages. Driftwood Pipeline explained that, upon further review, it determined its proposed retainage percentages were inconsistent with the system flow diagrams included in Exhibits G and G-1 of its application. Driftwood Pipeline's revised proposed retainage percentages are 0.46 percent, 0.76 percent, and 1.14 percent for Phase 1, Phase 2, and Phase 3, respectively. Driftwood Pipeline is directed to reflect the revised retainage percentages when it files actual tariff records, as directed herein. The Commission approves these fuel rates as the initial fuel rates for the project.

⁴⁴ As explained above, the billing determinants used in this order are converted from those provided in Driftwood Pipeline's Application. *See supra* note 11.

44. The Commission has reviewed Driftwood Pipeline's proposed costs of service and initial rates, as updated in the February 2, 2018 and June 11, 2018 data responses, and finds that they reflect current Commission policy, as conditioned and modified above.

b. Negotiated Rates

45. In General Terms & Conditions (GT&C) Section 6.30 of its *pro forma* tariff, Driftwood Pipeline proposes the ability to provide service to shippers under negotiated rates. Driftwood Pipeline must file either a negotiated rate agreement or a tariff record setting forth the essential elements of any such agreement in accordance with the Alternative Rate Policy Statement⁴⁵ and the Commission's negotiated rate policies.⁴⁶ Driftwood Pipeline must file the negotiated rate agreements or tariff records at least 30 days, but no more than 60 days, before the proposed effective dates for such rates.⁴⁷

c. Three Year Filing Requirement

46. Consistent with Commission precedent, Driftwood Pipeline is required to file a cost and revenue study no later than three months after the end of its first three years of actual operation of the Phase 3 facilities to justify its existing cost-based firm and

⁴⁵ *Alternatives to Traditional Cost-of-Service Ratemaking for Natural Gas Pipelines; Regulation of Negotiated Transportation Services of Natural Gas Pipelines*, 74 FERC ¶ 61,076, *order granting clarification*, 74 FERC ¶ 61,194, *reh'g and clarification denied*, 75 FERC ¶ 61,024, *reh'g denied*, 75 FERC ¶ 61,066, *reh'g dismissed*, 75 FERC ¶ 61,291 (1996), *petition for review denied sub nom. Burlington Resources Oil & Gas Co. v. FERC*, 172 F.3d 918 (D.C. Cir. 1998) (Alternative Rate Policy Statement).

⁴⁶ *Natural Gas Pipelines Negotiated Rate Policies and Practices; Modification of Negotiated Rate Policy*, 104 FERC ¶ 61,134 (2003), *order on reh'g and clarification*, 114 FERC ¶ 61,042, *reh'g dismissed and clarification denied*, 114 FERC ¶ 61,304 (2006).

⁴⁷ Driftwood Pipeline is also required to file any service agreement containing non-conforming provisions and to disclose and identify any transportation term or agreement in a precedent agreement that survives the execution of the service agreement. *See e.g., Texas Eastern Transmission, LP*, 149 FERC ¶ 61,198, at P 33 (2014); 18 C.F.R. § 154.112(b) (2018).

interruptible recourse rates.⁴⁸ In its filing, the projected units of service should be no lower than those upon which Driftwood Pipeline's approved initial rates are based. The filing must include a cost and revenue study in the form specified in section 154.313 of the Commission's regulations to update cost of service data.⁴⁹ Driftwood Pipeline's cost and revenue study should be filed through the eTariff portal using a Type of Filing Code 580. In addition, Driftwood Pipeline is advised to include as part of the eFiling description a reference to Docket No. CP17-118-000 and the cost and revenue study.⁵⁰ After reviewing the data, the Commission will determine whether to exercise its authority under NGA section 5 to investigate whether the rates remain just and reasonable. In the alternative, in lieu of this filing, Driftwood Pipeline may make a NGA section 4 general rate filing to propose alternative rates to be effective no later than three years after the in-service date of the entire pipeline.

4. Tariff

47. As part of its application, Driftwood Pipeline filed a *pro forma* open-access tariff applicable to services provided on its proposed pipeline. We approve the *pro forma* tariff as generally consistent with Commission policies, with the following exceptions.

a. Price Index

48. Commission policy requires that a particular price index used in a jurisdictional tariff must meet certain criteria. The index must be published or provided by an index developer that has met all or substantially all of the standards in five areas addressing: (1) code of conduct and confidentiality; (2) completeness; (3) data verification, error correction, and monitoring; (4) verifiability; and (5) accessibility.⁵¹ Further, the index location must meet or exceed one or more of the minimum criteria for liquidity (i.e., the index must be developed based on a sufficient number of reported transactions involving

⁴⁸ *Florida Southeast Connection, LLC*, 154 FERC ¶ 61,080, at P 139 (2016); *Bison Pipeline LLC*, 131 FERC ¶ 61,013, at P 29 (2010); *Ruby Pipeline, L.L.C.*, 128 FERC ¶ 61,224, at P 57 (2009); *MarkWest Pioneer, L.L.C.*, 125 FERC ¶ 61,165, at P 34 (2008).

⁴⁹ 18 C.F.R. § 154.313 (2018).

⁵⁰ *Electronic Tariff Filings*, 130 FERC ¶ 61,047, at P 17 (2010).

⁵¹ *Order Regarding Future Monitoring of Voluntary Price Formation, Use of Price Indices in Jurisdictional Tariffs, and Closing Certain Tariff Dockets*, 109 FERC ¶ 61,184, at PP 39, 66, ordering para. (C) (2004) (citing *Policy Statement on Natural Gas and Electric Price Indices*, 104 FERC ¶ 61,121 (2003) (Price Index Policy Statement)).

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sufficient volumes of natural gas or electricity).⁵² Only indices based on physical (cash) market transactions (as opposed to financial transactions) are appropriate to be used in jurisdictional tariffs and contracts.⁵³

49. In its proposed GT&C Section 5.1.4.B.2, Driftwood Pipeline references the “Midpoint Average of the Henry Hub index as given in Platt’s Monthly Price Guide.” While the Henry Hub index price does meet Commission standards, Driftwood Pipeline is directed to revise this reference so that it matches the official name of the relevant publication. That is, “Platts Inside FERC” or “Platts IFERC” should be substituted for “Platt’s Monthly Price Guide.”

b. Force Majeure

50. Upon review of Driftwood Pipeline’s *force majeure* and reservation charge crediting language, the Commission has determined that three proposed provisions are inconsistent with Commission policy and therefore need to be modified. First, proposed GT&C Section 6.8.G provides that “Shipper shall not be entitled to reservation charge credits as a result of any of the following: (a) gas supply, (b) markets, or (c) *transportation upstream of Transporter’s pipeline system.*” (Emphasis added). However, in *Sierrita Gas Pipeline, LLC*, the Commission stated that although it allows exemptions from reservation charge crediting, such exemptions are only applicable when the pipeline’s failure to perform is caused solely by the conduct of others or events beyond the control of the pipeline.⁵⁴ Consistent with Commission precedent, in the event that a *force majeure* situation affected *both* pipelines, partial reservation charge credits should be provided.⁵⁵ Driftwood Pipeline is directed to qualify its proposed language to reflect this policy.

51. Second, proposed GT&C Section 6.8.H provides that reservation charge credits will be provided based on the “lesser of Shipper’s average usage of primary Rate Schedule FTS service for the seven (7) Gas Days prior to the first day of the curtailment or interruption of service or the Shipper’s nominations to Primary Receipt or Primary Delivery Points for that Gas Day.” This language is inconsistent with Commission

⁵² *Id.* at ordering para. (D).

⁵³ Price Index Policy Statement, 104 FERC ¶ 61,121 at P 34.

⁵⁴ *Sierrita Gas Pipeline, LLC*, 147 FERC ¶ 61,192, at P 91 (2014) (*Sierrita*).

⁵⁵ *Paiute Pipeline Co.*, 139 FERC ¶ 61,089, at PP 30-31 (2012) (*Paiute*) (finding that where a *force majeure* event was not solely caused by the upstream pipeline, the general policy regarding partial force majeure credits should apply).

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policy. Credits should only be based on seven days' usage when the notice of an outage is provided to shippers beforehand.⁵⁶ Driftwood Pipeline is directed to revise the first sentence of Section 6.8.H consistent with this policy.

52. Third, proposed GT&C Section 6.8.I provides that when there has been a capacity release, reservation charge credits will be allocated between releasing and replacement shippers "in a not unduly discriminatory manner." This provides Driftwood Pipeline with discretion in dividing credits and is inconsistent with Commission policy. Commission policy outlining how credits should be provided when there is a capacity release has been set forth in *Paiute*,⁵⁷ and Driftwood Pipeline is directed to revise Section 6.8.I in a manner consistent with the discussion therein.

c. Monthly Balancing

53. Driftwood Pipeline's proposed GT&C Section 6.13.E provides the nomination and scheduling provisions applicable to a shipper that "desires to schedule the delivery of gas to Transporter or the receipt of gas from Transporter for the resolution of an accrued under- or over-delivery within a Month[.]" A shipper is required to submit a nomination for the receipt or delivery of gas in accordance with the nomination procedures set forth in GT&C Section 6.10.

54. In addition, GT&C Section 6.13.E provides that "[t]he scheduling priority for such nominations shall be the priority of the service agreement on which the imbalance accrued." This sentence is contrary to Commission policy and to the order of scheduling priorities provided in GT&C Section 6.10.C. GT&C Section 6.10.C provides that, in resolving imbalances, Driftwood Pipeline would schedule a Rate Schedule FTS shipper

⁵⁶ *Rockies Express Pipeline LLC*, 142 FERC ¶ 61,075, at PP 29-34 (2013) (finding that "in situations where [a pipeline] has given notice of an outage before the first opportunity to schedule service for a Gas Day, the credits for that day will be based solely on each shipper's usage during the preceding seven days up to their contract demand, and not on shippers' nominations."); *Sierrita*, 147 FERC ¶ 61,192 at P 93 (requiring *Sierrita* to revise its proposal on how it will calculate the level of reservation credits because "if *Sierrita* has not given advance notice of an outage before the first opportunity to nominate service for the day, the shipper's credits must be based on the quantities it nominates for scheduling... which were not delivered... and not on any measure of historical usage.").

⁵⁷ *Paiute*, 139 FERC ¶ 61,089 at PP 15-18 (explaining that "during periods when a shipper releases its capacity to a replacement shipper the reservation charge credit applicable to the replacement shipper will be the reservation rate of either the releasing or replacement shipper, whichever is lower.").

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utilizing its primary receipt/delivery points ahead of other Rate Schedule FTS shippers nominating for service “Secondary In-Path” or “Secondary Out-of-Path.” Further, GT&C Section 6.10.C proposes to schedule nominations for “Shipper imbalance payback under rates [*sic*] schedule FTS” after all other Rate Schedule FTS nominations have been scheduled.

55. The Commission has stated that imbalance quantities for makeup or payback should not be given a higher scheduling priority than any firm service quantities, and that firm service with secondary scheduling rights is still firm service and should have a scheduling priority directly following primary firm service.⁵⁸ Driftwood Pipeline is directed to revise GT&C Section 6.13.E of its tariff to comply with Commission policy.⁵⁹

d. Pre-Granted Abandonment and Right of First Refusal

56. In Order No. 636-B, the Commission clarified that the right of first refusal permits the existing capacity holder to elect to retain a volumetric portion of its capacity subject to the right of first refusal (ROFR).⁶⁰ Driftwood Pipeline is directed to revise its proposed GT&C Sections 6.21.B.4 and 6.21.B.5 to clarify that Shippers may elect to exercise their ROFRs for all or a *volumetric* portion of capacity.

e. NAESB Standards

57. Driftwood Pipeline’s proposed tariff provisions in GT&C Section 6.25 implement the North American Energy Standards Board (NAESB) Wholesale Gas Quadrant (WGQ) Version 3.0 business practice standards that the Commission incorporated by reference in

⁵⁸ *Colorado Interstate Gas Co.*, 111 FERC ¶ 61,216, at P 19 (2005); *Panhandle Eastern Pipe Line Co.*, 78 FERC ¶ 61,202, at 61,872 (1997).

⁵⁹ A further compliance obligation with respect to the term “payback” in Section 6.10.C(2) is discussed below.

⁶⁰ *Pipeline Service Obligations and Revisions to Regulations Governing Self-Implementing Transportation; and Regulation of Natural Gas Pipelines After Partial Wellhead Decontrol*, Order No. 636-B, 61 FERC ¶ 61,272 (1992), *order on reh’g*, 62 FERC ¶ 61,007 (1993), *aff’d in part and remanded in part sub nom. United Distribution Cos. v. FERC*, 88 F.3d 1105 (D.C. Cir. 1996), *order on remand*, Order No. 636-C, 78 FERC ¶ 61,186 (1997).

its regulations.⁶¹ In the time since Driftwood Pipeline filed its proposed tariff in this proceeding, the Commission amended its regulations to incorporate by reference, with certain enumerated exceptions, the NAESB WGQ Version 3.1 business practice standards.⁶² Thus, we direct Driftwood Pipeline to file revised tariff records, no less than 60 days prior to its in-service date, implementing the NAESB WGQ Version 3.1 business practice standards. Further, Driftwood Pipeline is directed to revise its proposed tariff to:

- a) Revise the text of GT&C Section 6.19.K.4(c)(ii), Evening Recall Notification, to provide that Transporter should provide notification of such recall to all affected Replacement Shippers no later than 6:00 p.m. on the day that Evening Nominations are due (Central Clock Time);
- b) Revise the text of GT&C Section 6.19.K.4(e)(i), Intraday 2 Recall Notification, to provide that a Releasing Shipper recalling capacity should provide notice of such recall to Transporter and first Replacement Shipper no later than 12:00 p.m. on the day that Intraday 2 Nominations are due;
- c) Revise the text of GT&C Section 6.19.K.4(e)(ii), Intraday 2 Recall Notification, to provide that Transporter should provide notification of such recall to all affected Replacement Shippers no later than 1:00 p.m. on the day that Intraday 2 Nominations are due (Central Clock Time);
- d) Include a new Section 6.19.K.4(f)(i), titled “Intraday 3 Recall Notification” in GT&C Section 6.19.K, Capacity Release – Rights and Obligation of the Releasing Shipper, providing that a Releasing Shipper recalling capacity should provide notice of such recall to Transporter and first Replacement Shipper no later than 4:00 p.m. on the day that Intraday 3 Nominations are due;
- e) Include a new section 6.19.K.4(f)(ii), titled “Intraday 3 Recall Notification” in GT&C Section 6.19.K, Capacity Release – Rights and Obligation of the Releasing Shipper, providing that Transporter should provide notification

⁶¹ *Standards for Business Practices of Interstate Natural Gas Pipelines; Coordination of the Scheduling Processes of Interstate Natural Gas Pipelines and Public Utilities*, Order No. 587-W, 153 FERC ¶ 61,061 (2015), *order on reh’g*, 154 FERC ¶ 61,207 (2016).

⁶² *Standards for Business Practices of Interstate Natural Gas Pipelines*, Order No. 587-Y, 83 Fed. Reg. 62,242 (December 3, 2018), 165 FERC ¶ 61,109 (2018). Under Order No. 587-Y, interstate natural gas pipelines are required to file compliance filings with the Commission by April 1, 2019, and are required to comply with the Version 3.1 standards incorporated by reference in this rule on and after August 1, 2019.

of such recall to all affected Replacement Shippers no later than 5:00 p.m. on the day that Intraday 3 Nominations are due (Central Clock Time);

- f) Include a reference to Minor Correction “MC15005” in GT&C Section 6.25, NAESB Standards;
- g) Change the reference from “General Standards and Location Data Downloads:” to “General:” in GT&C Section 6.25, NAESB Standards;
- h) Include Standard 0.2.5 in a section titled “Definitions:” under the heading “Additional Standards: – General:” in GT&C Section 6.25, NAESB Standards;
- i) Remove Standard 0.2.5 from the section titled “Gas-Electric Operational Communications:” in GT&C Section 6.25, NAESB Standards; and
- j) Change the reference from “5.3.336” to “5.3.36” in Section titled “Capacity Release Standards:” in GT&C Section 6.25, NAESB Standards.

5. Revised Tariff Records

58. On April 23, 2018, in response to Commission staff’s April 13, 2018 data request, Driftwood Pipeline proposed several revisions to its *pro forma* tariff. The revised *pro forma* tariff records filed in Driftwood Pipeline’s April 23, 2018 response reflect current Commission policy, except as discussed below. Driftwood Pipeline is directed to include the proposed revisions, as conditioned below, in its compliance filing.

a. Nominations, Confirmations and Scheduling and Incidental Purchases and Sales

59. The April 13, 2018 data request noted that Driftwood Pipeline’s proposed GT&C Section 6.33.A – Incidental Purchases and Sales, reads in part, “[s]uch purchase or sales shall have a lower priority than service under Rate Schedule FTS.” Driftwood Pipeline was asked to explain why it did not include the purchases referenced in GT&C Section 6.33.A in the list of scheduling priorities provided in its proposed GT&C Section 6.10.

60. In its April 23, 2018 response, Driftwood Pipeline proposes to revise GT&C Section 6.10.C.1 of its *pro forma* tariff to include purchases and sales of operational gas in the list of scheduling priorities in GT&C Section 6.10.C.1(d), immediately following FTS service utilizing secondary out-of-path points and prior to interruptible services under Rate Schedules ITS and PALS, and authorized overrun service. Driftwood Pipeline also proposes to revise GT&C Section 6.33.A to state that “[s]uch purchases or sales shall have a priority as indicated in Section 6.10.C of the General Terms and Conditions of this Tariff.”

