

169 FERC ¶ 61,131
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

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

Rio Grande LNG, LLC
Rio Bravo Pipeline Company, LLC

Docket Nos. CP16-454-000
CP16-455-000

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

(Issued November 22, 2019)

1. On May 5, 2016, Rio Grande LNG, LLC (Rio Grande) filed an application, in Docket No. CP16-454-000, 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 domestically-produced natural gas at a proposed liquefied natural gas (LNG) terminal located on the north embankment of the Brownsville Ship Channel in Cameron County, Texas (Rio Grande LNG Terminal).

2. At the same time, Rio Bravo Pipeline Company, LLC (Rio Bravo) filed a request, under NGA section 7(c)³ and Parts 157 and 284 of the Commission's regulations,⁴ in Docket No. CP16-455-000, for a certificate of public convenience and necessity to construct and operate a new interstate natural gas pipeline system (Rio Bravo Pipeline Project). The proposed project comprises two parallel 42-inch-diameter natural gas pipelines approximately 135.5 miles long, three 180,000 horsepower (hp) compressor stations, an approximately 2.4-mile-long pipeline header system, various valves, metering and pig launcher/receivers, and related facilities located in Jim Wells, Kleberg, Kenedy, Willacy, and Cameron Counties, Texas, to transport natural gas in interstate commerce to

¹ 15 U.S.C. § 717b (2018).

² 18 C.F.R. pt. 153 (2019).

³ 15 U.S.C. § 717f.

⁴ 18 C.F.R. pt. 157 (2019).

the Rio Grande LNG Terminal for processing, liquefaction, and export. Rio Bravo also requests blanket certificates under Part 284, Subpart G of the Commission's regulations to provide open-access transportation services,⁵ and under Part 157, Subpart F of the Commission's regulations to perform certain routine construction activities and operations.⁶

3. For the reasons discussed in this order, we will authorize Rio Grande's proposal under NGA section 3 to construct and operate the Rio Grande LNG Terminal. We will also authorize Rio Bravo's proposal under NGA section 7(c) to construct and operate the Rio Bravo Pipeline Project, and grant the requested blanket certificate authorizations. These authorizations are subject to the conditions discussed herein.

I. Background

4. Rio Grande and Rio Bravo are Texas limited liability companies with their principle place of business in Houston, Texas. Both companies are wholly-owned subsidiaries of NextDecade LNG, LLC (NextDecade),⁷ a U.S. energy project development and management company.⁸ Upon receipt of its requested certificate authorizations and commencement of pipeline operations, Rio Bravo will become a natural gas company within the meaning of section 2(6) of the NGA⁹ and will be subject to the Commission's jurisdiction. As its operations will not be in interstate commerce, Rio Grande will not be a "natural gas company" as defined in the NGA, although it will be subject to the Commission's jurisdiction under NGA section 3.

⁵ 18 C.F.R. pt. 284 (2019).

⁶ 18 C.F.R. pt. 157 (2019).

⁷ Formerly NextDecade, LLC, the company was renamed NextDecade LNG, LLC on August 11, 2017. Rio Grande and Rio Bravo's August 23, 2017 Informational Filing at 2.

⁸ NextDecade LNG, LLC is wholly-owned by NextDecade Corporation, a publicly traded company.

⁹ 15 U.S.C. § 717a(6).

II. Proposals

A. Rio Grande LNG Terminal (Docket No. CP16-454-000)

5. Rio Grande seeks authorization to site, construct, and operate the Rio Grande LNG Terminal on an approximately 1,000-acre site located on the northern embankment of the Brownsville Ship Channel in Cameron County, Texas. Construction of the terminal would take place in six sequential stages associated with each proposed liquefaction train. The project would produce a nominal capacity of up to 27 million metric tonnes per annum (MTPA) of LNG for export.

6. The Rio Grande LNG Terminal would include the following major facilities: six natural gas liquefaction trains, each with a nominal capacity of 4.5 MTPA, for a total nominal capacity of 27 MTPA;¹⁰ four full-containment LNG storage tanks, each with a net capacity of approximately 180,000 cubic meters (m³); two LNG carrier loading berths; one 1,500-foot-diameter turning basin; LNG truck loading and unloading facilities with four loading bays;¹¹ two Natural Gas Liquids (NGL) truck loading bays; and other facilities such as administrative buildings, a central control building, a workshop, a warehouse, electrical equipment enclosures, a communication system, and other support structures.