61. GT&C Section 6.10.C.2 provides Driftwood Pipeline's proposed receipt and delivery point scheduling priorities. Driftwood Pipeline proposes that, to the extent receipt or delivery point capacity is insufficient to schedule the nominations of Shipper's awarded capacity in GT&C Section 6.10.C.1, it will allocate point capacity at the subject receipt and delivery point in the following order: (1) firm transportation service for Shippers under Rate Schedule FTS nominating quantities at primary receipt or delivery points within the Maximum Daily Quantity (MDQ) in the service agreement; (2) transportation service under Rate Schedule FTS utilizing secondary receipt or delivery points; (3) shipper imbalance payback under Rate Schedule FTS; and (4) interruptible services under Rate Schedules ITS and PALS and firm transportation service under Rate Schedule FTS over the MDQs specified in the service agreement.

62. The Commission accepts Driftwood Pipeline's proposed scheduling priorities, with one exception. Driftwood Pipeline introduces the term "payback," which is not defined in its tariff and is not a service. We will require Driftwood Pipeline to either remove this payback provision from GT&C Section 6.10.C.2 or list it last after the other scheduling priorities. In addition, we note GT&C Section 6.13 provides that shippers may submit a nomination to resolve an under- or over-delivery of gas. If Driftwood Pipeline elects to list the "payback" provision last after its scheduling priorities, we direct Driftwood Pipeline to revise this provision to account for the scheduling of nominations submitted to resolve under-deliveries of gas.

b. Discounting

63. GT&C Section 6.27 of Driftwood Pipeline's proposed *pro forma* tariff provides that usage charges are subject to discounting. In the April 13, 2018 data request, Commission staff asked Driftwood Pipeline to clarify how this provision is consistent with section 284.10(c)(5)(ii)(A) of the Commission's regulations.⁶³ In its April 23, 2018 response, Driftwood Pipeline states that this provision is consistent with the Commission's regulations, and that it will clarify GT&C Section 6.27 to provide that in all circumstances the discounted rate will not be greater than the maximum rate or less than the minimum rate for the applicable service as set forth in its *pro forma* tariff.

64. The Commission does not permit pipelines to offer discounts below their minimum rates, which are based on the variable costs allocated to the service to which the rate applies. Therefore, a pipeline, such as Driftwood Pipeline, using a straight fixed-variable rate design cannot discount its usage charges, because those usage charges only

⁶³ Section 284.10(c)(5)(ii)(A) of the Commission's regulations states "[e]xcept as provided in paragraph (d)(5)(ii)(B) of this section the pipeline may charge an individual customer any rate that is neither greater than the maximum rate nor less than the minimum rate on file for that service." 18 C.F.R. § 284.10(c)(5)(ii)(A) (2018).

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contain variable costs and are therefore already the minimum rates.⁶⁴ Accordingly, Driftwood Pipeline is directed to remove usage charges from GT&C Section 6.27.

6. Accounting

65. Driftwood Pipeline, a newly created company, proposes to calculate its Allowance for Funds Used During Construction (AFUDC) based on its proposed debt and equity capital structure. This approach is consistent with the accounting guidance we have given other newly created companies.⁶⁵ Consistent with Commission precedent, we will require Driftwood Pipeline to capitalize the actual costs of borrowed and other funds for construction purposes not to exceed the amount of debt and equity AFUDC that would be capitalized based on the overall rate of return approved. This will ensure that the amounts of AFUDC are properly capitalized in this project consistent with the Commission's requirements for newly created companies approved in other cases.

V. Environmental Analysis

66. To satisfy the requirements of the National Environmental Policy Act of 1969 (NEPA),⁶⁶ Commission staff evaluated the potential environmental impacts of the proposed projects in an EIS. On September 14, 2018, Commission staff issued the draft EIS addressing issues raised up to the point of publication. Notice of the draft EIS was published in the Federal Register on September 21, 2018, establishing a 45-day public comment period ending on November 5, 2018.⁶⁷ Commission staff held three public comment sessions between October 9 and October 11, 2018, to receive comments on the draft EIS. At the public comment sessions, thirteen individuals provided verbal comments and four individuals provided written comments. The Commission also received 44 written comment letters from federal, state, and local agencies; Native American tribes; elected officials; companies/organizations; individuals; and the applicants in response to the draft EIS. The transcripts of the public comment sessions and all written comments on the draft EIS are part of the public record for the projects.

⁶⁴ *Texas Eastern Transmission LP*, 129 FERC ¶ 61,031, at P 6 (2009).

⁶⁵ *See, e.g., ETC Tiger Pipeline, LLC*, 131 FERC ¶ 61,010, at P 80 (2010); *Ruby Pipeline, L.L.C.*, 128 FERC ¶ 61,224, at P 85 (2009); *Southeast Supply Header, LLC*, 119 FERC ¶ 61,153, at P 64 (2007).

⁶⁶ 42 U.S.C. §§ 4321 *et seq.* (2012). *See also* the Commission's NEPA-implementing regulations at Title 18 of the Code of Federal Regulations, Part 380.

⁶⁷ 83 Fed. Reg. 47,918.

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67. On January 18, 2019, Commission staff issued the final EIS for the projects, which addresses all substantive environmental comments received on the draft EIS.⁶⁸ The final EIS addresses geology; soils; water resources; fisheries and aquatic resources; wetlands; vegetation; wildlife resources; threatened, endangered, and other special status species; land use, recreation, and visual resources; socioeconomics; cultural resources; air quality and noise; safety; cumulative impacts; alternatives; and the comments received on the draft EIS. The final EIS concludes that construction and operation of the projects will result in some adverse environmental impacts, but impacts will be reduced to less-than-significant levels with the implementation of the applicants' proposed mitigation measures and Commission staff's recommended mitigation measures, which are included as conditions in the appendix to this order. The Commission received comments on the final EIS from one environmental non-governmental organization, one individual, and the applicants. Those comments and major environmental issues addressed in the final EIS are discussed below.

A. Geology

68. The Driftwood LNG Project would be located in an area with historically low seismic risk and minimal seismic activity.⁶⁹ The final EIS concludes that the Driftwood LNG Project would be designed to minimize the risk to structures from seismic activity.⁷⁰ Driftwood LNG proposes to design the site topography, including site elevation, to support construction of the facility and meet federal safety regulations.⁷¹ The Driftwood Pipeline Project would not cross any significant geologic hazards.⁷² Growth faults were identified as a potential issue of concern for the Driftwood Pipeline Project; however, the rate of movement from growth faults in the area is relatively low and the project would be designed to accommodate any shift.⁷³ Blasting is not anticipated during construction of the projects, and no paleontological resources are anticipated within the project areas.⁷⁴ Therefore, the final EIS concludes that the projects' impacts on geological

⁶⁸ Final EIS at Appendix F.

⁶⁹ *Id.* at ES-3.

⁷⁰ *Id.* at 5-2.

⁷¹ *Id.* at 4-1.

⁷² *Id.* at 5-2.

⁷³ *Id.* at ES-3 and 4-11.

⁷⁴ *Id.* at 5-2.

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resources would be adequately minimized and not significant, and the potential impacts on the projects from geologic hazards would be minimal.

B. Soils

69. Construction of the projects would disturb soils and increase the potential for erosion, compaction, and the mixing of topsoil and subsoil.⁷⁵ Soils in the project areas generally are not erodible, but are compaction-prone.⁷⁶ Compaction impacts in residential and agricultural areas would be mitigated through use of timber mats and low-pressure tires on vehicles crossing compaction-prone soils.⁷⁷ Although 385 acres of land that would be permanently impacted by the Driftwood LNG Project can be characterized as prime farmland, the site is zoned as industrial, and therefore is not consistent with the designation of prime farmland.⁷⁸ Construction of the Driftwood Pipeline Project would impact 1,622 acres of prime farmland, but most of this land would be restored to pre-construction conditions in accordance with the applicants' project-specific *Upland Erosion Control, Revegetation and Maintenance Plan* (project-specific Plan) and *Wetland and Waterbody Construction and Mitigation Procedures* (project-specific Procedures); operation of the Driftwood Pipeline Project would only impact 135 acres of prime farmland.⁷⁹

70. An area of known soil, sediment, and groundwater contamination has been identified adjacent to the Driftwood LNG Project.⁸⁰ The Louisiana Department of Environmental Quality (Louisiana DEQ) has defined the extent of contamination, developed a course for remediation, and has reviewed and approved a project-specific risk management plan.⁸¹ Contaminated sediments delineated within the project area would be managed with separate remediation and excavation actions prescribed by Louisiana DEQ, and only sediments defined as "uncontaminated dredged material"

⁷⁵ *Id.*

⁷⁶ *Id.*

⁷⁷ *Id.* at 4-16.

⁷⁸ *Id.* at 5-2.

⁷⁹ *Id.* at ES-3 to ES-4.

⁸⁰ *Id.* at 5-2.

⁸¹ *Id.* at 4-20.

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would be used for the applicants' proposed marsh development.⁸² In addition, Driftwood LNG has developed a Risk Management Plan to address the possibility of encountering contaminated materials while dredging in the area. Therefore, the final EIS concludes that overall impacts on soil resources would not be significant.

C. Water Resources

71. The Driftwood LNG Project lies within the Chicot Aquifer System, which is designated as a sole-source aquifer.⁸³ Withdrawal of large volumes of water could minimally lower the water table, however, Driftwood LNG does not propose to use direct withdrawal of groundwater during project construction or operation.⁸⁴ Rather, Driftwood would use municipal water supply to meet project construction and operation water needs. As noted above, an area of known soil, sediment, and groundwater contamination has been identified adjacent to the Driftwood LNG Project. This area would not be dredged or directly disturbed.⁸⁵ The Driftwood Pipeline Project would cross six wellhead protection areas, and there are eight active private water wells within 150 feet of the project workspace.⁸⁶ To minimize potential impacts on water wells, Driftwood Pipeline would implement measures in its Spill Prevention, Control, and Countermeasures Plan. The final EIS concludes that, with implementation of the applicants' proposed plans and measures, impacts on groundwater from the projects would be minimal.

72. Surface water impacts from construction and operation of the Driftwood LNG Project could occur during site grading activities, fill activities, dredging and construction activities, vessel traffic, hydrostatic testing, and spills or leaks of hazardous materials.⁸⁷ With implementation of Driftwood LNG's proposed mitigation measures for each of those activities, the final EIS concludes that impacts on surface waters from construction and operation of the Driftwood LNG Project would be temporary and minor. The Driftwood Pipeline Project would cross 317 waterbodies; Driftwood Pipeline would avoid surface impacts to 15 of these waterbodies with the proposed use of horizontal

⁸² *Id.*

⁸³ *Id.* at 5-2.

⁸⁴ *Id.* at 5-2 to 5-3.

⁸⁵ *Id.* at ES-4.

⁸⁶ *Id.*

⁸⁷ *Id.* at 4-41.

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directional drilling.⁸⁸ To minimize impacts on surface waters, Driftwood Pipeline proposes to implement its project-specific Procedures, a Horizontal Directional Drilling Contingency and Fluid Monitoring Plan, and to perform all work in accordance with applicable permits. With implementation of Driftwood Pipeline's proposed mitigation measures, the final EIS concludes that the Driftwood Pipeline Projects would not significantly impact surface waters.

D. Fisheries and Aquatic Resources

73. Dredging and construction of the marine facilities for the Driftwood LNG Project would temporarily affect fisheries and aquatic resources.⁸⁹ Impacts on fisheries and aquatic resources would vary by species, but most fish species are highly mobile and would be able to avoid areas during dredging and pile driving activities.⁹⁰ To minimize impacts from pile driving, Environmental Condition 17 requires Driftwood LNG to develop an In-Water Pile Driving Plan in consultation with the National Marine Fisheries Service (NMFS) prior to the start of in-water pile driving activities. Cooling water intake associated with LNG carriers would result in impacts on ichthyoplankton and other small organisms, but the impacts would not be significant given the high abundance of these species in estuarine waters.⁹¹ As noted above, the Driftwood Pipeline Project would cross 317 waterbodies. Driftwood Pipeline proposes to implement horizontal directional drilling and the measures in its project-specific Procedures to minimize and mitigate impacts on aquatic resources from these crossings, and the final EIS concludes that the majority of impacts from the project would be temporary and minor.⁹²

74. Construction of the Driftwood LNG Project would also have permanent and temporary impacts on Essential Fish Habitat (EFH).⁹³ To mitigate impacts on EFH, Driftwood proposes to use dredged material to restore historical emergent wetlands. Due to the relatively small area of EFH that would be impacted and Driftwood LNG's

⁸⁸ *Id.* at ES-4.

⁸⁹ *Id.*

⁹⁰ *Id.* at ES-4 and 4-50.

⁹¹ *Id.* at 5-5.

⁹² *Id.* at 4-58.

⁹³ *Id.* at 4-63 to 4-65.

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proposed mitigation, NMFS concluded that construction of the Driftwood LNG Project would not result in significant adverse impacts on EFH.⁹⁴

75. Therefore, the final EIS concludes that impacts on fisheries and aquatic resources would not be significant.

E. Wetlands

76. Construction and operation of the Driftwood LNG Project would result in the permanent loss of approximately 319 acres of wetlands.⁹⁵ Construction and operation of the Driftwood Pipeline Project would temporarily affect approximately 426 acres of wetlands, but would permanently impact only approximately 78 acres.⁹⁶ The applicants propose to follow their project-specific Procedures to minimize impacts on wetlands. To mitigate unavoidable impacts on wetlands, the applicants would contribute dredged material to Louisiana's Beneficial Use of Dredged Material Program to build and restore dredged coastal wetlands.⁹⁷ Additionally, Environmental Condition 18 requires Driftwood Pipeline to revise its horizontal directional drilling crossing plan for the Calcasieu River to avoid impacts on a forested wetland complex. The final EIS concludes that impacts on wetlands due to construction and operation of the projects would not be significant.

F. Vegetation

77. Construction of the Driftwood LNG Project would result in the clearing of 689 acres of vegetation, of which approximately 551 acres would be permanently lost.⁹⁸ Because of the abundance of similar vegetation resources in the region, the final EIS concludes that the Driftwood LNG Project's impact on vegetation would not be significant. Construction of the Driftwood Pipeline Project would result in the clearing of approximately 1,751 acres of vegetation, of which approximately 644 acres would be permanently lost due to operation of the pipeline right-of-way and the proposed

⁹⁴ *Id.* at 4-61.

⁹⁵ *Id.* at ES-5.

⁹⁶ *Id.*

⁹⁷ *Id.*

⁹⁸ *Id.* at 4-77.

(continued ...)

aboveground facilities.⁹⁹ The Driftwood Pipeline Project would be parallel or co-located with existing disturbed corridors for about 68 miles (70 percent of the entire pipeline length), which reduces the amount of forest fragmentation.¹⁰⁰ Following construction, Driftwood Pipeline would restore construction workspaces to pre-construction conditions. Driftwood Pipeline proposes to use temporary and permanent erosion control measures, topsoil segregation in agricultural and residential uplands and unsaturated wetlands, testing and mitigation for soil compaction, and limited routine vegetation maintenance during operation of the permanent pipeline right-of-way. Therefore, the final EIS concludes that the Driftwood Pipeline Project would not have significant impacts on vegetation.

78. The Louisiana Department of Wildlife and Fisheries identified two longleaf pine savanna habitat communities that would be affected by construction of the Driftwood Pipeline Project, and recommended a mitigation plan be developed.¹⁰¹ These plant communities occur primarily on wetlands, and Driftwood Pipeline would minimize impacts on these communities with the implementation of its project-specific Procedures and would mitigate the permanent impact on these communities through the project's compensatory wetland mitigation plan under the jurisdiction of the Army Corps of Engineers.¹⁰²

G. Wildlife Resources

79. Wildlife habitat at the Driftwood LNG and Driftwood Pipeline Projects' aboveground facility sites would be permanently affected.¹⁰³ The greatest impacts on wildlife habitat would result from cutting, clearing, and removal of existing vegetation, which would reduce the amount of available wildlife habitat.¹⁰⁴ Construction of the projects could also result in increased rates of stress, injury, and mortality to wildlife species.¹⁰⁵ To minimize impacts on wildlife species, the applicants propose to follow

⁹⁹ *Id.* at 4-78.

¹⁰⁰ *Id.* at 4-79.

¹⁰¹ *Id.* at 4-81.

¹⁰² *Id.*

¹⁰³ *Id.* at ES-6.

¹⁰⁴ *Id.*

¹⁰⁵ *Id.* at ES-6 and 4-83.

(continued ...)

their project-specific Plan and Procedures; an Erosion and Sedimentation Control Plan; a Revegetation and Invasive Species Management Plan; and a Spill Prevention, Control, and Countermeasures Plan. The Driftwood LNG Project site is considered to have relatively low habitat value in its current state, and an abundance of similar habitat for wildlife exists nearby.¹⁰⁶

80. To minimize impacts on migratory birds, the applicants developed a preliminary set of mitigation measures. Environmental Condition 19 requires Driftwood LNG and Driftwood Pipeline to develop a final set of mitigation measures for migratory birds in consultation with the U.S. Fish and Wildlife Service (FWS).

81. With implementation of the measures proposed by the applicants, the final EIS concludes that impacts on wildlife, including migratory birds, would not be significant.

H. Threatened and Endangered Species

82. According to FWS and NMFS, sixteen federally listed species may occur within the parishes affected by the projects. Commission staff determined that the projects would not likely adversely affect listed species or critical habitat under NMFS's purview, and, on February 14, 2018, NMFS concurred.¹⁰⁷ Thus, Endangered Species Act consultation with NMFS is complete. Commission staff also determined that the projects would not likely affect listed species or critical habitat under FWS's purview, and, on March 31, 2017, FWS concurred.¹⁰⁸ One additional species, the eastern black rail, was proposed for listing as threatened by the FWS on October 9, 2018, and could be present in the project areas.¹⁰⁹ Thus, Environmental Condition 20 requires Driftwood LNG and Driftwood Pipeline to consult with FWS to determine whether the projects could affect the eastern black rail or its habitat prior to beginning construction.

I. Land Use, Recreation, and Visual Resources

83. Land use in, adjacent to, and surrounding the Driftwood LNG Project site consists of undeveloped lands, rural residential lands, and developed lands including other industrial facilities.¹¹⁰ To minimize impacts on nearby residences at the Driftwood

¹⁰⁶ *Id.* at 4-84.