7. The Rio Grande LNG Terminal would be located on approximately 750.4 acres of a 984.2-acre parcel of land owned by the Brownsville Navigational District, a political subdivision of Texas that operates the Port of Brownsville. Rio Grande would lease the

¹⁰ Rio Grande states that each liquefaction train will contain the following equipment: (i) facilities to remove from the feed gas carbon dioxide, hydrogen sulfide, and other sulfur compounds; water and mercury; and heavy hydrocarbons; (ii) refrigerant compressors driven by two natural gas-fired combustion turbines to cool and liquefy gas; (iii) associated fire and gas safety systems; (iv) associated control systems and electrical infrastructure; (v) and utility connections, telecommunications, and other support systems.

¹¹ Rio Grande states that LNG loaded onto trucks at the terminal will be used for vehicular natural gas purposes at truck fueling facilities in South Texas and will not be reintroduced into the U.S. natural gas pipeline system.

site from the Brownsville Navigational District for a term of up to 50 years.¹² Rio Grande anticipates that the construction process will take place in six stages, with the start of construction for each of the six liquefaction trains occurring between six and nine months after the prior train's commencement of construction date.

8. Rio Grande received authorization from the Department of Energy, Office of Fossil Energy (DOE/FE) in August 2016 to export annually up to 1,318 billion cubic feet (Bcf) (approximately 3.6 Bcf per day (Bcf/d)) equivalent of natural gas in the form of LNG to countries with which the United States has a Free Trade Agreement.¹³ In addition, Rio Grande currently has pending before the DOE/FE an application to export annually up to 1,318 Bcf equivalent of LNG to other nations with which the U.S. permits such trade, but has not entered into a Free Trade Agreement.¹⁴

B. Rio Bravo Pipeline Project (Docket No. CP16-455-000)

1. Facilities and Service

9. In conjunction with the Rio Grande LNG Terminal, Rio Bravo seeks authorization under NGA section 7(c) to construct and operate a new 137.9-mile-long interstate natural gas transmission system designed to provide up to 4.5 Bcf per day (i.e., 4,500,000 dekatherms per day (Dth/d)) of firm natural gas transportation service. Natural gas transported on the Rio Bravo Pipeline will be delivered from interconnects with the existing natural gas pipeline grid located in the Agua Dulce Market Area¹⁵ in Nueces

¹² NextDecade, Rio Grande's parent company, executed an Option to Lease the acreage from the Brownsville Navigation District on November 6, 2013. The final acreage will be determined before the lease is executed, which would coincide with the timing of a final investment decision (i.e., after project approval but before the commencement of construction).

¹³ *Rio Grande LNG, LLC*, DOE/FE Docket No. 15-190-LNG, Order No. 3869 (2016).

¹⁴ The application, filed on December 23, 2015, is pending before DOE/FE in Docket No. 15-190-LNG.

¹⁵ The Agua Dulce Market Area refers, collectively, to the proposed interconnects located in the vicinity of the Agua Dulce Hub in Nueces County, Texas, which includes connections to the following pipelines: Houston Pipe Line Company Pipeline, Gulf South Pipeline, Kinder Morgan Texas Pipelines, Natural Gas Pipeline Co. of America, Transcontinental Gas Pipeline, Tennessee Gas Pipeline, TransTexas Gas, and EPGT Texas Pipeline.

County, Texas, to the Rio Grande LNG Terminal for liquefaction and export. The proposed Rio Bravo Pipeline Project would consist of the following facilities:

- 2.4 miles of 42-inch-diameter pipeline, including 0.8 mile of parallel pipeline, at the upstream end of the pipeline system that would receive gas from multiple interconnects with the existing natural gas pipeline grid in Kleberg and Jim Wells Counties, Texas (Header System);
- 135.5 miles of 42-inch-diameter pipeline traversing Kleberg, Kenedy, Willacy, and Cameron Counties, Texas (Pipeline 1);
- 135.5 miles of 42-inch-diameter pipeline that would parallel Pipeline 1 with a 25-foot offset (Pipeline 2);
- an 180,000-hp compressor station in Kleberg County that would include six 30,000-hp natural gas turbine compressor units, two pig launchers (one for each pipeline), and a metering site (Compressor Station 1);
- an 180,000-hp compressor station in Kleberg County that would include six 30,000-hp natural gas turbine compressor units and two pig launchers/receivers (Compressor Station 2);
- an 180,000-hp compressor station in Cameron County, within the Rio Grande LNG Terminal boundary, that would include six 30,000-hp electric-driven turbine compressor units, a gas custody transfer meter, and pig receivers (Compressor Station 3);¹⁶

¹⁶ Each of the three mainline compressor stations would be constructed in six stages, similar to and in parallel with construction of the terminal stages. Each compressor station stage would include installation of one 30,000-hp natural gas or electric turbine unit and associated auxiliary equipment.

- two 30,000-hp interconnect booster compressor stations in Kenedy County, each containing one 30,000-hp natural gas turbine compressor unit and a metering site;¹⁷
- four metering sites along the 2.4-mile-long Header System; and
- six mainline valve sites.

Rio Bravo states that the proposed pipeline system will be designed, constructed, and operated to transport up to 2.25 Bcf/d (2,250,000 Dth/d) per pipeline, for a total of up to 4.5 Bcf/d (4,500,000 Dth/d). Construction of the Rio Bravo Pipeline would occur in two phases. Phase one (Pipeline 1, the header system, the compressor stations, and the aboveground facilities) would be constructed to coincide with the completion of the first liquefaction train of the LNG Terminal facilities. Construction of Pipeline 2 (i.e., phase two) would commence about 18 months after Pipeline 1 is placed in service. Rio Bravo estimates that the total cost of the Rio Bravo Pipeline Project is approximately \$2,173,362,909.

10. Rio Bravo states that it conducted a binding open season from May 24 to June 23, 2016, for the proposed firm transportation service to be offered by the project.¹⁸ As a result of the open season, Rio Bravo states that it received one bid, from its affiliate RioGas Marketing, LLC (RioGas), for the full capacity of the pipeline.¹⁹ Rio Bravo executed a precedent agreement with RioGas for the total capacity of the Rio Bravo Pipeline system for a 20-year term at a negotiated rate.²⁰

11. Rio Bravo requests approval of its *pro forma* tariff. Rio Bravo proposes to offer firm transportation service under Rate Schedules FTS, interruptible transportation service under Rate Schedule ITS, and parking and loan service under Rate Schedule PALS.

¹⁷ Rio Bravo states that each booster station will be comprised of a single natural gas turbine compressor unit, located at milepost (MP) 19.7 (proposed interconnect with the Texas Eastern Pipeline) and MP 25.7 (proposed interconnect with the Williams Transco North Padre Island Lateral). Both booster stations would be constructed contemporaneously with the construction of Pipeline 1.

¹⁸ Rio Bravo's June 28, 2016 Filing at 1.

¹⁹ *Id.* at 2.

²⁰ *Id.*

2. Blanket Certificates

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

13. Rio Bravo 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. Procedural Matters

A. Notice, Intervention, Comments, and Protests

14. Notice of Rio Grande and Rio Bravo's joint application was issued on May 19, 2016, and published in the *Federal Register* on May 26, 2016,²³ with interventions, comments, and protests due by June 9, 2016. Timely, unopposed motions to intervene are granted by operation of Rule 214(c) of the Commission's Rules of Practice and Procedure.²⁴ Notwithstanding Rio Grande's and Rio Bravo's opposition to several timely-filed motions to intervene,²⁵ the Commission granted all timely, opposed motions to intervene.²⁶ Several individuals and organizations filed late motions to intervene, which the Commission also granted.²⁷

²¹ 18 C.F.R. § 284.221.

²² 18 C.F.R. § 157.204.

²³ 81 Fed. Reg. 33,519.

²⁴ 18 C.F.R. § 385.214(c) (2019). Timely motions to intervene include those filed during the comment period for the draft environmental impact statement. *See id.* § 380.10(a)(1)(i).

²⁵ *See* Rio Grande's and Rio Bravo's June 22, 2016 Answer in Opposition in Docket Nos. CP16-454-000 and CP16-455-000, and Rio Grande's July 7, 2016 Answer in Opposition in Docket No. CP16-454-000.