¹⁰⁷ *Id.* at 4-91.

¹⁰⁸ *Id.*

¹⁰⁹ 83 Fed. Reg. 50,610.

¹¹⁰ Final EIS at ES-6.

(continued ...)

Community, Driftwood LNG proposes to maintain vegetation and trees as natural screening. There are eight structures within 25 feet of the Driftwood Pipeline Project construction right-of-way, two of which would be purchased by Driftwood Pipeline.¹¹¹ Driftwood Pipeline has developed site-specific plans for the remaining six structures. Construction of the projects would impact some agricultural and residential lands, but the applicants propose to implement procedures to minimize and mitigate impacts on these lands.¹¹² Therefore, the final EIS concludes that impacts from the projects on the surrounding area, including residential land, would not be significant.

84. There are no designated natural, recreational, scenic areas, or wildlife refuges within or adjacent to the Driftwood LNG Project site. The recreation areas closest to the project site include the Intracoastal Park (1.3 miles away) and Calcasieu Point Landing (1.4 miles away).¹¹³ Construction and operation of the Driftwood LNG Project would increase the number of vessels using the Calcasieu Ship Channel. Recreational fishermen and boaters in the area are accustomed to ship traffic and the increase in marine traffic during construction should not adversely affect recreational fishing and boating activities.¹¹⁴ During operation, recreational boaters could be impacted by channel closures, but the impact would not be significant.¹¹⁵ The Creole Natural Trail All-American Road is a roadway system that extends through Calcasieu and Cameron Parishes. During construction of the Driftwood LNG Project, there would be a substantial increase in traffic, which could impact access to the Creole Nature Trail All-American Road.¹¹⁶ The final EIS concludes that the impacts would be minor to moderate with implementation of Driftwood LNG's Traffic Management Plan.

85. The Driftwood Pipeline Project would cross one state-managed Scenic River, the Calcasieu River.¹¹⁷ Driftwood Pipeline proposes to cross the river using horizontal

¹¹¹ *Id.* at ES-7.

¹¹² *Id.* at 4-114 to 4-116.

¹¹³ *Id.* at 5-8 to 5-9.

¹¹⁴ *Id.* at 4-119.

¹¹⁵ *Id.*

¹¹⁶ *Id.* at 5-9.

¹¹⁷ *Id.*

(continued ...)

directional drilling, and to set entry and exit workspaces back at least 400 feet from the edge of the waterbody.

86. The Driftwood LNG Project, and associated ship traffic, would be in the viewshed of nearby residences and recreational boaters and fishermen. In addition, the facility would require outdoor lighting for safety that would be visible to nearby residences at night. Once the Driftwood LNG Project is completed, the aesthetics would be consistent with other existing industrial developments along the Calcasieu Ship Channel.¹¹⁸ To minimize visual impacts, Driftwood LNG would maintain vegetation screening. Therefore, the final EIS concludes that the visual impact from the Driftwood LNG Project on the nearby community would not be significant.

87. About 70 percent of the Driftwood Pipeline Project would parallel existing permanent rights-of-way, limiting changes in the viewshed from the project.¹¹⁹ Following construction of the compressor stations, Driftwood Pipeline would maintain existing vegetation on the property, paint all buildings and outdoor equipment, install fencing, and, if necessary, plant local vegetation to further shield the stations from neighboring structures. Although visual impacts from the compressor stations would be permanent, they would not be significant due to the proposed mitigation proposed by Driftwood Pipeline, the distance from visual receptors, and the presence of similar industrial facilities in the viewshed.¹²⁰

88. Therefore, the final EIS concludes that the land use, recreation, and visual impacts associated with the projects would not be significant.

J. Socioeconomics

89. Construction of the projects would result in minor impacts on the local population, local housing markets and property values, and public services.¹²¹ Construction of the Driftwood LNG Project could also result in impacts on traffic, and Driftwood LNG proposes to implement measures in its Traffic Management Plan to mitigate those impacts.¹²² As noted above, operation of the Driftwood LNG Project could also result in

¹¹⁸ *Id.* at ES-8.

¹¹⁹ *Id.* at 5-10.

¹²⁰ *Id.*

¹²¹ *Id.* at 4-130 to 4-135.

¹²² *Id.* at 4-136 to 4-137.

(continued ...)

impacts on marine traffic. Operation of the projects would have a positive economic effect on the local community.¹²³ The projects would not result in disproportionately high or adverse environmental and human health impacts on low-income and minority populations.¹²⁴ The final EIS concludes that the projects would not have significant socioeconomic impacts.

K. Cultural Resources

90. Construction and operation of the projects could have the potential to affect historic and archaeological properties.¹²⁵ Due to restricted access, the applicants were not able to complete all cultural resource surveys. Environmental Condition 22, discussed further below, requires that all cultural surveys, and related consultation, are completed prior to construction.¹²⁶ In addition, given the height of structures at the Driftwood LNG Project, Environmental Condition 21 requires Driftwood LNG to increase the radius of the project's indirect Area of Potential Effect (APE) from 0.5 to 1.0 mile. The revised indirect APE and associated addendum report should be sent to the State Historic Preservation Officer for comment.

L. Air Quality and Noise

91. Construction emissions from the Driftwood LNG Project would occur for an estimated 86 months. The construction emissions would not be a permanent source of emissions, and, therefore would not have a long-term effect on air quality in the area.¹²⁷ Most construction impacts would be temporary and localized.¹²⁸ During the three years of concurrent commissioning, construction, and operation of the Driftwood LNG Project, emission levels may result in exceedances to the National Ambient Air Quality Standards (NAAQS) in the immediate vicinity of facilities during these construction years, although

¹²³ *Id.* at 4-130 to 4-132.

¹²⁴ *Id.* at 4-141.

¹²⁵ *Id.* at 4-142.

¹²⁶ The final EIS at 4-144 incorrectly states that 3,988.8 acres still need to be surveyed. Table 4.11-1 of the final EIS, however, correctly lists that 398.8 acres still require surveying.

¹²⁷ Final EIS at ES-9.

¹²⁸ *Id.*

(continued ...)

these exceedances would not be persistent at any one time due to the dynamic and fluctuating nature of construction activities within a day, week, or month.¹²⁹

92. Construction emissions from the Driftwood Pipeline Project would consist primarily of fugitive dust. Emissions from the pipeline construction would occur at any given location for only a short period, as pipeline construction moves along the route.¹³⁰

93. Operational air quality modeling for the Driftwood LNG Project and Driftwood Pipeline Project compressor stations demonstrates that the operational impacts from the projects would be below NAAQS.¹³¹ Therefore, the final EIS concludes that there would be no regionally significant impacts on air quality.

94. Noise levels associated with construction would vary depending on the phase of construction in progress at any time, with the highest levels of construction noise at the Driftwood LNG Project occurring during the earth-moving and pile-driving work.¹³² There are six noise-sensitive areas near the Driftwood LNG Project site. To ensure that impacts due to maximum pile driving noise levels are minimized, Environmental Condition 24 requires Driftwood LNG to file, prior to construction, a Pile Driving Noise Management Plan. In addition, because Driftwood LNG proposes to construct the facility 24 hours a day, Environmental Condition 23 requires Driftwood to file, prior to construction, a Night Time Noise Mitigation and Monitoring Plan.

95. Noise levels associated with construction of the Driftwood Pipeline Project would be intermittent and generally would occur between 7:00 a.m. and 7:00 p.m., with the potential exception of horizontal directional drilling activity. Horizontal directional drilling is proposed at 11 locations (2 of the 12 crossings would be installed at a single location), seven of which are near noise-sensitive areas. Environmental Condition 25 requires Driftwood Pipeline to file, prior to construction, a Horizontal Directional Drilling Noise Mitigation Plan.

96. Noise would occur during operation throughout the life of the Driftwood LNG Project. To ensure that noise-sensitive areas are not adversely affected by the phased operation of the facility, Environmental Condition 26 requires Driftwood LNG to file noise surveys after each liquefaction plant is placed into service. In addition,

¹²⁹ *Id.*

¹³⁰ *Id.* at ES-10.

¹³¹ *Id.*

¹³² *Id.*

Environmental Condition 27 requires Driftwood LNG to file a full-load noise survey after placing the entire Driftwood LNG Project into service.

97. Noise would also occur during operation throughout the life of the Driftwood Pipeline Project's meter and compressor stations. To ensure that noise from certain meter stations does not exceed the Commission's day-night sound level limit, Environmental Condition 28 requires Driftwood Pipeline to file a noise survey after placing certain meter stations into service. To ensure that noise from the compressor stations does not exceed the Commission's day-night sound level limit, Environmental Condition 29 requires Driftwood Pipeline to file a noise survey after placing each compressor station into service. With implementation of the mitigation measures proposed by the applicants and required by the Environmental Conditions, the final EIS concludes that the projects would not have a significant impact on noise.

M. Greenhouse Gas Emissions

98. With respect to impacts from greenhouse gases (GHGs), the final EIS discusses the direct GHG impacts from construction and operation of the projects, the climate change impacts in the region,¹³³ and the regulatory structure for GHGs under the Clean Air Act.¹³⁴

99. The final EIS estimated that operation of the projects, including the LNG terminal and pipeline facilities, may result in direct and indirect emissions of up to 10,641,908 tons per year of carbon dioxide equivalent (CO₂e).¹³⁵ To provide context to the GHG estimate, according to the national net CO₂e emissions estimate in the EPA's *Inventory of U.S. Greenhouse Gas Emissions and Sinks* (EPA 2018), 5.795 billion metric tons of CO₂e were emitted at the national level in 2016 (inclusive of CO₂e sources and sinks). The operational emissions of these facilities could potentially increase annual CO₂e emissions

¹³³ *Id.* at 4-294.

¹³⁴ *Id.* at 4-152 and 4-295.

¹³⁵ *Id.* at Tables 4.12-4, 4.12-8, 4.12-9, 4.12-10, and 4.12-14.

based on the 2016 levels by 0.17 percent at the national level.¹³⁶ Currently, there are no national targets to use as benchmarks for comparison.¹³⁷

100. The final EIS included a qualitative discussion that addressed various effects of climate change.¹³⁸ The final EIS acknowledges that the quantified GHG emissions from the construction and operation of the projects will contribute incrementally to climate change.¹³⁹ Further, the Commission has previously concluded it could not determine a project's incremental physical impacts on the environment caused by GHG emissions.¹⁴⁰ The Commission has also previously concluded it could not determine whether a project's contribution to climate change would be significant.¹⁴¹

N. **Reliability and Safety**

101. As part of the NEPA review, staff assessed potential impacts to the human environment in terms of safety and whether the proposed facilities would operate safely, reliably, and securely. Commission staff reviewed potential external impacts associated with the Driftwood LNG Project based on the project site location; conducted a technical review of the engineering design; and recommended a number of mitigation measures to be implemented prior to initial site preparation, prior to construction of final design, prior to commissioning, prior to introduction of hazardous fluids, prior to commencement of service, and throughout life of the facility. Based on this analysis, and with the incorporation of the recommended mitigation measures and oversight, staff concluded that the Driftwood LNG Project's design would include acceptable layers of protection or safeguards that would reduce the risk of a potentially hazardous scenario from developing into an event that could impact the offsite public.

¹³⁶ EPA. 2018. Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2016. https://www.epa.gov/sites/production/files/2018-01/documents/2018_executive_summary.pdf (accessed February 2019).

¹³⁷ The national emissions reduction targets expressed in the EPA's Clean Power Plan and the Paris climate accord are pending repeal and withdrawal, respectively.

¹³⁸ Final EIS at 4-294 to 4-296.

¹³⁹ *Id.* at 5-16.

¹⁴⁰ *Dominion Transmission, Inc.*, 163 FERC ¶ 61,128, at PP 67-70 (2018) (LaFleur, Comm'r, *dissenting in part*; Glick, Comm'r, *dissenting in part*).

¹⁴¹ *Id.*

(continued ...)

102. In addition, the U.S. Coast Guard (USCG) reviewed the waterfront portions of the proposed Driftwood LNG Project and the associated LNG carrier traffic with regard to navigation safety and maritime security. On April 25, 2017, the USCG issued a Letter of Recommendation to the Commission, indicating the Calcasieu Ship Channel would be considered suitable for accommodating the type and frequency of LNG marine traffic associated with the Driftwood LNG Project. If the LNG Facility is authorized and constructed, the facility would be subject to the USCG's inspection and enforcement program to ensure compliance with the requirements of 33 C.F.R. §§ 105 and 127.¹⁴²

103. Further, as noted above,¹⁴³ PHMSA determined that the siting of the proposed LNG facilities complies with the federal safety standards governing the location, design, construction, operation, and maintenance of LNG facilities.¹⁴⁴ PHMSA's LOD summarizes PHMSA's evaluation of the hazard modeling results and endpoints used to establish exclusion zones, as well as its review of Driftwood LNG's evaluation of potential incidents and safety measures that could have a bearing on the safety of plant personnel and the surrounding public.

104. In addition, the Driftwood Pipeline Project would be constructed, operated, and maintained in accordance with DOT's safety standards. Accordingly, the final EIS concludes that the project would have a slight increase in risk to the nearby public, but that the risk would be minimized through Driftwood Pipeline's compliance with the DOT's standards.¹⁴⁵

O. Cumulative Impacts

105. The final EIS considered the cumulative impacts of the proposed Driftwood LNG and Driftwood Pipeline Projects with other projects in the same geographic and temporal scope of the projects.¹⁴⁶ The types of other projects evaluated in the final EIS that could potentially contribute to cumulative impacts on a range of environmental resources include existing LNG terminals and future liquefaction projects, currently operating and future oil and gas projects, other energy projects, industrial facilities, housing

¹⁴² 33 C.F.R. §§ 105 and 127 (2018).

¹⁴³ *See supra* at P 26.

¹⁴⁴ *See* 49 C.F.R. pt. 193, Subpart B (2018).

¹⁴⁵ Final EIS at ES-12.

¹⁴⁶ *Id.* at ES-12 to ES-13 and 4-260 to 4-298.

(continued ...)

developments, commercial developments, and transportation/infrastructure projects.¹⁴⁷ The final EIS concludes that, for resources where a level of impact could be ascertained, the projects the projects' contribution to cumulative impacts on resources affected by the projects would not be significant, and that the potential cumulative impacts of the projects and the other projects considered would be minor or insignificant.¹⁴⁸

106. The EIS's cumulative impacts analysis did not disclose or evaluate combined GHG emissions from LNG facilities and industry in the vicinity. The EIS stated, among other reasons, that "GHGs have no localized geographic scope, as there are little to no direct impacts from elevated CO₂ concentrations at a local level."¹⁴⁹ However, in this case, in light of a landowner comment on the draft EIS¹⁵⁰ requesting that the Commission address the CO₂ emissions from the other LNG facilities in the local area, we acknowledge that there are five proposed or authorized LNG export projects within 50 km¹⁵¹ of the Driftwood Project and that each project will have varying levels of direct and indirect CO₂ emissions associated with the operations of the facilities.¹⁵²

P. Alternatives

107. The final EIS evaluates several alternatives to the proposed projects, including the No-Action Alternative, system alternatives for the proposed LNG and pipeline facilities, LNG facility site and configurations alternatives, pipeline route alternatives, and compressor station location alternatives.¹⁵³ The final EIS concludes that, except for two minor route variations (required by Environmental Condition 5), the alternatives

¹⁴⁷ *Id.* at 4-263.

¹⁴⁸ *Id.* at 5-14 to 5-16.

¹⁴⁹ *Id.* at 4-292.

¹⁵⁰ *Id.* at Appendix F, F-7.

¹⁵¹ 50 kilometers is the distance used in the final EIS and by the EPA for cumulative modeling of large sources of air pollutants. *Id.* at 4-262, Table at 4.14-1.

¹⁵² *Id.* at Table 4.14-5 in Appendix A (Other Projects in the Air Quality Geographic Scope of Analysis Considered for Cumulative Impacts), listing Calcasieu Pass LNG; Lake Charles Liquefaction; Cameron LNG Liquefaction; Magnolia LNG; and Commonwealth LNG.

¹⁵³ *Id.* at 3-3 to 3-47.

(continued ...)

proposed do not offer a significant environmental advantage and the proposed projects, as modified by Commission staff's recommended measures, are the preferred alternative.¹⁵⁴

Q. Comments Received After Issuance of the Final EIS

108. In its comments on the final EIS, an environmental non-governmental organization, Restore Explicit Symmetry To Our Ravaged Earth (RESTORE), expressed general concerns similar to concerns expressed in the comments received during environmental scoping for the projects and during the draft EIS comment period; these general concerns are regarding impacts on geology;¹⁵⁵ soil and sediment contamination;¹⁵⁶ groundwater and surface water contamination;¹⁵⁷ fisheries and aquatic resource impacts from lighting, dredging, ballast-water discharge, cooling-water intake and discharge, and noise;¹⁵⁸ migratory birds;¹⁵⁹ special status species;¹⁶⁰ air quality and noise;¹⁶¹ transportation;¹⁶² and cumulative impacts.¹⁶³ Each of these concerns are addressed in the final EIS. We agree with the final EIS's conclusions that impacts on these resources would be adequately minimized, and that construction and operation of the proposed projects would not result in significant impacts on these resources.

109. RESTORE also expresses concern that information regarding the presence of dense non-aqueous phase liquids (DNAPL) in the vicinity of the Driftwood LNG Project site was not previously disclosed in the draft EIS. The detection of DNAPL by a

¹⁵⁴ *Id.* at 5-1.

¹⁵⁵ *See id.* at 4-21 and 4-222 to 4-223.

¹⁵⁶ *See id.* at 4-19 to 4-21.

¹⁵⁷ *See id.* at 4-36 to 4-37.

¹⁵⁸ *See id.* at 4-56 and 4-63.

¹⁵⁹ *See id.* at 4-86 to 4-90.

¹⁶⁰ *See id.* at 4-94 to 4-98.

¹⁶¹ *See id.* at 4-159 and 4-173 to 4-179.

¹⁶² *See id.* at 4-136 to 4-138.

¹⁶³ *See id.* at 4-280 and 4-285.

monitoring well in the 38-foot shell-hash¹⁶⁴ water-bearing zone was previously disclosed in the draft EIS.¹⁶⁵ The final EIS, however, notes that additional sampling was performed in 2018 in the area to be dredged. The 2018 sampling did not detect DNAPL in the 38-foot shell-hash or other soil layers.¹⁶⁶ The final EIS further discloses the potential for groundwater contaminants to migrate into the Calcasieu River, and concludes that, should migration of contaminated groundwater occur, the effects would be minor and temporary.¹⁶⁷ Commission staff coordinated extensively with the federal and state agencies that oversee groundwater contamination, including the Army Corps of Engineers, the U.S. Environmental Protection Agency, and Louisiana DEQ, to ensure a regulatory pathway would be in place if contamination is encountered during project construction. The final EIS notes that the Louisiana DEQ reviews and regulates potential sources of pollution to ensure activities are consistent with state laws and regulations.¹⁶⁸ As noted above, the Louisiana DEQ has defined the extent of contamination in the project area, developed a course for remediation, and has reviewed and approved a project-specific risk management plan.¹⁶⁹ Therefore, the final EIS concludes, and we agree, that overall impacts on soil and water resources would not be significant.

110. RESTORE alleges a discrepancy in the estimated duration of construction impacts for the Driftwood LNG Project. RESTORE states that, in the final EIS, air quality impacts were assessed based on an 86-month construction schedule, while noise impacts were assumed to occur 24 hours a day for only 36 months. The final EIS correctly considered the duration of noise impacts. Construction of the Driftwood LNG Project will last a total of 86 months, and Driftwood LNG may construct 24 hours per day during portions of this period. Pile driving activities, however, will only last for 36 months, and Driftwood LNG has committed to limit pile driving activities to between 7:00 a.m. and 7:00 p.m.¹⁷⁰

¹⁶⁴ Surface substrate shell-hash layers are dominated by loose shell accumulations with a median particle size of 2 to 64 millimeters.

¹⁶⁵ See draft EIS at 4-26. See also final EIS at 4-26 and 4-28.

¹⁶⁶ Final EIS at 4-26.

¹⁶⁷ *Id.* at 4-28.

¹⁶⁸ *Id.*

¹⁶⁹ *Id.* at 4-20.

¹⁷⁰ See *id.* at 2-30.

(continued ...)

111. RESTORE also expresses concern regarding the proposed design and construction of the LNG storage tanks and the tertiary containment area. The results of Driftwood LNG's geotechnical investigation at the project site indicate that subsurface conditions are suitable for the proposed facilities, as long as the proposed site preparation, foundation design, and construction methods are implemented. Furthermore, the final EIS recommends, as required by the Environmental Condition 53 in the appendix to this order, that Driftwood LNG submit final tank design specifications for approval prior to construction. Driftwood LNG proposes to construct an earthen berm around the project site, with a crest elevation measuring 15-feet-tall on the northern, southern, and western faces of the facility and 16-feet-tall on the eastern face of the facility. Driftwood LNG also proposes to construct a 14-foot-high wave wall on top of the northern, southern, and western berm walls, with the lower 2-3 feet designed for wind-driven wave effects. The front of the berm would be protected by grass or crushed rock. In the final EIS, Commission staff concluded that, based on staff's storm surge analysis, the proposal would provide adequate protection.¹⁷¹ In addition, the final EIS recommends, as required by the Environmental Condition 31, that Driftwood LNG file a monitoring and maintenance plan for the perimeter levee prior to commencement of service to ensure the crest elevation relative to mean sea level is maintained for the life of the facility.

112. RESTORE also indicates that Driftwood LNG's proposed backup power source may not be adequate, particularly in the aftermath of a natural disaster. Electricity for construction and operation would be supplied by a local utility company, and backup power would be provided by diesel generation capacity sufficient to operate critical systems and allow a safe and orderly shutdown in the event of a power failure from the main grid.¹⁷² The diesel generators would provide essential power for systems such as egress lighting, controllers of shutdown and safety systems, firewater pumps, and stormwater drainage pumps, which may be required during storm events or emergency situations.¹⁷³ Driftwood LNG's design would include multiple layers of protection or safeguards to facilitate a controlled shutdown and the management of BOG from the LNG storage tanks. As such, the backup power source would only be utilized to operate essential safety equipment and instrumentation, and would not be utilized for continuation of normal operations. Driftwood LNG's Emergency Response Plan, required by Environmental Condition 35, will detail procedures for handling natural disaster events.

113. RESTORE contends that the four fire-fighting tractor tugs may not always be available to Driftwood LNG in the event of an emergency. All four fire-fighting tractor

¹⁷¹ *Id.* at 4-218 to 4-219 and 4-225 to 4-226.

¹⁷² *Id.* at 1-12.

¹⁷³ *Id.*

tugs would be dedicated on a full-time basis to Driftwood LNG's shipping needs, and their emergency usage, which would commensurate with the severity level of the event, would be dictated by Driftwood LNG's Emergency Response Plan. In addition, emergency responses would be coordinated with appropriate federal, state, and local officials.

114. Lastly, RESTORE expresses concern regarding the safety of the liquefaction facility and the associated LNG carriers. Driftwood LNG completed significant and extensive studies and analyses of the safety and reliability of the proposed Driftwood LNG Project, as required by DOT-PHMSA's and USCG's regulations. As discussed above, PHMSA issued an LOD on December 18, 2018, indicating Driftwood LNG has demonstrated that the siting of its proposed LNG facilities complies with the federal safety standards set forth in 49 C.F.R. Part 193, Subpart B.¹⁷⁴ In addition, the USCG reviewed Driftwood LNG's Waterway Suitability Assessment, and determined that the Calcasieu Ship Channel would be considered suitable for accommodating the type and frequency of LNG marine traffic associated with the project.¹⁷⁵

115. As explained above, Commission staff also conducted a technical review of the preliminary engineering design, and determined that the Driftwood LNG Project would include acceptable layers of protection or safeguards that would reduce the risk of a potentially hazardous scenario from developing into an event that could impact the offsite public.¹⁷⁶

116. With regards to security during project operation, the Maritime Transportation Security Act¹⁷⁷ requires all terminal owners and operators to submit a Facility Security Assessment and a Facility Security Plan to the USCG for review and approval before commencing operations.¹⁷⁸ Driftwood LNG would also be required to control and

¹⁷⁴ 49 C.F.R. pt. 193, Subpart B (2018).

¹⁷⁵ See USCG's April 25, 2017 Letter of Recommendation (filed June 20, 2017). For further discussion, see final EIS at 2-62 to 2-67, 4-137 to 4-138, and 4-202 to 4-211.

¹⁷⁶ See final EIS at 4-195 to 4-250.

¹⁷⁷ Pub. L. No. 107-295, 116 Stat. 2064 (Nov. 25, 2002).

¹⁷⁸ In addition, security requirements are governed by 33 C.F.R. § §105 and 127 (2018), and 49 C.F.R. pt. 193, Subpart J (2018).

(continued ...)

restrict access to the facility, patrol and monitor the facility, and respond to security threats or breaches, as further described in Section 4.13.1.5 of the final EIS.¹⁷⁹

117. A member of the public, Mr. Kenneth Teague, expresses concern regarding the potential dredging and disposal of contaminated materials at the Driftwood LNG Project site. In particular, Mr. Teague states that contaminated materials should not be used as part of Driftwood LNG's compensatory mitigation. The draft EIS identified an area adjacent to the known contamination area that had not been sampled or assessed for contamination.¹⁸⁰ In comments on the draft EIS, Driftwood clarified that it would not disturb the aforementioned unassessed area. The final EIS concludes that, with this clarification and commitment to avoid dredging unassessed sediment, dredging of sediment will not result in significant impacts on groundwater, waterbodies, or wetlands.¹⁸¹ Moreover, as noted above, only sediments defined as "uncontaminated dredged material" would be used for the applicants' proposed marsh development.¹⁸²

118. Driftwood LNG and Driftwood Pipeline filed comments on the final EIS, requesting that the Commission bifurcate the recommended cultural resource condition (Environmental Condition 22 in the appendix to this order), and impose two separate conditions: one for the Driftwood LNG Project and one for the Driftwood Pipeline Project. The applicants contend that the condition will not allow construction of the LNG terminal to begin until cultural resource surveys and consultation for the Driftwood Pipeline Project is complete. We clarify that the intent of the recommendation in the final EIS was to ensure that consultation pursuant to Section 106 of the National Historic Preservation Act is complete before any project construction may proceed.¹⁸³ Environmental Condition 22 retains the wording from the recommendation in the final EIS, and requires that Section 106 consultation is completed for all project elements before Driftwood LNG and Driftwood Pipeline may commence construction.

R. Environmental Analysis Conclusion

119. We have reviewed the information and analysis contained in the final EIS regarding potential environmental effects of the projects, as well as other information in

¹⁷⁹ See final EIS at 4-211 to 4-239.

¹⁸⁰ See draft EIS at 4-17 to 4-21.

¹⁸¹ Final EIS at 4-17 to 4-21 and 4-25 to 4-28.

¹⁸² *Id.* at 4-20.

¹⁸³ Section 106 of the National Historic Preservation Act of 1966, as amended, 54 U.S.C. § 306108, Pub. L. No. 113-287, 128 Stat. 3188 (2014).

the record. We are adopting the environmental recommendations in the final EIS and include them as conditions in the appendix to this order. Compliance with the environmental conditions appended to our orders is integral to ensuring that the environmental impacts of approved projects are consistent with those anticipated by our environmental analyses. Thus, Commission staff carefully reviews all information submitted. Commission staff will only issue a construction notice to proceed with an activity when satisfied that the applicant has complied with all applicable conditions. We also note that the Commission has the authority to take whatever steps are necessary to ensure the protection of environmental resources during construction and operation of the projects, including authority to impose any additional measures deemed necessary to ensure continued compliance with the intent of the conditions of the order, as well as the avoidance or mitigation of unforeseen adverse environmental impacts resulting from project construction and operation.

120. We agree with the conclusions presented in the final EIS and find that the projects, if constructed and operated as described in the final EIS, are environmentally acceptable actions. Further, for the reasons discussed throughout the order, as stated above, we find that the Driftwood LNG Project is not inconsistent with the public interest and that the Driftwood Pipeline Project is in the public convenience and necessity.

121. Any state or local permits issued with respect to the jurisdictional facilities authorized herein must be consistent with the conditions of this authorization and Certificate. The 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.¹⁸⁴

VI. Conclusion

122. At a hearing held on April 18, 2019, the Commission on its own motion received and made a part of the record in this proceeding all evidence, including the application, and exhibits thereto, and all comments, and upon consideration of the record,

¹⁸⁴ See 15 U.S.C. § 717r(d) (2012) (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, 310 (1988) (state regulation that interferes with FERC's regulatory authority over the transportation of natural gas is preempted) and *Dominion Transmission, Inc. v. Summers*, 723 F.3d 238, 245 (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).

The Commission orders:

(A) In Docket No. CP17-117-000, Driftwood LNG is authorized under section 3 of the NGA to site, construct, and operate the proposed project in Calcasieu Parish, Louisiana, as described and conditioned herein, and as fully described in Driftwood LNG's application and subsequent filings by the applicant, including any commitments made therein.

(B) The authorization in Ordering Paragraph (A) above is conditioned on:

(1) Driftwood LNG's facilities being fully constructed and made available for service within seven years of the date of this order.

(2) Driftwood LNG's compliance with the environmental conditions listed in the appendix to this order.

(C) In Docket No. CP17-118-000, a certificate of public convenience and necessity under section 7(c) of the NGA is issued to Driftwood Pipeline authorizing it to construct and operate the proposed project, as described and conditioned herein, and as more fully described in Driftwood Pipeline's application and subsequent filings by the applicant, including any commitments made therein.

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

(1) Driftwood Pipeline's facilities being fully constructed and made available for service within seven years of the date of this order pursuant to section 157.20(b) of the Commission's regulations;

(2) Driftwood Pipeline's compliance with all applicable Commission regulations, 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 Commission's regulations; and

(3) Driftwood Pipeline's compliance with the environmental conditions listed in the appendix to this order.

(E) Driftwood Pipeline's request for a blanket transportation certificate under Subpart G of Part 284 of the Commission's regulations is granted.

(F) Driftwood Pipeline's request for a blanket construction certificate under Subpart F of Part 157 of the Commission's regulations is granted.

(G) Driftwood Pipeline shall file a written statement affirming that it has executed firm contracts for the capacity levels and terms of service represented in its filed precedent agreement, prior to commencing construction.

(H) Driftwood Pipeline's initial recourse rates, retainage percentages, and *pro forma* tariff are approved, as conditioned and modified above.

(I) Driftwood Pipeline shall file actual tariff records that comply with the requirements contained in the body of this order at least 60 days prior to the commencement of interstate service consistent with Part 154 of the Commission's regulations.

(J) No later than three months after its first three years of actual operation of the Phase 3 facilities, as discussed herein, Driftwood Pipeline must make a filing to justify its existing cost-based firm and interruptible recourse rates. Driftwood Pipeline's cost and revenue study should be filed through the eTariff portal using a Type of Filing Code 580. In addition, Driftwood Pipeline is advised to include as part of the eFiling description, a reference to Docket No. CP17-118-000 and the cost and revenue study.

(K) Driftwood Pipeline shall adhere to the accounting requirements discussed in the body of this order.

(L) Driftwood LNG and Driftwood Pipeline shall notify the Commission's environmental staff by telephone or e-mail of any environmental noncompliance identified by other federal, state, or local agencies on the same day that such agency notifies Driftwood LNG or Driftwood Pipeline. Driftwood LNG and Driftwood Pipeline shall file written confirmation of such notification with the Secretary of the Commission within 24 hours.

By the Commission. Commissioner LaFleur is concurring with a separate statement attached.

Commissioner Glick is dissenting with a separate statement attached.

(S E A L)

Nathaniel J. Davis, Sr.,
Deputy Secretary.

Appendix

Environmental Conditions

As recommended in the final environmental impact statement (EIS), this authorization includes the following conditions:

1. Driftwood LNG LLC and Driftwood Pipeline LLC (collectively, Driftwood) shall follow the construction procedures and mitigation measures described in its application and supplements (including responses to staff data requests) and as identified in the EIS, unless modified by the Order. Driftwood must:
 - a. request any modification to these procedures, measures, or conditions in a filing with the Secretary of the Commission (Secretary);
 - b. justify each modification relative to site-specific conditions;
 - c. explain how that modification provides an equal or greater level of environmental protection than the original measure; and
 - d. receive approval in writing from the Director of Office of Energy Projects (OEP) **before using that modification.**
2. For the Pipeline facilities, the Director of OEP, or the Director's designee, has delegated authority to address any requests for approvals or authorizations necessary to carry out the conditions of the Order, and take whatever steps are necessary to ensure the protection of environmental resources during construction and operation of the Project. This authority shall allow:
 - a. the modification of conditions of the Order;
 - b. stop-work authority; and
 - c. the imposition of any additional measures deemed necessary to ensure continued compliance with the intent of the conditions of the Order as well as the avoidance or mitigation of unforeseen adverse environmental impact resulting from project construction and operation.
3. For the liquefied natural gas (LNG) Facility, the Director of OEP, or the Director's designee, has delegated authority to address any requests for approvals or authorizations necessary to carry out the conditions of the Order, and take whatever steps are necessary to ensure the protection of life, health, property, and the environment during construction and operation of the Project. This authority shall allow:

- a. the modification of conditions of the Order;
 - b. stop-work authority and authority to cease operation; and
 - c. the imposition of any additional measures deemed necessary to ensure continued compliance with the intent of the conditions of the Order as well as the avoidance or mitigation of unforeseen adverse environmental impact resulting from project construction and operation.
4. **Prior to any construction**, Driftwood shall file an affirmative statement with the Secretary, certified by a senior company official, that all company personnel, environmental inspectors (EIs), and contractor personnel will be informed of the EI's authority and have been or will be trained on the implementation of the environmental mitigation measures appropriate to their jobs **before** becoming involved with construction and restoration activities.
5. The authorized facility locations, including both the MP 12.9 Route and Port Arthur Route Variations, 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**, Driftwood 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 the Order or site-specific clearances must be written and must reference locations designated on these alignment maps/sheets.

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

6. Driftwood 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. Each area must be approved in writing by the Director of OEP **before construction in or near that area.**

This requirement does not apply to extra workspace allowed by the Commission's *Upland Erosion Control, Revegetation & Maintenance Plan* and/or minor field realignments per landowner needs and requirements which do not affect other landowners or sensitive environmental areas such as wetlands. Examples of alterations requiring approval include all route realignments and facility location changes resulting from:

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

7. **Within 60 days of the acceptance of the authorization and before construction begins**, Driftwood LNG and Driftwood Pipeline shall each file an Implementation Plan with the Secretary, for review and written approval by the Director of OEP. Driftwood LNG and Driftwood Pipeline must file revisions to the plans as schedules change. The plans shall identify the following:

- a. how Driftwood LNG and Driftwood Pipeline 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 Driftwood LNG and Driftwood Pipeline will incorporate these requirements into the contract bid documents, construction contracts (especially penalty clauses and specifications), and construction drawings so that the mitigation required at each site is clear to onsite construction and inspection personnel;
- c. the number of EIs assigned per spread and aboveground facility sites, and how the company will ensure that sufficient personnel are available to implement the environmental mitigation;
- d. company personnel, including EIs and contractors, who will receive copies of the appropriate material;

- e. the location and dates of the environmental compliance training and instructions Driftwood will give to all personnel involved with construction and restoration (initial and refresher training as the project progresses and personnel change), with the opportunity for OEP staff to participate in the training session(s);
 - f. the company personnel (if known) and specific portion of Driftwood LNG's and Driftwood Pipeline's organization having responsibility for compliance;
 - g. the procedures (including use of contract penalties) Driftwood LNG and Driftwood Pipeline will follow if noncompliance occurs; and
 - h. for each discrete facility, a Gantt or PERT chart (or similar project scheduling diagram), and dates for:
 - (1) the completion of all required surveys and reports;
 - (2) the environmental compliance training of onsite personnel;
 - (3) the start of construction; and
 - (4) the start and completion of restoration.
8. Driftwood LNG shall employ at least one EI for the LNG Facility and Driftwood Pipeline shall employ at least one EI per construction spread for the Pipeline. Each EI shall be:
- a. responsible for monitoring and ensuring compliance with all mitigation measures required by the 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 the 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 the Order, as well as any environmental conditions/permit requirements imposed by other federal, state, or local agencies; and
 - f. responsible for maintaining status reports.