²⁶ Secretary's May 17, 2017 Notice Granting Interventions.

²⁷ *Id.*

15. Intervenors filed three protests. Defenders of Wildlife and Sierra Club filed a joint protest, requesting that the Commission deny the applications based on the projects' alleged significant adverse environmental and economic impacts. Defenders of Wildlife and Sierra Club urge the Commission to consider: (i) the LNG Terminal's proposed output and the possibility that Rio Grande will seek a future authorization to increase output; (ii) proposed design alternatives to power the liquefaction trains; (iii) the possibility that exporting LNG will increase domestic natural gas production and domestic gas prices; and (iv) the projects' effect on global greenhouse gas (GHG) emissions. Nearby residents Roberto de los Santos, Beatriz Zurita, and Raul Zurita (collectively, Santos/Zurita)²⁸ and Vecinos Para el Bienestar de la Comunidad Costera (Vecinos)²⁹ also filed protests. In their protests, Santos/Zurita and Vecinos urge the Commission to deny the applications as contrary to the public interest because of alleged significant impacts the project will have on the health, safety, and quality of life of nearby communities. Rio Grande and Rio Bravo filed a joint answer to the protests.³⁰

²⁸ The intervenors state that they are residents of an unincorporated residential development known as a *colonia*, which are recognized by the Texas Attorney General's Office as "substandard housing developments prevalent along the Texas-Mexico border where residents lack basic services such as drinking water, sewage treatment, and paved roads."

²⁹ Vecinos is "an unincorporated association of residents of Laguna Heights, Texas and nearby areas that seeks to protect and improve the health, standard of living, and economic development of the coastal community in the Rio Grande Valley of South Texas." Vecinos' June 9, 2016 Motion to Intervene and Protest.

³⁰ Rio Grande and Rio Bravo's June 22, 2016 Consolidated Answer. Although the Commission's Rules of Practice and Procedure generally do not permit answers to protests, 18 C.F.R. § 385.213(a)(2), we will accept Rio Grande and Rio Bravo's response because it clarifies the concerns raised and provides information that has assisted in our decision making.

16. In addition, numerous entities and individuals filed comments raising various economic, environmental, and safety concerns about the proposed projects, including, among other things, concerns about the visual impacts of the LNG Terminal, socioeconomic impacts, air emissions, LNG safety and security, proximity of the proposed terminal site to SpaceX's South Texas Launch Site, threatened and endangered species, and wetlands impacts. These concerns are addressed in the final Environmental Impact Statement (EIS), and, as appropriate, in the environmental analysis below.

B. Request for Hearing

17. Defenders of Wildlife requested a formal hearing.³¹ The Commission has broad discretion to structure its proceedings so as to resolve a controversy in the best way it sees fit.³² An evidentiary, trial-type hearing is necessary only where there are material issues of fact in dispute that cannot be resolved on the basis of the written record.³³ Defenders of Wildlife raises no material issue of fact that the Commission cannot resolve on the basis of the written record. Accordingly, the Commission denies the request for a formal hearing.

IV. Discussion

A. Rio Grande LNG Terminal (Docket No. CP16-454-000)

18. The construction and operation of the proposed LNG Terminal facilities and site of their location require approval by the Commission under section 3 of the NGA.³⁴

³¹ Defenders of Wildlife's June 9, 2016 Motion to Intervene at 2.

³² See *Columbia Gas Transmission, LLC*, 161 FERC ¶ 61,200, at P 15 (2017) (*Columbia*) (citing *Stowers Oil and Gas Co.*, 27 FERC ¶ 61,001 (1984) (Commission has discretion to manage its own procedures); *PJM Transmission Owners*, 120 FERC ¶ 61,013 (2007)).

³³ See, e.g., *Columbia*, 161 FERC ¶ 61,200 at P 15 (citing *Dominion Transmission, Inc.*, 141 FERC ¶ 61,183, at P 15 (2012); *Southern Union Gas Co. v. FERC*, 840 F.2d 964, 970 (D.C. Cir. 1988)).