9. Beginning with the filing of its Implementation Plan, Driftwood LNG shall file updated status reports with the Secretary on a **monthly** basis for the LNG Facility, and Driftwood Pipeline shall file updated status reports on a **biweekly** basis for the Pipeline, until all construction and restoration activities are complete. Problems of a significant magnitude shall be reported to the FERC **within 24 hours**. On request, these status reports will also be provided to other federal and state agencies with permitting responsibilities. Status reports shall include the following:
 - a. an update on Driftwood's efforts to obtain the necessary federal authorizations;
 - b. Project schedule including the current construction status, 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, contractor nonconformance/deficiency logs, 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 and remedial actions implemented in response to all instances of noncompliance, nonconformance, or deficiency;
 - e. the effectiveness of all corrective and remedial actions implemented;
 - f. a description of any landowner/resident complaints which 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 Driftwood from other federal, state, or local permitting agencies concerning instances of noncompliance, and Driftwood's response.
10. Driftwood must receive written authorization from the Director of OEP **before commencing construction of any Project facilities**. To obtain such authorization, Driftwood must file with the Secretary documentation that it has received all applicable authorizations required under federal law (or evidence of waiver thereof).
11. Driftwood LNG must receive written authorization from the Director of OEP **prior to introducing hazardous fluids into the LNG Facility**. 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. Driftwood Pipeline must receive written authorization from the Director of OEP **before placing the Pipeline facilities into service**. Such authorization will only be granted following a determination that rehabilitation and restoration of the right-of-way and other areas affected by the Pipeline are proceeding satisfactorily.
13. Driftwood LNG must receive written authorization from the Director of OEP **before placing each phase of the LNG Facility into service**. Such authorization will only be granted following a determination that the facilities have been constructed in accordance with the FERC approval, can be expected to operate safely as designed, and the rehabilitation and restoration of the areas affected by the LNG Facility are proceeding satisfactorily.
14. **Within 30 days of placing the authorized facilities in service**, Driftwood 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 in the Order Driftwood has complied with or will comply with. This statement shall also identify any areas affected by the Project where compliance measures were not properly implemented, if not previously identified in filed status reports, and the reason for noncompliance.
15. **Prior to construction**, Driftwood Pipeline shall adopt the MP 12.9 Route Variation into the Pipeline route. Driftwood Pipeline shall file with the Secretary, for review and written approval by the Director of OEP, revised alignment sheets that show its modified route and workspaces in the area, a Horizontal Directional Drilling (HDD) site-specific plan, and the results of geotechnical investigations (or indicate timing of when this will be provided). (Final EIS section 3.6.2.2)
16. **Prior to construction**, Driftwood Pipeline shall adopt the Port Arthur Route Variation into the Pipeline route and file with the Secretary, for review and written approval by the Director of OEP, revised alignment sheets that show its modified route and workspaces in the area. (Final EIS section 3.6.2.4)
17. **Prior to the start of in-water pile driving activities**, Driftwood LNG shall file with the Secretary, for review and written approval by the Director of OEP, an In-Water Pile Driving Plan, developed in consultation with the National Marine Fisheries Service. This plan shall identify mitigation measures that when implemented will reduce in-water peak noise levels associated with vibratory and

hammer pile driving to levels below 206 decibels (dB) (re: 1 μ Pa). (Final EIS section 4.4.3.1)

18. **Prior to construction**, Driftwood Pipeline shall file with the Secretary, for review and written approval by the Director of OEP, a revised crossing plan for the Calcasieu River HDD that relocates the exit location and associated workspace to the adjacent upland area, outside of the palustrine forested wetland complex (WJEB009F). (Final EIS section 4.5.2.2)
19. **Prior to construction**, Driftwood shall consult with the U.S. Fish and Wildlife Service (FWS) and file with the Secretary a final set of mitigation measures for migratory bird habitat and evidence of consultation with FWS. (Final EIS section 4.7.3.1)
20. **Driftwood shall not begin construction activities until:**
 - a. Driftwood consults with the FWS to determine whether proposed Project activities could affect the eastern black rail or its habitat, and files copies of all correspondence with the Secretary;
 - b. FERC staff completes its conference with the FWS, if required; and
 - c. Driftwood has received written notification from the Director of OEP that construction may begin. (Final EIS section 4.8.2.4)
21. **Prior to construction**, Driftwood LNG shall increase the indirect area of potential effects (APE) to a radius of 1.0 mile for the LNG Facility. The revised indirect APE and associated addendum report shall be sent to the State Historic Preservation Officer (SHPO) for comments. (Final EIS section 4.11.3)
22. Driftwood **shall not begin construction** of facilities and/or use of all staging, storage, or temporary work areas and new or to-be-improved access roads **until:**
 - a. Driftwood files with the Secretary:
 - (1) remaining cultural resources survey report(s);
 - (2) site evaluation report(s) and avoidance/treatment plan(s), as required; and
 - (3) comments on the cultural resources reports and plans from the Louisiana SHPO (and interested Indian Tribes).
 - b. The Advisory Council on Historic Preservation is afforded an opportunity to comment if historic properties would be adversely affected.

- c. The FERC staff reviews and the Director of OEP approves the cultural resources reports and plans, and notifies Driftwood in writing that treatment plans/mitigation measures (including archaeological data recovery) may be implemented and/or construction may proceed.

All materials filed with the Commission containing **location, character, and ownership information** about cultural resources must have the cover and any relevant pages therein clearly labeled in bold lettering: “**CUI//PRIV- DO NOT RELEASE.**” (Final EIS section 4.11.6)

23. **Prior to construction**, Driftwood LNG shall file with the Secretary, for review and approval by the Director of OEP, a Night Time Noise Mitigation and Monitoring Plan that details the noise mitigation that it would install (such as the berm, equipment limitations, low-noise back-up alarms, etc.) and shows the noise impacts at the noise sensitive areas (NSAs). The plan shall include predictions of the noise impacts at the NSAs and demonstrate how the proposed mitigation would reduce noise to no more 55 decibels on the A weighted scale (dBA) day-night sound level (L_{dn}) at occupied residences. The plan shall also provide for notification of night time construction to nearby NSAs/residents and noise monitoring. (Final EIS section 4.12.2.3)
24. **Prior to construction**, Driftwood LNG shall file with the Secretary, for review and written approval by the Director of OEP, a Pile Driving Noise Management Plan. The plan shall outline a monitoring plan for sound levels (24-hour equivalent sound level (L_{eq}) and estimated maximum sound levels (L_{max})) during pile driving, and evaluation and use of noise mitigation to reduce noise attributable to pile driving L_{max} levels to no greater than 60 dBA at any NSAs. (Final EIS section 4.12.2.2)
25. **Prior to construction of the Pipeline at HDD locations A1, A2, A4, and A6**, Driftwood Pipeline shall file with the Secretary, for review and written approval by the Director of OEP, an HDD Noise Mitigation Plan to reduce noise levels attributable to the drilling operations at NSAs near their respective entry and exit points to below 55 dBA L_{dn} or 10 dBA over existing sound levels. During drilling operations, Driftwood Pipeline shall implement the approved plan, monitor noise levels, and make all reasonable efforts to meet these noise levels attributable to the drilling operations at the NSAs. (Final EIS section 4.12.2.2)
26. Driftwood LNG shall file a full power load noise survey with the Secretary for the LNG Facility **no later than 60 days** after each liquefaction plant is placed into service. If the noise attributable to operation of the equipment at the LNG Facility exceeds an L_{dn} of 55 dBA at the nearest NSA, **within 60 days** Driftwood LNG shall modify 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. Driftwood LNG 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. (Final EIS section 4.12.2.4)
27. Driftwood LNG shall file a noise survey with the Secretary **no later than 60 days** after placing the entire LNG Facility into service. If a full-load noise survey is not possible, Driftwood LNG shall provide an interim survey at the maximum possible horsepower load **within 60 days** of placing the LNG Facility into service and provide the full-load noise survey **within 6 months**. If the noise attributable to operation of the equipment at the LNG Facility exceeds an L_{dn} of 55 dBA at the nearest NSA under interim or full horsepower load conditions, Driftwood LNG 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. Driftwood LNG shall confirm compliance with the above requirement by filing an additional full-load noise survey with the Secretary **no later than 60 days** after it installs the additional noise controls. (Final EIS section 4.12.2.4)
28. Driftwood Pipeline shall file noise surveys with the Secretary **no later than 60 days** after placing MS-2, MS-4, MS-7, MS-9, MS-12, and MS-13 facilities in service. If the noise attributable to the operation of the metering facilities at maximum flow exceeds an L_{dn} of 55 dBA at any nearby NSA, Driftwood Pipeline shall install additional noise controls to meet that level **within 1 year** of the in-service date. Driftwood Pipeline shall confirm compliance with the L_{dn} of 55 dBA requirement by filing a second noise survey with the Secretary **no later than 60 days** after it installs the additional noise controls. (Final EIS section 4.12.2.4)
29. Driftwood Pipeline shall file a noise survey with the Secretary **no later than 60 days** after placing CS-01, CS-02, and CS-03 in service. If a full load condition noise survey is not possible, Driftwood Pipeline shall provide an interim survey at the maximum possible horsepower load and provide the full load survey **within 6 months**. If the noise attributable to the operation of all of the equipment at the compressor stations under interim or full horsepower load conditions exceeds an L_{dn} of 55 dBA at any nearby NSAs, Driftwood Pipeline 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. Driftwood Pipeline 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. (Final EIS section 4.12.2.4)
30. **Prior to construction of final design**, Driftwood LNG shall file with the Secretary the following information, stamped and sealed by the professional engineer-of-record, registered in Louisiana:
- a. site preparation drawings and specifications;

- b. LNG terminal structures and foundation design drawings and calculations;
- c. seismic specifications for procured equipment prior to the issuing of requests for quotations; and
- d. quality control procedures to be used for civil/structural design and construction.

In addition, Driftwood LNG shall file, in its Implementation Plan, the schedule for producing this information. (Final EIS section 4.13.1)

31. **Prior to commencement of service**, Driftwood LNG shall file with the Secretary a monitoring and maintenance plan, stamped and sealed by the professional engineer-of-record registered in Louisiana for the perimeter levee which ensures the crest elevation relative to mean sea level will be maintained for the life of the facility considering berm settlement, subsidence, and sea level rise. (Final EIS section 4.13.1)

Conditions 32 through 107 shall apply to the Driftwood LNG Facility.

Information pertaining to these specific conditions below shall be filed with the Secretary for review and written approval by the Director of OEP, or the Director's designee, within the timeframe indicated by each condition. Specific engineering, vulnerability, or detailed design information meeting the criteria specified in Order No. 833 (Docket No. RM16-15-000), including security information, shall be submitted as critical energy infrastructure information pursuant to 18 CFR 388.113. See Critical Electric Infrastructure Security and Amending Critical Energy Infrastructure Information, Order No. 833, 81 Fed. Reg. 93,732 (December 21, 2016), FERC Stats. & Regs. 31,389 (2016). Information pertaining to items such as offsite emergency response, procedures for public notification and evacuation, and construction and operating reporting requirements will be subject to public disclosure. All information shall be filed a minimum of 30 days before approval to proceed is requested.

32. **Prior to initial site preparation**, Driftwood LNG shall file an overall LNG Facility schedule, which includes the proposed stages of the commissioning plan. (Final EIS section 4.13.1)
33. **Prior to initial site preparation**, Driftwood LNG shall file quality assurance and quality control procedures for construction activities. (Final EIS section 4.13.1)
34. **Prior to initial site preparation**, Driftwood LNG shall file procedures for controlling access during construction. (Final EIS section 4.13.1)
35. **Prior to initial site preparation**, Driftwood LNG shall develop an Emergency Response Plan (ERP) (including evacuation) and coordinate procedures with the

U.S. Coast Guard (USCG); state, county, and local emergency planning groups; fire departments; state and local law enforcement; and appropriate federal agencies. This plan shall include, at a minimum, the following:

- a. designated contacts with state and local emergency response agencies;
- b. scalable procedures for the prompt notification of appropriate local officials and emergency response agencies based on the level and severity of potential incidents;
- c. procedures for notifying residents and recreational users within areas of potential hazard;
- d. evacuation routes/methods for residents and public use areas that are within any transient hazard areas along the route of the LNG marine transit;
- e. locations of permanent sirens and other warning devices; and
- f. an “emergency coordinator” on each LNG carrier to activate sirens and other warning devices.

Driftwood LNG shall notify the FERC staff of all planning meetings in advance and shall report progress on the development of its ERP at **3-month intervals**. (Final EIS section 4.13.1)

36. **Prior to initial site preparation**, Driftwood LNG shall file a Cost-Sharing Plan identifying the mechanisms for funding all LNG Facility-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. Driftwood LNG shall notify FERC staff of all planning meetings in advance and shall report progress on the development of its Cost Sharing Plan at **3-month intervals**. (Final EIS section 4.13.1)
37. **Prior to construction of final design**, Driftwood LNG shall file information/revisions pertaining to Driftwood LNG’s response numbers 13, 14, 16, 21, 22, 23, 24, 29, 31, 33, 34, 36, 39, 43, 45, 46, 47, 48, 50, 53, 54, and 57 of its September 29, 2017 filing, which indicated features to be included or considered in the final design. (Final EIS section 4.13.1)
38. **Prior to construction of final design**, Driftwood LNG shall file change logs that list and explain any changes made from the front end engineering design provided in Driftwood LNG’s application and filings. A list of all changes with an

explanation for the design alteration shall be filed and all changes shall be clearly indicated on all diagrams and drawings. (Final EIS section 4.13.1)

39. **Prior to construction of final design**, Driftwood LNG shall file up-to-date process flow diagrams (PFDs) and piping and instrument diagrams (P&IDs), including vendor P&IDs. The PFDs shall include heat and material balances. The P&IDs shall include the following information:
 - a. equipment tag number, name, size, duty, capacity, and design conditions;
 - b. equipment insulation type and thickness;
 - c. storage tank pipe penetration size 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. (Final EIS section 4.13.1)
40. **Prior to construction of final design**, Driftwood LNG shall file P&IDs, specifications, and procedures that clearly show and specify the tie-in details required to safely connect subsequently constructed facilities with the operational facilities. (Final EIS section 4.13.1)
41. **Prior to construction of final design**, Driftwood LNG shall file a car seal philosophy and a list of all car-sealed and locked valves consistent with the P&IDs. (Final EIS section 4.13.1)
42. **Prior to construction of final design**, the engineering, procurement, and construction contractor shall verify that the recommendations from the Front End Engineering Design Hazard Identification are complete and consistent with the requirements of the final design as determined by the engineering, procurement, and construction contractor. (Final EIS section 4.13.1)
43. **Prior to construction of final design**, Driftwood LNG shall file a hazard and operability review prior to issuing the P&IDs for construction. A copy of the review, a list of the recommendations, and actions taken on the recommendations shall be filed. (Final EIS section 4.13.1)

44. **Prior to construction of final design**, Driftwood LNG shall file the safe operating limits (upper and lower), alarm and shutdown set points for all instrumentation (i.e., temperature, pressures, flows, and compositions). (Final EIS section 4.13.1)
45. **Prior to construction of final design**, Driftwood LNG shall include LNG tank fill flow measurement with high flow alarm. (Final EIS section 4.13.1)
46. **Prior to construction of final design**, Driftwood LNG shall include boil-off gas (BOG) flow, and tank density profile and temperature profile measurements for each tank. (Final EIS section 4.13.1)
47. **Prior to construction of final design**, Driftwood LNG shall specify that all Emergency Shutdown (ESD) valves will be equipped with open and closed position switches connected to the Distributed Control System/Safety Instrumented System. (Final EIS section 4.13.1)
48. **Prior to construction of final design**, Driftwood LNG shall file 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. (Final EIS section 4.13.1)
49. **Prior to construction of final design**, Driftwood LNG shall specify and evaluate emergency shutdown valve closure times. Include an analysis that describes the time to detect an upset condition, notify plant personnel, and close the emergency shutdown valve. (Final EIS section 4.13.1)
50. **Prior to construction of final design**, Driftwood LNG shall file an evaluation of dynamic pressure surge effects from valve opening and closure times and pump operations. (Final EIS section 4.13.1)
51. **Prior to construction of final design**, Driftwood LNG shall file a plot plan of final design showing all major equipment, structures, buildings, and impoundment systems. (Final EIS section 4.13.1)
52. **Prior to construction of final design**, Driftwood LNG shall file three-dimensional plant drawings to confirm plant layout for maintenance, access, egress, and congestion. (Final EIS section 4.13.1)
53. **Prior to construction of final design**, Driftwood LNG shall file complete specifications for the proposed LNG tank design and installation. (Final EIS section 4.13.1)