³⁴ 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* (2012). 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,

Although section 3 provides that an application for the exportation or importation of natural gas shall be approved unless the proposal “will not be inconsistent with the public interest,” section 3 also provides that an application may be approved “in whole or in part, with such modification and upon such terms and conditions as the Commission may find necessary or appropriate.”³⁵ NGA section 3(a) also provides that for good cause shown, the Commission may make supplemental orders as it may find “necessary or appropriate.”³⁶

19. Sierra Club and Defenders of Wildlife assert that Rio Grande’s proposal will raise domestic natural gas prices and increase domestic gas production. Sierra Club and Defenders of Wildlife state that the Commission must (i) consider the possibility that Rio Grande will seek to increase exports in the future, and (ii) analyze the increased environmental impacts that would result from increasing the project output. With respect to environmental harm, Sierra Club and Defenders of Wildlife contend that the project will result in indirect environmental impacts from induced natural gas production and consumption activities, and is thus contrary to the public interest.

20. We decline to address these claims as they concern impacts associated with the exportation of the commodity natural gas, rather than the proposal before the Commission. Section 3(a) of the NGA provides, in part, that “no person shall export any natural gas from the United States to a foreign country or import any natural gas from a foreign country without first having secured an order of the Commission authorizing it to do so.”³⁷ As noted above, in 1977, the Department of Energy Organization Act transferred the regulatory functions of section 3 of the NGA to the Secretary of Energy.³⁸

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) (*EarthReports*) (detailing how regulatory oversight for the export of LNG and supporting facilities is divided between the Commission and DOE).

³⁵ For a discussion of the Commission’s authority to condition its approvals of LNG facilities under section 3 of the NGA, *see, e.g., Distrigas Corporation v. FPC*, 495 F.2d 1057, 1063-64 (D.C. Cir. 1974), *cert. denied*, 419 U.S. 834 (1974), and *Dynegy LNG Production Terminal, L.P.*, 97 FERC ¶ 61,231 (2001).

³⁶ 15 U.S.C. § 717b(a).

³⁷ *Id.*

³⁸ Department of Energy Organization Act, Pub. L. No. 95-91, 42 U.S.C. § 7101 *et seq.* Section 301(b) of the DOE Act transferred regulatory functions under section 3 of

Subsequently, the Secretary of Energy delegated to the Commission authority to “[a]pprove or disapprove the construction and operation of particular facilities, the site at which such facilities shall be located, and with respect to natural gas that involves the construction of new domestic facilities, the place of entry for imports or exit for exports....”³⁹ The Secretary, however, has not delegated to the Commission any authority to approve or disapprove the import or export of the commodity itself, or to consider the types of issues raised by Sierra Club and Defenders of Wildlife as part of the Commission’s public interest determination under NGA section 3(a).⁴⁰

21. DOE/FE, pursuant to its authority under NGA section 3, has authorized Rio Grande to export up to 1,318 Bcf per year of domestically-produced natural gas (equal to approximately 26.1 MTPA of LNG)⁴¹ to free trade nations from the proposed Rio Grande

the NGA from the Commission’s predecessor, the Federal Power Commission (FPC), to the Secretary of Energy. Section 402 of the DOE Act transferred regulatory functions under other sections of the NGA, including sections 1, 4, 5, and 7, from the FPC to the Federal Energy Regulatory Commission. Section 402(f) states:

(f) Limitation

No function described in this section which regulates the exports or imports of natural gas ... shall be within the jurisdiction of the Commission unless the Secretary assigns such a function to the Commission.

³⁹ DOE Delegation Order No. 00-004.00A (effective May 16, 2006).

⁴⁰ See *Freeport LNG Development, L.P.*, 148 FERC ¶ 61,076, *reh’g denied*, 149 FERC ¶ 61,119 (2014), *aff’d sub nom. Sierra Club v. FERC*, 827 F.3d 36 (D.C. Cir. 2016) (*Freeport*) (finding that because the Department of Energy, not the Commission, has sole authority to license the export of any natural gas through LNG facilities, the Commission is not required to address the indirect effects of the anticipated export of natural gas in its NEPA analysis). See also *Sabine Pass Liquefaction, LLC*, 146 FERC ¶ 61,117, *reh’g denied*, 148 FERC ¶ 61,200 (2014), *aff’d sub nom. Sierra Club v. FERC*, 827 F.3d 59 (D.C. Cir. 2016) (*Sabine Pass*) and *EarthReports*, 828 F.3d 949.