54. **Prior to construction of final design**, Driftwood LNG shall file the structural analysis of the LNG storage tank and outer containment demonstrating they are designed to withstand all loads and combinations. (Final EIS section 4.13.1)
55. **Prior to construction of final design**, Driftwood LNG shall file an analysis of the structural integrity of the outer containment of the full containment storage tanks that demonstrates it can withstand all thermal and overpressure loads incurred from coincident and adjacent roof tank top fires and release and ignition of design spills. (Final EIS section 4.13.1)
56. **Prior to construction of final design**, Driftwood LNG shall file a detailed aircraft impact analysis that uses frequencies for the various surrounding aircraft operations per the Department of Energy Standard, DOE-STD-2014-2006, or other approved methodology that demonstrates the design of the full containment LNG tanks would be able to withstand aircraft impacts using CEB 187 or other approved methodology from aircraft operations with impact frequencies equal or more frequent than $3e-5$ per year or other approved frequency that would not result in a significant increase in risk to the surrounding public. (Final EIS section 4.13.1)
57. **Prior to construction of final design**, Driftwood LNG shall file drawings of the storage tank piping support structure and support of horizontal piping at grade including pump columns, relief valves, pipe penetrations, instrumentation, and appurtenances. (Final EIS section 4.13.1)
58. **Prior to construction of final design**, Driftwood LNG shall file a projectile analysis for review and approval to demonstrate that the outer concrete impoundment wall of a full-containment LNG tank could withstand wind borne projectiles. The analysis shall detail the projectile speeds and characteristics and method used to determine penetration or perforation depths. (Final EIS section 4.13.1)
59. **Prior to construction of final design**, Driftwood LNG shall file an up-to-date equipment list, process and mechanical data sheets, and specifications. The specifications shall include:
 - a. building specifications (control buildings, electrical buildings, compressor buildings, storage buildings, pressurized buildings, ventilated buildings, blast resistant buildings);
 - b. mechanical specifications (piping, valve, insulation, rotating equipment, heat exchanger, storage tank and vessel, other specialized equipment);

- c. electrical and instrumentation specifications (power system specifications, control system specifications, safety instrument system specifications, cable specifications, other electrical and instrumentation specifications); and
 - d. security and fire safety specifications (security, passive protection, hazard detection, hazard control, firewater). (Final EIS section 4.13.1)
60. **Prior to construction of final design**, Driftwood LNG 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. (Final EIS section 4.13.1)
61. **Prior to construction of final design**, Driftwood LNG shall specify that piping and equipment that may be cooled with liquid nitrogen is to be designed for liquid nitrogen temperatures, with regard to allowable movement and stresses. (Final EIS section 4.13.1)
62. **Prior to construction of final design**, Driftwood LNG shall file 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. (Final EIS section 4.13.1)
63. **Prior to construction of final design**, Driftwood LNG shall file drawings and specifications for vehicle barriers at each facility entrance. (Final EIS section 4.13.1)
64. **Prior to construction of final design**, Driftwood LNG shall provide security camera, intrusion detection, and lighting drawings. The security camera drawings shall show the location, areas covered, and features of the camera (fixed, tilt/pan/zoom, motion detection alerts, low light, mounting height, etc.) to verify camera coverage of the entire perimeter with redundancies and cameras interior to the facility that would enable rapid monitoring of the LNG plant. The intrusion detection drawings shall show or note the location of the intrusion detection to verify it covers the entire perimeter of the LNG plant. The lighting drawings shall show the location, elevation, type of light fixture, and lux levels of the lighting system. (Final EIS section 4.13.1)
65. **Prior to construction of final design**, Driftwood LNG shall file an updated fire protection evaluation of the proposed facilities. 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. (Final EIS section 4.13.1)

66. **Prior to construction of final design**, Driftwood LNG shall file 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, and sizing and design of the marine spill containment system that will transfer spills from the jetty back to the site's impoundment system. (Final EIS section 4.13.1)
67. **Prior to construction of final design**, Driftwood LNG shall file correspondence from the Department of Transportation (DOT) demonstrating the gravity drained water removal systems for impoundment areas meets DOT regulations regarding the use of sump pumps and automatic shutdown controls and water removal systems prescribed in 49 CFR 193.2173. (Final EIS section 4.13.1)
68. **Prior to construction of final design**, Driftwood LNG shall file electrical area classification drawings. (Final EIS section 4.13.1)
69. **Prior to construction of final design**, Driftwood LNG shall file 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 National Fire Protection Association (NFPA) Standard 59A (2001 edition). (Final EIS section 4.13.1)
70. **Prior to construction of final design**, Driftwood LNG shall file details of 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. (Final EIS section 4.13.1)
71. **Prior to construction of final design**, Driftwood LNG shall file 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. (Final EIS section 4.13.1)
72. **Prior to construction of final design**, Driftwood LNG shall file the details of a site-wide ESD button with proper sequencing and reliability or shall include other provisions that are demonstrated through a human reliability analysis to provide a means to quickly and reliably shutdown the entire site. (Final EIS section 4.13.1)
73. **Prior to construction of final design**, Driftwood LNG shall file 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. (Final EIS section 4.13.1)
74. **Prior to construction of final design**, Driftwood LNG shall include a technical review of facility design that:
- a. identifies all combustion/ventilation air intake equipment and the distances to any possible flammable gas or toxic release; 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 heating ventilation and air conditioning equipment whose continued operation could add to or sustain an emergency. (Final EIS section 4.13.1)
75. **Prior to construction of final design**, Driftwood LNG shall file a design that includes hazard detection suitable to detect high temperatures and smoldering combustion in electrical buildings and control room buildings. (Final EIS section 4.13.1)
76. **Prior to construction of final design**, Driftwood LNG shall file a design that includes smoke detection in occupied buildings. (Final EIS section 4.13.1)
77. **Prior to construction of final design**, Driftwood LNG shall file an analysis of the localized hazards to operators from a potential liquid nitrogen release and shall also provide consideration of any mitigation that may be prudent. (Final EIS section 4.13.1)
78. **Prior to construction of final design**, Driftwood LNG shall file a list of alarm and shutdown set points for all hazard detectors that account for the calibration gas of the hazard detectors when determining the lower flammability limit set points for methane, ethylene, propane, n-butane, i-pentane, and condensate. (Final EIS section 4.13.1)
79. **Prior to construction of final design**, Driftwood LNG shall file a list of alarm and shutdown set points for all hazard detectors that account for the calibration gas of hazard detectors when determining the toxic concentration set points for condensates, ammonia, natural gas liquids and hydrogen sulfide. (Final EIS section 4.13.1)
80. **Prior to construction of final design**, Driftwood LNG shall file an evaluation of the voting logic and voting degradation for hazard detectors. (Final EIS section 4.13.1)

81. **Prior to construction of final design**, Driftwood LNG shall file facility plan drawings and a list of the fixed and wheeled dry-chemical, hand-held fire extinguishers, and other hazard control equipment. Plan 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. (Final EIS section 4.13.1)
82. **Prior to construction of final design**, Driftwood LNG shall file a design that includes clean agent systems in the electrical switchgear and instrumentation buildings. (Final EIS section 4.13.1)
83. **Prior to construction of final design**, Driftwood LNG shall file drawings and specifications for the structural passive protection systems to protect equipment and supports from cryogenic releases. (Final EIS section 4.13.1)
84. **Prior to construction of final design**, Driftwood LNG shall file a detailed quantitative analysis to demonstrate that adequate thermal mitigation would be provided for each significant component within the 4,000 BTU/ft²-hr zone from an impoundment, or provide an analysis that assess the consequence of pressure vessel bursts and boiling liquid expanding vapor explosions. Trucks at the truck transfer station shall be included in the analysis. Passive mitigation shall be supported by calculations for the thickness limiting temperature rise and active mitigation shall be justified with calculations demonstrating flow rates and durations of any cooling water will mitigate the heat absorbed by the vessel. (Final EIS section 4.13.1)
85. **Prior to construction of final design**, Driftwood LNG shall file facility plan drawings showing the proposed location of the firewater and any foam systems. Plan drawings shall clearly show the location of firewater and foam piping, post indicator valves, and the location and area covered by, each monitor, hydrant, hose, water curtain, deluge system, foam system, water-mist system, and sprinkler. The drawings shall also include piping and instrumentation diagrams of the firewater and foam systems. (Final EIS section 4.13.1)
86. **Prior to construction of final design**, Driftwood LNG shall file detailed calculations to confirm that the final fire water volumes will be accounted for when evaluating the capacity of the impoundment system during a spill and fire scenario. (Final EIS section 4.13.1)
87. **Prior to construction of final design**, Driftwood LNG shall specify that the firewater flow test meter is equipped with a transmitter and that a pressure transmitter is installed upstream of the flow transmitter. The flow transmitter and

- pressure transmitter shall be connected to the Distributed Control System and recorded. (Final EIS section 4.13.1)
88. **Prior to construction of final design**, Driftwood LNG shall file a design that accounts for the fire water required for foam generation in calculating the total fire water required for 2 hours of supply. (Final EIS section 4.13.1)
 89. **Prior to commissioning**, Driftwood LNG shall file 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. Driftwood LNG shall file documentation certifying that each of these milestones is complete before authorization to commence the next phase of commissioning and startup will be issued. (Final EIS section 4.13.1)
 90. **Prior to commissioning**, Driftwood LNG shall file detailed plans and procedures for: testing the integrity of onsite mechanical installation; functional tests; introduction of hazardous fluids; operational tests; and placing the equipment into service. (Final EIS section 4.13.1)
 91. **Prior to commissioning**, Driftwood LNG shall file 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, and shall provide justification if not using an inert or non-flammable gas for clean-out, dry-out, purging, and tightness testing. (Final EIS section 4.13.1)
 92. **Prior to commissioning**, Driftwood LNG shall file the procedures for pressure/leak tests which address the requirements of American Society of Mechanical Engineers (ASME) VIII and ASME B31.3. The procedures shall include a line list of pneumatic and hydrostatic test pressures. (Final EIS section 4.13.1)
 93. **Prior to commissioning**, Driftwood LNG shall file the operation and maintenance procedures and manuals, as well as safety procedures, hot work procedures and permits, abnormal operating conditions reporting procedures, and management of change procedures and forms. (Final EIS section 4.13.1)
 94. **Prior to commissioning**, Driftwood LNG shall tag all equipment, instrumentation, and valves in the field, including drain valves, vent valves, main valves, and car-sealed or locked valves. (Final EIS section 4.13.1)
 95. **Prior to commissioning**, Driftwood LNG shall file results of the LNG storage tank hydrostatic test and foundation settlement results. At a minimum, foundation settlement results shall be provided thereafter annually. (Final EIS section 4.13.1)

96. **Prior to commissioning**, Driftwood LNG shall equip the LNG storage tank and adjacent piping and supports with permanent settlement monitors to allow personnel to observe and record the relative settlement between the LNG storage tank and adjacent piping. The settlement record shall be reported in the semi-annual operational reports. (Final EIS section 4.13.1)
97. **Prior to commissioning**, Driftwood LNG shall file a plan to maintain a detailed training log to demonstrate that operating staff has completed the required training. (Final EIS section 4.13.1)
98. **Prior to introduction of hazardous fluids**, Driftwood LNG 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. (Final EIS section 4.13.1)
99. **Prior to introduction of hazardous fluids**, Driftwood LNG shall develop and implement an alarm management program to reduce alarm complacency and maximize the effectiveness of operator response to alarms. (Final EIS section 4.13.1)
100. **Prior to introduction of hazardous fluids**, Driftwood LNG shall complete and document 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). (Final EIS section 4.13.1)
101. **Prior to introduction of hazardous fluids**, Driftwood LNG shall complete and document a pre-startup safety review to ensure that installed equipment meets the design and operating intent of the facility. The pre-startup safety review shall include any changes since the last hazard review, operating procedures, and operator training. A copy of the review with a list of recommendations, and actions taken on each recommendation, shall be filed. (Final EIS section 4.13.1)
102. Driftwood LNG shall file a request for written authorization from the Director of OEP **prior to unloading or loading the first LNG commissioning cargo. After production of first LNG**, Driftwood LNG 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 plant, 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**. (Final EIS section 4.13.1)

103. **Prior to commencement of service**, Driftwood LNG shall provide plans for any preventative and predictive maintenance program that performs periodic or continuous equipment condition monitoring. (Final EIS section 4.13.1)
104. **Prior to commencement of service**, Driftwood LNG 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). (Final EIS section 4.13.1)
105. **Prior to commencement of service**, Driftwood LNG shall develop procedures for offsite contractors' responsibilities, restrictions, and limitations and for supervision of these contractors by Driftwood LNG staff. (Final EIS section 4.13.1)
106. **Prior to commencement of service**, Driftwood LNG shall notify the FERC staff of any proposed revisions to the security plan and physical security of the plant. (Final EIS section 4.13.1)
107. **Prior to commencement of service**, Driftwood LNG shall file a request for written authorization from the Director of OEP. Such authorization will only be granted following a determination by the USCG, under its authorities under the Ports and Waterways Safety Act, the Magnuson Act, the Maritime Transportation Security Act of 2002, and the Security and Accountability For Every (SAFE) Port Act, that appropriate measures to ensure the safety and security of the facility and the waterway have been put into place by Driftwood LNG or other appropriate parties. (Final EIS section 4.13.1)

In addition, conditions 108 through 111 shall apply **throughout the life** of the Driftwood LNG facilities.

108. 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, Driftwood LNG shall respond to a specific data request including information relating to possible design and operating conditions that may have been imposed by other agencies or organizations. Up-to-date detailed P&IDs 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. (Final EIS section 4.13.1)

109. **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 will provide the FERC staff with early notice of anticipated future construction/maintenance at the LNG facilities. (Final EIS section 4.13.1)
110. In the event the temperature of any region of any secondary containment, including imbedded pipe supports, becomes less than the minimum specified operating temperature for the material, the Commission shall be notified **within 24 hours** and procedures for corrective action shall be specified. (Final EIS section 4.13.1)
111. 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 plant’s emergency plan. Examples of reportable hazardous fluids-related incidents include the following:
- 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 five minutes or more;
- f. unintended movement or abnormal loading by environmental causes, such as an earthquake, landslide, or flood, that impairs the serviceability, structural integrity, or reliability of an LNG facility that contains, controls, or processes hazardous fluids;
- g. any crack or other material defect that impairs the structural integrity or reliability of an 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 transportation occurring at or en route to and from the LNG facility; or
- m. an event that is significant in the judgment of the operator and/or management even though it did not meet the above criteria or the guidelines set forth in an LNG facility's incident management plan.

In the event of an incident, the Director of OEP has delegated authority to take whatever steps are necessary to ensure operational reliability and to protect human life, health, property, or the environment, including authority to direct the LNG Facility to cease operations. Following the initial company notification, the FERC staff will determine the need for a separate follow-up report or follow up in the

upcoming semi-annual operational report. All company follow-up reports shall include investigation results and recommendations to minimize a reoccurrence of the incident. (Final EIS section 4.13.1)

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Driftwood LNG LLC
Driftwood Pipeline LLC

Docket Nos. CP17-117-000
CP17-118-000

(Issued April 18, 2019)

GLICK, Commissioner, *dissenting*:

1. I dissent from today’s order because it violates both the Natural Gas Act¹ (NGA) and the National Environmental Policy Act² (NEPA). In particular, the Commission is again refusing to consider the consequences its actions have for climate change. Neither the NGA nor NEPA permit the Commission to assume away the climate change implications of constructing and operating this liquefied natural gas (LNG) facility. Yet that is precisely what the Commission is doing today.

2. In the order authorizing Driftwood LNG LLC’s LNG export terminal (LNG Terminal) pursuant to section 3 of the NGA and the associated natural gas pipeline (Pipeline Project) pursuant to section 7 of the NGA (collectively, Project), the Commission treats GHG emissions differently than all other environmental impacts. By refusing to assess the significance of the impact of the Project’s GHG emissions, even after quantifying them, the Commission not only neglects its obligation to assess the environmental impacts, but also its concomitant duty to explore possible mitigation measures to reduce any significant adverse effects. This systematic failure to consider the Project’s impacts on climate change is what allows the Commission to misleadingly state that “[a]ll [environmental] impacts . . . will be reduced to less-than-significant levels”³ and, as a result, conclude that the Project satisfies the NGA’s public interest standards.⁴

¹ 15 U.S.C. §§ 717b, 717f (2012).

² National Environmental Policy Act of 1969, 42 U.S.C. §§ 4321 *et seq.*

³ *Driftwood LNG LLC*, 167 FERC ¶ 61,054, at P 25 (2019) (Certificate Order); Final Environmental Impact Statement at ES-14–ES-15 (Final EIS).

⁴ Certificate Order, 167 FERC ¶ 61,054 at PP 28, 35.

(continued ...)

I. The Commission's Public Interest Determinations Are Not the Product of Reasoned Decisionmaking

3. The NGA's regulation of LNG import and export facilities "implicate[s] a tangled web of regulatory processes" split between the U.S. Department of Energy (DOE) and the Commission.⁵ The NGA establishes a general presumption favoring the import and export of LNG unless there is an affirmative finding that the import or export "will not be consistent with the public interest."⁶ Section 3 of the NGA, which governs LNG imports and exports, provides for two independent public interest determinations: one regarding the import or export of LNG itself and one regarding the facilities used for that import or export. DOE determines whether the import or export of LNG is consistent with the public interest, with transactions among free trade countries legislatively deemed to be "consistent with the public interest."⁷ The Commission evaluates whether "an application for the siting, construction, expansion, or operation of an LNG terminal" is itself consistent with the public interest.⁸ Pursuant to that authority, the Commission

⁵ *Sierra Club v. FERC*, 827 F.3d 36, 40 (D.C. Cir. 2016) (*Freeport*).

⁶ 15 U.S.C. §717b(a); see *EarthReports, Inc. v. FERC*, 828 F.3d 949, 953 (D.C. Cir. 2016) (citing *W. Va. Pub. Servs. Comm'n v. Dep't of Energy*, 681 F.2d 847, 856 (D.C. Cir. 1982) ("NGA [section] 3, unlike [section] 7, 'sets out a general presumption favoring such authorization.'")). Under section 7 of the NGA, the Commission approves a proposed pipeline if it is shown to be consistent with the public interest, while under section 3, the Commission approves a proposed LNG import or export facility unless it is shown to be inconsistent with the public interest. Compare 15 U.S.C. §717b(a) with 15 U.S.C. §717f(a), (e).