⁴¹ This conversion assumes a gas density of 0.7 kilograms per cubic meter of gas.

LNG Terminal.⁴² DOE/FE's order approving Rio Grande's export volumes to Free Trade Agreement nations 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 Rio Grande in support of the Application."⁴³

22. As the U.S. Court of Appeals for the D.C. Circuit has explained, an LNG proposal shall be authorized unless the proposal "will not be consistent with the public interest."⁴⁴ We have reviewed Rio Grande's application to determine if the siting, construction, and operation of its LNG Terminal as proposed would not be consistent with the public interest.⁴⁵ Rio Grande's proposed LNG Terminal will be located on 984.2 acres of land, which are owned by a commercial port (Brownsville Navigational District) and intended for industrial development. The northern boundary of the terminal site is a four-lane highway, while the Brownsville Ship Channel serves as the southern boundary. The proposed site for the LNG Terminal is currently undeveloped, zoned for commercial and industrial use, and contains areas of dredge spoils from the original dredging of the existing, man-made ship channel. Further, as discussed below, the EIS prepared for the proposed project finds that most of the direct environmental impacts from construction of the proposed Rio Grande LNG Terminal are expected to be temporary or short term during construction and operation, while some long-term and permanent environmental

⁴² See *Rio Grande LNG, LLC*, DOE/FE Docket No. 15-190-LNG, Order No. 3869 (2016). As noted earlier, the application to export LNG to non-Free Trade Agreement nations, submitted on December 23, 2015, is currently under DOE review in DOE/FE Docket No. 15-190-LNG.

⁴³ *Id.* at 6. Section 3(c) provides that the exportation and importation of natural gas to and from countries with which there is in effect a Free Trade Agreement "shall be deemed to be consistent with the public interest and applications for such importation and exportation shall be granted without modification or delay."

⁴⁴ 15 U.S.C. § 717b(a). *EarthReports*, 828 F.3d at 953 (citing *W. Va. Pub. Servs. Comm'n v. U.S. Dep't of Energy*, 681 F.2d 847, 856 (D.C. Cir. 1982)) ("sets out a general presumption favoring such authorization"); see also *Sierra Club v. U.S. Dep't of Energy*, 867 F.3d 189, 203 (D.C. Cir. 2017).

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

impacts would also occur.⁴⁶ With the exception of certain cumulative impacts contributed by the Rio Grande LNG Terminal (e.g., on surface water quality in the Brownsville Ship Channel during operational vessel transits; on the federally-listed ocelot and jaguarundi from habitat loss and increased potential for vehicular strikes during construction; on the federally listed northern aplomado falcon from habitat loss, on visual resources due to the presence of new facilities, and on nearby noise-sensitive areas (NSA) during nighttime construction), implementation of Rio Grande's proposed mitigation measures and additional measures recommended by staff in the EIS and adopted in this order would ensure that impacts in the project area would be avoided or minimized, and reduced to less-than-significant levels.⁴⁷

23. In accordance with the Memorandum of Understanding signed on August 31, 2018, by the Commission and the Pipeline and Hazardous Materials Safety Administration (PHMSA) within the U.S. Department of Transportation (DOT),⁴⁸ 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.⁴⁹ On March 26, 2019, PHMSA issued a Letter of Determination indicating Rio Grande has demonstrated that the siting of its proposed LNG facilities complies with those federal safety standards.⁵⁰ 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.

24. Rio Grande 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, Rio Grande's proposal does not trigger NGA section 3(e)(4).⁵¹

⁴⁶ Final EIS at 5-1.

⁴⁷ *Id.*

⁴⁸ *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>.

⁴⁹ 49 C.F.R. pt. 193, Subpart B (2019).

⁵⁰ See Commission staff's March 27, 2019 Memo filed in Docket No. CP16-454-000 (containing PHMSA's Letter of Determination).