⁷ 15 U.S.C. § 717b(c). The courts have explained that, because the authority to authorize the LNG exports rests with DOE, NEPA does not require the Commission to consider the upstream or downstream GHG emissions that may be indirect effects of the export itself when determining whether the related LNG export facility satisfies section 3 of the NGA. See *Freeport*, 827 F.3d at 46-47; see also *Sierra Club v. FERC*, 867 F.3d 1357, 1373 (D.C. Cir. 2017) (*Sabal Trail*) (discussing *Freeport*). NEPA still requires, however, that the Commission consider the direct GHG emissions associated with a proposed LNG export facility. See *Freeport*, 827 F.3d at 41, 46.

⁸ 15 U.S.C. § 717b(e). In 1977, Congress transferred the regulatory functions of NGA section 3 to DOE. DOE, however, subsequently delegated to the Commission authority to approve or deny an application for the siting, construction, expansion, or operation of an LNG terminal, while retaining the authority to determine whether the import or export of LNG to non-free trade countries is in the public interest. See (continued ...)

must approve a proposed LNG facility unless the record shows that the facility would be inconsistent with the public interest.⁹

4. As part of that determination, the Commission must examine a proposed LNG facility's impact on the environment and public safety. A facility's impact on climate change must be part of a public interest determination under the NGA.¹⁰ Nevertheless, the Commission maintains that it need not consider whether the Project's contribution to climate change is significant because it lacks a means to do so—or at least so it claims.¹¹ However, the shocking part of the Commission's rationale is what comes next. Based on this alleged inability to assess significance, the Commission concludes that the Project will have no significant environmental impact.¹² That is the equivalent of saying that an action that is known to be dangerous is actually safe because we do not know exactly how dangerous it is. That is ludicrous and it certainly does not give climate change the serious consideration it deserves and that the law demands.

5. The Commission's failure to consider the impact of the Project's GHG emissions is all-the-more glaring given the volume of emissions at issue in this proceeding. The Final EIS points out that the Project will directly emit over 10 million tons of GHGs annually.¹³ That is equivalent to the annual GHG emissions from 2.3 million automobiles—which is more than all of the cars in the Commonwealth of Kentucky. Especially given the Commission's acknowledgment that GHG emissions contribute to

EarthReports, Inc., 828 F.3d at 952-53.

⁹ *See Freeport*, 827 F.3d at 40-41.

¹⁰ *See Sabal Trail*, 867 F.3d at 1373 (explaining that the Commission may “deny a pipeline certificate on the ground that the pipeline would be too harmful to the environment”); *see also Atl. Ref. Co. v. Pub. Serv. Comm'n of N.Y.*, 360 U.S. 378, 391 (1959) (holding that the NGA requires the Commission to consider “all factors bearing on the public interest”).

¹¹ Final EIS at ES-13 (explaining that “[t]here is no generally accepted significance criteria for [GHG] emissions” and “[t]herefore, we cannot determine whether the Project's contribution to climate change would be significant”).

¹² Final EIS at ES-14–ES-15; *see also* Certificate Order, 167 FERC ¶ 61,054 at P 120 (stating that the Commission agrees with the conclusions presented in the [F]inal EIS and finding that the Project is an “environmentally acceptable action”).

¹³ Final EIS at Tables 4.12-4, 4.12-8, 4.12-9, 4.12-10, 4.12-14; *see also* Certificate Order, 167 FERC ¶ 61,054 at P 99.

(continued ...)

climate change,¹⁴ the decision to exclude emissions from playing any role in the Commission's public interest analysis is indefensible.

6. The implications of the Commission's approach to evaluating the impacts of GHG emissions extend beyond any single proceeding under NGA section 3 or section 7. Taking the Commission's approach to its logical conclusion, the Commission would approve any project regardless of the amount of GHGs emitted without ever determining the significance of their environmental impact. If the Commission's assessment of that impact will not change no matter the volume of GHG emissions at issue, those emissions and their consequences cannot meaningfully factor into the public interest determination. Approving a project that may significantly contribute to the harms caused by climate change without meaningfully evaluating the significance of that impact or considering it as part of the public interest determination is contrary to law, arbitrary and capricious, and not the product of reasoned decisionmaking.¹⁵

II. The Commission Fails to Satisfy Its Obligations under NEPA

7. In order to evaluate the environmental consequences of the Project under NEPA, the Commission must consider the harm caused by the Project's GHG emissions and "evaluate the 'incremental impact' that these emissions will have on climate change or the environment more generally."¹⁶ As noted, the Final EIS states that the Project will directly emit over 10 million tons of GHGs annually.¹⁷ Although that quantification of the Project's GHG emissions is a necessary step toward meeting the Commission's NEPA obligations, listing the volume of emissions alone is insufficient.¹⁸

¹⁴ Final EIS at 4-294–4-295.

¹⁵ As noted, the NGA "requires the Commission to evaluate all factors bearing on the public interest," *Atl. Ref. Co.*, 360 U.S. at 391, which *Sabal Trail* held includes a facility's contribution to the harms caused by climate change, 867 F.3d at 1373.

¹⁶ *Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1216 (9th Cir. 2008); *WildEarth Guardians v. Zinke*, No. CV 16-1724 (RC), 2019 WL 1273181, at *1 (D.D.C. Mar. 19, 2019) (explaining that the agency was required to "provide the information necessary for the public and agency decisionmakers to understand the degree to which [its] decisions at issue would contribute" to the "impacts of climate change in the state, the region, and across the country").

¹⁷ *Supra* note 13.

¹⁸ *See Ctr. for Biological Diversity*, 538 F.3d at 1216 ("While the [environmental document] quantifies the expected amount of CO₂ emitted . . . , it does not evaluate the (continued ...)")

8. As an initial matter, identifying the consequences that those emissions will have for climate change is essential if NEPA is to play the disclosure and good government roles for which it was designed. The Supreme Court has explained that NEPA’s purpose is to “ensure[] that the agency, in reaching its decision, will have available, and will carefully consider, detailed information concerning significant environmental impacts” and to “guarantee[] that the relevant information will be made available to the larger audience that may also play a role in both the decisionmaking process and the implementation of that decision.”¹⁹ It is hard to see how hiding the ball on a project’s climate impacts is consistent with either of those purposes.

9. In addition, under NEPA, a finding of significance informs the Commission’s inquiry into potential ways of mitigating environmental impacts.²⁰ The Supreme Court has held that an EIS must “contain a detailed discussion of possible mitigation measures” to address adverse environmental impacts.²¹ The Court explained that, “[w]ithout such a discussion, neither the agency nor other interested groups and individuals can properly evaluate the severity of the adverse effects” of a project, making an examination of possible mitigation measures necessary to ensure that the agency has taken a “hard look” at the environmental consequences of the action at issue.²² Consistent with this obligation, the Final EIS discusses mitigation measures to ensure that all of the Project’s adverse environmental impacts, other than GHG emissions, are reduced to less than

‘incremental impact’ that these emissions will have on climate change or on the environment more generally”); *Klamath-Siskiyou Wildlands Ctr. v. Bureau of Land Mgmt.*, 387 F.3d 989, 995 (9th Cir. 2004) (“A calculation of the total number of acres to be harvested in the watershed is a necessary component . . . , but it is not a sufficient description of the actual environmental effects that can be expected from logging those acres.”).

¹⁹ *Dep’t of Transp. v. Pub. Citizen*, 541 U.S. 752, 768 (2004) (citing *Robertson v. Methow Valley Citizens Coun.*, 490 U.S. 332, 349 (1989)).

²⁰ 40 C.F.R. § 1502.16 (2018) (NEPA requires an implementing agency to form a “scientific and analytic basis for the comparisons” of the environmental consequences of its action in its environmental review, which “shall include discussions of . . . [d]irect effects and their significance.”).

²¹ *Robertson*, 490 U.S. at 351.

²² *Id.* at 352; see also 40 C.F.R. §§ 1508.20 (defining mitigation), 1508.25 (including in the scope of an environmental impact statement mitigation measures).

(continued ...)

significant levels.²³ For example, in order to find that the Project's impacts on wetlands are less than significant,²⁴ the Commission relies on compensatory mitigation including the purchase of mitigation credits.²⁵ The Commission not only has the obligation to discuss mitigation of adverse environmental impacts under NEPA, but also the authority to condition certificates under section 3 and 7 of the NGA.²⁶ Once again, however, the Project's climate impacts are treated differently. By refusing to assess significance, the Commission escapes its obligation to consider mitigation measures for the Project's GHG emissions.

10. In refusing to even assess the significance of the Project's GHG emissions during the environmental review process, the Commission relegates climate change to a negligible role, at best, in its NEPA analysis. Nothing in today's order justifies this result. The Commission argues that it need not determine whether the Project's contribution to climate change is significant because "[t]here is no standard methodology" to determine whether the GHG emissions "would result in physical effects on the environment for the purposes of evaluating the Project's impact on climate change, either locally or nationally."²⁷ As a logical matter, the argument that there is no single

²³ Certificate Order, 167 FERC ¶ 61,054 at PP 70, 72, 76, 78, 83, 88 (The Commission states that adverse environmental impacts to soils, water resources, wetlands, vegetation, and land use, recreation and visual resources will be reduced to less than significant levels if the Applicant implements proposed mitigation measures.).

²⁴ Final EIS at ES-5.

²⁵ *Id.*; *see also* Final EIS at 4-70–4-71 (The U.S. Army Corps of Engineers (COE) has a goal of "no net loss" for wetlands and the COE New Orleans District Wetland Mitigation Plan provides prescribed guidelines for preferred mitigation measures. The Applicant proposes to achieve COE's goal through a combination of contributed dredging materials to restore degraded coastal wetlands and wetland mitigation credits. The Commission determines that wetland impacts would not be significant with the proposed mitigation measures and additional Environmental Condition regarding wetland drilling.).

²⁶ 15 U.S.C. § 717b(e)(3)(A); 15 U.S.C. § 717f(e); Certificate Order, 167 FERC ¶ 61,054 at P 119 ("[T]he Commission has the authority to take whatever steps are necessary to ensure the protection of environmental resources . . . , including authority to impose any additional measures deemed necessary . . .").

²⁷ Final EIS at ES-13; *see also* Certificate Order, 167 FERC ¶ 61,054 at P 100 (acknowledging that the Project will contribute to climate change but claiming that it cannot determine whether that contribution—or the resulting harm—will be significant).

(continued ...)

standard methodology for evaluating the significance of GHG emissions does not excuse the Commission from assessing the Project's environmental impacts under NEPA. The claimed absence of a standard methodology is no justification for effectively ignoring those emissions.²⁸

11. Moreover, the argument that there is no single standard methodology for evaluating the significance of GHG emissions is a red herring. The lack of any single methodology does not prevent the Commission from adopting *a* methodology, even if others are available. The Commission has several tools to assess the harm from the Project's contribution to climate change. By measuring the long-term damage done by a ton of carbon dioxide, the Social Cost of Carbon links GHG emissions to *actual* environmental effects from climate change, thereby facilitating the necessary "hard look" at the Project's environmental impacts that NEPA requires. Especially when it comes to a global problem like climate change, a measure for translating a single project's climate change impacts into concrete and comprehensible terms plays a useful role in the NEPA process by putting the harm in terms that are readily accessible for both agency decisionmakers and the public at large. Yet, the Commission continues to ignore the Social Cost of Carbon, relying instead on deeply flawed reasoning that I have previously critiqued at length.²⁹

12. Regardless of tools or methodologies available, the Commission can use its judgment and discretion to consider all factors and determine, quantitatively or qualitatively, whether the Project's GHG emissions have a significant impact on climate change. After all, that is precisely what the Commission does in other aspects of its environmental review. For example, consider the Commission's evaluation of the Project's impact on the surrounding land. The Final EIS determines that a total of 1,195

²⁸ My colleague, Commissioner LaFleur, wrestled with these questions and reached a judgment on both the significance of the impact of the GHG emissions and the merits of the Project notwithstanding the lack of analysis in the Commission's order. Certificate Order, 167 FERC ¶ 61,054 (LaFleur, Comm'r, concurring at P 8). Providing additional context regarding the Project's GHG emissions and their cumulative impact is a useful first step that promotes public disclosure and informed decisionmaking. But neither that context nor a concurrence assessing—and ultimately recognizing—the significance of the impact of the Project's GHG emissions can remedy the order's erroneous conclusion that the Commission cannot evaluate the significance of the Project's contribution to climate change or its assumption that such a contribution is insignificant. Nor can a concurrence remedy the absence of any discussion in the record of the significance of the Project's contribution to climate change.

²⁹ See, e.g., *Fla. Se. Connection, LLC*, 164 FERC ¶ 61,099 (2018) (Glick, Comm'r, dissenting).

(continued ...)

acres of vegetation would be permanently lost, but then concludes that these impacts on vegetation would not be significant.³⁰ The Final EIS provides no “standard methodology” or “accepted significance criteria” available to the Commission to evaluate this impact.³¹ Instead, the Commission uses its judgment to conduct a qualitative review to assess the Project’s impact on vegetation. For the LNG Terminal, the Commission states that the impact would not be significant based on a finding that there is “abundant similar vegetation resources in the region.”³² The Commission’s refusal to exercise similar qualitative discretion and judgment when it comes to evaluating the impacts of GHG emissions is arbitrary and capricious and willfully ignorant.

13. The Commission’s refusal to seriously consider the significance of the impact of the Project’s GHG emissions is even more mystifying because NEPA “does not dictate particular decisional outcomes.”³³ NEPA “merely prohibits uninformed—rather than unwise—agency action.”³⁴ Taking the matter seriously—and rigorously examining a project’s impacts on climate change—does not necessarily prevent any of my colleagues from ultimately concluding that a project meets the public interest standard. Indeed, a thorough investigation of a project’s contribution to climate change would also help infrastructure developers by reducing their legal risk in the appeals that will inevitably follow. At the end of the day, no one benefits from the Commission’s refusal to consider a project’s impact on climate change.

For these reasons, I respectfully dissent.

Richard Glick
Commissioner

³⁰ Certificate Order, 167 FERC ¶ 61,054 at PP 77-78; Final EIS at ES-5, Table 4.6-2.

³¹ As compared to the Commission’s requirement for a “standard methodology” to determine the significance of the Project’s GHG emissions, as discussed in Certificate Order, 167 FERC ¶ 61,054 at P 100 (citing to *Dominion Transmission, Inc.*, 163 FERC ¶ 61,128, at PP 67-70 (2018) (LaFleur, Comm’r, dissenting in part; Glick, Comm’r, dissenting in part)).

³² Final EIS at 4-79.

³³ *Sierra Club v. U.S. Army Corps of Engineers*, 803 F.3d 31, 37 (D.C. Cir. 2015).

³⁴ *Id.* (quoting *Robertson*, 490 U.S. at 351).

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Driftwood LNG LLC
Driftwood Pipeline LLC

Docket Nos. CP17-117-000
CP17-118-000

(Issued April 18, 2019)

LaFLEUR, Commissioner, *concurring*:

1. Today's order grants authorization to Driftwood LNG LLC, pursuant to section 3 of the Natural Gas Act (NGA),¹ to site, construct and operate a new liquefied natural gas (LNG) export terminal (Driftwood LNG Project) in Calcasieu Parish, Louisiana.² The Commission also authorizes Driftwood Pipeline LLC, pursuant to section 7 of the NGA,³ to construct and operate the Driftwood Pipeline Project to provide up to 3,954,000 dekatherms per day (Dth/day) of natural gas transportation service to the proposed export terminal. For the reasons discussed below, I concur.

2. Under section 3 of the NGA, oversight for LNG export is divided between the Commission and the U.S. Department of Energy (DOE). Specifically, it is the DOE, not the Commission, which retains the exclusive authority over the export of the natural gas as a commodity, including the responsibility to consider whether the exportation of that gas is in the public interest.⁴ If the export will be sent to a free trade country, the NGA automatically "deems" the export "to be consistent with the public interest."⁵

3. This framework leaves the Commission with the limited authority to approve or deny an application for the siting, construction, expansion, or operation of the LNG terminal facilities. In exercising its section 3 authority, the Commission's responsibility includes conducting a public interest analysis to consider the technical and environmental aspects of the LNG facilities themselves. Our environmental review is governed by the

¹ 15 U.S.C. § 717b (2012).

² *Driftwood LNG LLC*, 167 FERC ¶ 61,054 (2019) (Certificate Order).

³ 15 U.S.C. § 717f(c) (2012).

⁴ 15 U.S.C. § 717b(a)-(c) (2012).

⁵ 15 U.S.C. § 717b(c) (2012).

(continued ...)

National Environmental Policy Act⁶ (NEPA) which, as relevant here, requires the Commission to take a “hard look” at the potential direct, indirect, and cumulative environmental impacts that could result from the Driftwood LNG Project, including the climate change impacts of the proposed project.

4. The U.S. Court of Appeals for the D.C. Circuit (D.C. Circuit) has made clear that the DOE, rather than the Commission, has the responsibility to assess the indirect impacts of the upstream and downstream greenhouse gas (GHG) emissions of LNG exports as part of the DOE’s determination of the public interest in exporting the natural gas.⁷ However, the Commission still has the clear responsibility to disclose and consider the direct and cumulative impacts of the proposed LNG export facility, and make significance determinations regarding such impacts, in order to satisfy our obligations under NEPA and section 3 of the NGA.

Direct GHG Emissions and their Significance

5. I appreciate that the Commission has disclosed in the Certificate Order the direct GHG emissions from the operations of the combined Driftwood LNG Project and Driftwood Pipeline Project, and has provided important context by comparing those emissions to the national GHG emissions inventory.⁸ We have included this comparison in the past to provide context to the indirect emissions of pipeline projects, and the D.C.

⁶ National Environmental Policy Act of 1969, 42 U.S.C. §§ 4321 *et seq.*

⁷ *Sierra Club v. FERC*, 827 F.3d 36, 47 (D.C. Cir. 2016) (*Freeport*) (“[T]he Commission’s NEPA analysis did not have to address the indirect effects of the anticipated *export* of natural gas. That is because the Department of Energy, not the Commission, has the sole authority to license the export of any natural gas going through the Freeport facilities.”). *See also Sierra Club v. FERC*, 827 F.3d 59 (D.C. Cir. 2016) (*Sabine Pass*); *EarthReports, Inc. v. FERC*, 823 F.3d 949 (D.C. Cir. 2016).

⁸ Certificate Order, 167 FERC ¶ 61,054 at P 99. Final Environmental Impact Statement (EIS) at Table 4.12-4, 4.12-8, 4.12-9, 4.12-10, and 4.12-14. The Final EIS also discloses the direct GHG emissions from the construction of the LNG terminal and the pipeline: 1,554,999 tons during the multiple years of construction. Table 4.12-2 and 4.12-3. *See Sierra Club v. FERC*, 867 F.3d 1357 at 1374 (D.C. Cir. 2017) (*Sabal Trail*) (“Quantification would permit the agency to compare the emissions from this project to emissions from other projects, to total emissions from the state or the region, or to regional or national emissions-control goals.”).

(continued ...)

Circuit has taken note of the Commission's efforts to use available national, regional, and state emissions inventories as part of our climate change analysis.⁹

6. I recognize that the disclosure of the data, and the context provided, is only the first step to assist the Commission in determining the significance of a given rate or volume of GHG emissions as part of our climate change analysis.¹⁰ As a second step, NEPA requires that we analyze that information to determine whether a specific impact is, in fact, significant. Unfortunately, to date, the Commission has not established a framework for making a significance determination for GHG emissions. While it might be easier to assess significance if we had national emissions reduction targets, like EPA's Clean Power Plan or the Paris Climate Accord,¹¹ to use as part of our framework, the lack of such targets does not prevent the Commission from making a significance determination in this or in any other case. In fact, the Commission makes challenging determinations on quantitative and qualitative issues in many other areas of our work.¹²

⁹ *E.g.*, *Town of Weymouth, Mass. v. FERC*, No. 17-1135, 2018 WL 6921213 (D.C. Cir. Dec. 27, 2018) (per curiam) (speaking approvingly of the Commission's quantification of the project's expected GHG emissions, which included a comparison of the Atlantic Bridge Project against state and regional climate change goals.); *Appalachian Voices v. FERC*, No. 17-1721 (D.C. Cir. Feb. 19, 2019) (per curiam) (dismissing claims that FERC failed to adequately consider downstream climate impacts of the Mountain Valley Pipeline project by noting, among other things, that "FERC provided an estimate of the upper bound of emissions resulting from end-use combustion..."). By comparison, in *Sabal Trail*, the D.C. Circuit vacated and remanded the Commission's authorization of the Southeast Market Pipeline Project and directed the Commission to both quantify and consider the project's downstream GHG emissions or explain in more detail why it cannot do so. In response to the Court order, the Commission quantified the net, gross, and full-burn of downstream GHG emissions and compared them to the state and national GHG emissions inventories.

¹⁰ Under NEPA, when evaluating the significance of a particular impact, the Commission must consider both context and intensity. 40 C.F.R. § 1508.27(a) (2017) (Context means "that the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests and the locality."). 40 C.F.R. § 1508.27(b) (2017) (Intensity refers to "the severity of the impact").

¹¹ As noted in the Certificate Order, the EPA's Clean Power Plan and the Paris climate account are pending repeal and withdrawal, respectively. Certificate Order, 167 FERC ¶ 61,054 at P 99, nt. 138.

¹² Many of the core areas of the Commission's work have required the
(continued ...)

7. I do not believe it is beyond the capability of this Commission to determine whether a given rate or volume of GHG emissions should be considered significant. The Commission has grappled with every other identifiable and measurable environmental impact; for example, we quantify, consider, and mitigate impacts to land, water, and species, and we make determinations on whether the impacts to wetlands or mussels are significant.¹³ For reasons that I do not find persuasive, the Commission treats climate

development of analytical frameworks, often a combination of quantitative measurements and qualitative assessments, to fulfill the Commission's responsibilities under its broad authorizing statutes. This work regularly requires that the Commission exercise judgment, based on its expertise, precedent, and the record before it. For example, to help determine just and reasonable returns on equity (ROEs) under the Federal Power Act, Natural Gas Act, and Interstate Commerce Act, the Commission identifies a proxy group of comparably risky companies, applies a method or methods to determine a range of potentially reasonable ROEs (i.e., the zone of reasonableness), and then considers various factors to determine the just and reasonable ROE within that range. *See also, e.g., Promoting Transmission Investment through Pricing Reform*, Order No. 679, FERC Stats. & Regs. ¶ 31,222, *order on reh'g*, Order No. 679-A, FERC Stats. & Regs. ¶ 31,236 (2006), *order on reh'g*, 119 FERC ¶ 61,062 (2007) (establishing Commission regulations and policy for reviewing requests for transmission incentives); *Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities*, Order No. 1000, FERC Stats. & Regs. ¶ 31,323 (2011), *order on reh'g*, Order No. 1000-A, 139 FERC ¶ 61,132, *order on reh'g and clarification*, Order No. 1000-B, 141 FERC ¶ 61,044 (2012), *aff'd sub nom. S.C. Pub. Serv. Auth. v. FERC*, 762 F.3d 41 (D.C. Cir. 2014) (requiring, among other things, the development of regional cost allocation methods subject to certain general cost allocation principles); *BP Pipelines (Alaska) Inc.*, Opinion No. 544, 153 FERC ¶ 61,233 (2015) (conducting a prudence review of a significant expansion of the Trans Alaska Pipeline System). I also note that the Commission is currently actively considering a broad topic – resilience – whose scope and complexity might similarly require the development of new analytical frameworks for conducting the Commission's work.

¹³ In the Final EIS, the Commission made a significance determination on: geology, soils, water resources, fish and aquatic resources, wetlands, vegetation, wildlife resources, land use, recreation, and visual impacts, socioeconomics, air quality, and noise. The Commission also determined that adverse environmental impacts to soils, water resources, wetlands, vegetation, land use, recreation and visual resources would be reduced to less than significant with proposed mitigation measures. Moreover, in making such determinations, the Commission has frequently relied solely on a qualitative assessment and Commission staff discretion. For example, in this case, with regard to the permanent loss of 551 acres of vegetation when clearing lands for the LNG terminal, the Commission determined that because there is “an abundance of similar vegetation (continued ...)

impacts differently than all other environmental impacts in our environmental review, and refuses to make such determinations regarding climate change impacts. Instead, the Commission summarily finds that because it cannot decide how to conduct a meaningful analysis of climate change impacts, it is not required to conduct *any* analysis of significance. I disagree.

8. At this juncture, instead of simply imploring the Commission to make a significance determination, I will, for the sake of argument, assume that the direct emissions are significant. While an established framework or national standard could be very helpful, simple common sense will suffice in this case. I believe that, by any meaningful standard, the magnitude of the direct GHG emissions from the Driftwood LNG Project, 10,641,908 tons a year or an increase of 0.17 percent of the national emissions inventory, appear to be significant as contemplated by NEPA.

9. Finding the GHG emissions to be significant does not mean the Commission cannot approve a proposed project. NEPA requires the Commission to disclose and consider all environmental impacts of a proposed action, but NEPA does not mandate particular results, it simply prescribes the necessary process for considering each impact.¹⁴ Thus, even if we were to find significant impacts here, neither NEPA nor Commission policy and precedent would require that we deny authorization of the proposed action. As we have previously stated:

It is well settled that NEPA does not mandate that agencies reach particular substantive results. Instead, NEPA simply sets forth procedures that agencies must follow to determine what the environmental impacts of a proposed action are likely to be. If an agency adequately identifies and evaluates the adverse environmental effects of a proposed action, the agency is not constrained by NEPA from deciding that other values outweigh the environmental costs.¹⁵

resources in the region,” the Driftwood LNG Project’s impact on vegetation would not be significant. Certificate Order, 167 FERC ¶ 61,054 at P 77 and Final EIS at 4-79. That determination is not made using a national or industry standard, or known vegetation threshold, but the final EIS manages a meaningful analysis of the impacts to vegetation, concluding that the overall effect on the habitat would not be significant. Final EIS 4-71-4-81. I reject the view that the difficulty of quantifying GHG emissions impacts is an excuse for failing to evaluate the significance of those impacts.

¹⁴ *KN Wattenberg Transmission LLC*, 90 FERC ¶ 61,322, at 62,083 (2000) (citing and quoting *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989) (*Robertson*)).

¹⁵ See, e.g. *Millennium Pipeline Company*, 141 FERC ¶ 61,198, at P 31 (2012); *Dominion Transmission, Inc.*, 143 FERC 61,148, at P 39 (2013).
(continued ...)

10. The CEQ regulations do require us to state whether all practicable means to avoid or minimize environmental harm have been adopted and if not, explain why they were not.¹⁶ Once a significant impact has been identified then the next logical step is to think about ways to mitigate that impact.¹⁷ Having assumed that the direct GHG impacts of liquefaction in this case are significant, it would be appropriate to consider ways the companies could mitigate them either through changes in manufacturing process, technology, or through compensatory offsets.¹⁸

Cumulative Impacts Analysis

11. With regard to the cumulative impacts analysis, I appreciate that the analysis in the final EIS addresses a range of resources impacted within the identified geographic scope of the Driftwood LNG Project.¹⁹ However, as I highlighted in my concurrence in Calcasieu Pass LNG,²⁰ I disagree with the decision to exclude GHG emissions from the

¹⁶ 40 C.F.R. § 1505.2(c) (2017) Record of Decision in Cases Requiring Environmental Impact Statements.

¹⁷ “One important ingredient of an EIS is the discussion of steps that can be taken to mitigate adverse environmental consequences. The requirement that an EIS contain a detailed discussion of possible mitigation measures flows both from the language of the Act and, more expressly, from CEQ’s implementing regulations.” *Robertson*, 490 U.S. at 51. 40 C.F.R. § 1508.20 (2017) Mitigation: “Mitigation includes (a) Avoiding the impact altogether by not taking certain action or part of action; (b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation; (c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment; (d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; (e) Compensating for the impact by replacing or providing substitute resources or environments.”

¹⁸ By analogy, Commissioner Glick highlights the Commission’s use of compensatory mitigation to conclude the projects impacts on wetlands are not significant. Certificate Order, 167 FERC ¶ 61,054 (Glick, Comm’r, *dissenting* at P 9).

¹⁹ A NEPA cumulative impacts analysis considers the effect of the current project along with any other past, present or likely future action in the same geographic region. 40 C.F.R. § 1508.7 (2017).

²⁰ *Venture Global Calcasieu Pass, LLC*, 166 FERC ¶ 61,144 (2019) (LaFleur, Comm’r, *concurring*).

(continued ...)

cumulative impacts analysis.²¹ I was also concerned with final EIS's inadequate response to the specific comments raised by landowner Charlie Atherton, filed on the draft EIS. Mr. Atherton was simply asking for the Commission to disclose and address the GHG emissions from the other LNG terminals in the area.²²

12. I appreciate that, responding to my concerns, the Commission in today's order, acknowledged that there are five other proposed or authorized LNG export projects within the geographic scope of the Driftwood LNG Project and that each will have varying levels of direct and indirect CO₂ emissions associated with the operations of the facilities.²³ Because the Commission fails to disclose the actual emissions numbers, I have included an estimate of them in Table 1 attached to this concurrence.

13. As I have stated before, it takes minimal effort to disclose the GHG emissions for the other FERC projects identified in the final EIS's cumulative impacts air region, and include an estimate of the total annual potential GHG emissions associated with a proposed project and other nearby projects as part of our environmental review. I am disappointed that the final EIS does not do so. I recognize that using the 50 km air region is a rudimentary proxy for assessing the cumulative impacts of GHG emissions because those emissions are not typically measured on a local or regional basis.²⁴ But disclosing that minimal information would at least be a start, and I believe, failure to do so creates added legal risk.²⁵ Furthermore, I can see no justifiable reason for failing to disclose

²¹ Final EIS at 4-262, Table at 4.14-1.

²² Final EIS at Appendix F, F-7.

²³ Certificate Order, 167 FERC ¶ 61,054 at P 99.

²⁴ 50 kilometers is the distance used in the final EIS and by the EPA for cumulative modeling of large sources of air pollutants (nitrogen oxides [NO_x], sulfur oxides [SO_x], particulate matter [PM], etc.), volatile organic compounds, and hazardous air pollutants. Final EIS at 4-262, Table 4.14-1.

²⁵ Recently, the U.S. District Court for D.C. criticized the Bureau of Land Management (BLM) for failing to disclose the cumulative impacts of GHG emissions in sufficient detail. The court found that NEPA requires that "BLM quantify the emissions from each leasing decision—past, present or reasonably foreseeable—and compare those emissions to regional and national emissions, setting forth with reasonable specificity the cumulative effect of the leasing decision at issue." *WildEarth Guardians v. Zinke*, No. CV 16-1724 (RC), 2019 WL 1273181, at *46 (D.D.C. Mar. 19, 2019). By comparison, the U.S. District Court for Colorado, upheld BLM, finding they took an appropriately hard look at cumulative climate change impacts where, the agency: (1) looked at statewide emissions levels from emitting coal-fired power plants in Colorado and
(continued ...)

that information in response to a specific request for it, even if the final EIS disputes its usefulness. I believe that, consistent with our NEPA obligations, at a minimum, GHG emissions must be disclosed and considered, both cumulatively and with respect to individual facilities.

Conclusion

14. Having disclosed and considered the GHG impacts of the proposed Driftwood LNG Project, as well as its other environmental impacts, the next step is to decide whether the proposed project is “not inconsistent with the public interest.” I recognize that it is difficult to balance the GHG impacts with the potential public benefits of export, because the latter are part of DOE’s responsibility, and the Commission is working under a presumption of public interest. I have considered the information provided by the 2014 National Energy Technology Lab (NETL), *Life Cycle Greenhouse Gas Perspective on Exporting Liquefied Natural Gas from the United States*, to provide some context to benefits. This analysis calculates the life cycle GHG emissions for regional coal and imported natural gas power in Europe and Asia. The approach includes GHG impacts of liquefaction and finds, on balance that export of US LNG has less climate impacts than some alternatives. As I have stated before, I believe that analysis should be updated based on more recent information and proposed projects to allow those in DOE and the Commission who share the LNG authority to make the best decisions.

15. I will continue to consider and evaluate these issues as they arise in individual proceedings. However, I believe the Commission should proactively address these issues. If we do not, further guidance from the courts on our NEPA responsibility to consider climate change will likely require us to do so. Such guidance could create additional legal risk and add additional complexities to our reviews under both section 3 and section 7 of the NGA. Thus, I believe that proactive solutions to this challenging problem must be explored.

16. Given my review of the record including the climate impacts identified, I find the Driftwood LNG Project is not inconsistent with the public interest.²⁶ As for the Driftwood Pipeline Project, which is solely serving the Driftwood LNG Project, I find the

provided a comparative assessment; (2) provided a qualitative analysis of climate change and the role played by GHG emissions; (3) performed a regional cumulative impacts analysis for the future mineral development in the region for ten years; and (4) quantified the GHG emissions from both projects. *Citizens for a Healthy Cmty. v. Bureau of Land Mgmt.*, No. 1:17-CV-02519-LTB-GPG, 2019 WL 1382785, at *20-21 (D. Colo. Mar. 27, 2019).

²⁶ 15 U.S.C. § 717b (2012).

(continued ...)

pipeline is in the public convenience and necessity. The D.C. Circuit has recognized that, as with the appended LNG export facility, the downstream indirect GHG emissions for the pipeline are not part of the Commission's environmental review and consideration.²⁷ My public interest determination in this case acknowledges this limited authority. After carefully balancing the need for the project and its environmental impacts, I find the project is in the public interest.

For these reasons, I respectfully concur.

Cheryl A. LaFleur
Commissioner

²⁷ See *Sabine Pass*, 827 F.3d at 68.

Table 1: Annual Direct CO_{2e} Emissions from FERC Projects within about 50km Driftwood LNG

	Calcasieu Pass LNG	Lake Charles Liquefaction	Cameron LNG Liquefaction	Magnolia LNG	Port Arthur Louisiana Connector	Driftwood LNG	Commonwealth LNG	Kinder Morgan Louisiana Pipeline (Lake Charles LNG)	Columbia Gulf's Cameron Access Pipeline	Total	National Inventory for 2016
GHG in CO _{2e} (million english tons)	3,910,000	4,510,000	7,650,000	2,790,000	N/A	10,610,000	N/A	520,000	70,000	30,060,000	6,395,700,000
Percent of National Inventory	0.06%	0.07%	0.12%	0.04%	N/A	0.17%	N/A	0.01%	0.00%	0.47%	--
Notes:	Includes LNG Terminal	Includes LNG Terminal emissions	Includes LNG terminal, two terminal expansions (CP13- 25, CP13-27, and CP15-560), and Holbrook Compressor Station	Includes LNG terminal and Compressor Station 760	Includes approximately 135 miles of new 42-inch diameter natural gas pipeline and one new compressor station. Port Arthur LNG facility and compressor stations not in 50km.	Includes LNG terminal and operation of 3 compressor stations	Project is currently in the Commission's Pre-Filing Review process. An analysis of the planned project GHG emission's is underway.	Includes Longville and 203- A Compressor Stations in Calcasieu Parish, La	Includes Lake Arthur Compressor Station	N/A	Table ES-2: Net GHG Emissions, inclusive of sources and sinks converted to english tons. https://www.epa.gov/sites/production/files/2018-01/documents/2018_complete_report.pdf