⁵¹ 15 U.S.C. § 717b(e)(4) (governing orders for LNG terminal offering open

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

B. Rio Bravo Pipeline Project (Docket No. CP16-455-000)

26. Because Rio Bravo's proposed pipeline facilities will be used to transport natural gas in interstate commerce subject to the Commission's jurisdiction, the construction and operation of the facilities are subject to the requirements of subsections (c) and (e) of section 7 of the NGA.⁵²

1. Certificate Policy Statement

27. The Certificate Policy Statement provides guidance for evaluating proposals to certificate new pipeline construction.⁵³ 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 pipeline facilities, the Commission balances the public benefits against the potential adverse consequences. The Commission's goal is to give appropriate consideration to the enhancement of competitive transportation alternatives, the possibility of overbuilding, subsidization by existing customers, the applicant's responsibility for unsubscribed capacity, the avoidance of unnecessary disruptions of the environment, and the unneeded exercise of eminent domain in evaluating new pipeline construction.

28. Under this policy, the threshold requirement for 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, identify any adverse impacts the applicant's proposal might have on other existing pipelines in the market and their captive customers, and consider whether the applicant's proposal would result in the unnecessary exercise of eminent domain or have other adverse economic impacts on landowners and communities affected by the route of the new facilities. If residual adverse effects on

access service).

⁵² 15 U.S.C. § 717f.

⁵³ *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*).

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.

29. As discussed above, the threshold requirement for pipelines proposing new projects is that the pipeline must be prepared to financially support the project without relying on subsidization from its existing customers. Rio Bravo is a new company with no existing shippers. Thus, there is no potential for subsidization on Rio Bravo's system or degradation of service to existing customers.

30. In addition, there is no evidence that the Rio Bravo Pipeline Project will adversely impact other pipelines in the region or their customers. The project is not intended to replace service on other pipelines. Moreover, no pipeline company or their captive customers have protested Rio Bravo's application.

31. We are also satisfied that Rio Bravo has taken appropriate steps to minimize adverse impacts on landowners and surrounding communities. The Rio Bravo Pipeline Project would impact approximately 1,997 acres of land during construction, and approximately 1,224 acres of land during operation.⁵⁴ Approximately 66 percent of the pipeline right-of-way would be collocated with or adjacent or parallel to existing pipeline, roadway, railway, or utility rights-of-way.⁵⁵ Accordingly, for the purposes of our consideration under the Certificate Policy Statement, we find that Rio Bravo has taken sufficient steps to minimize adverse impacts on landowners and surrounding communities.

32. Rio Bravo's proposed pipeline will enable it to transport natural gas to the Rio Grande LNG Terminal, where the gas will be liquefied for export. Rio Bravo executed a precedent agreement with RioGas Marketing, LLC for the full capacity of the pipeline for a 20-year term. Based on the benefits that the Rio Bravo Pipeline Project will provide by enabling the transport of domestically-sourced gas to Rio Grande's LNG Terminal where the gas will be liquefied for export, and the minimal adverse impacts on existing shippers, other pipelines and their customers, and landowners and surrounding communities, we find that the proposed project is consistent with the Certificate Policy Statement. Based on this finding and the environmental review, as discussed below, we further find that the public convenience and necessity require approval and certification of Rio Bravo's

⁵⁴ Final EIS at 2-25.

⁵⁵ *Id.*

proposal under section 7 of the NGA, subject to the environmental and other conditions discussed in this order.

2. Blanket Certificates

33. Rio Bravo requests a Part 284, Subpart G blanket certificate in order to provide open-access transportation services. Under a Part 284 blanket certificate, Rio Bravo would not need individual authorizations to provide transportation services to particular customers. Rio Bravo filed a *pro forma* Part 284 tariff to provide open-access transportation services. Because a Part 284 blanket certificate is required for Rio Bravo to participate in the Commission's open-access regulatory regime, we will grant Rio Bravo a Part 284 blanket certificate, subject to the conditions imposed herein, authorizing Rio Bravo to provide transportation service to customers requesting and qualifying for transportation service under its proposed FERC Gas Tariff, with pre-granted abandonment authorization

34. Rio Bravo 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.⁵⁶ Because the Commission has previously determined through a rulemaking that these blanket-certificate eligible activities are in the public convenience and necessity,⁵⁷ it is the Commission's practice to grant new natural gas companies a Part 157

⁵⁶ 18 C.F.R. § 157.203.

⁵⁷ *Revisions to the Blanket Certificate Regulations and Clarification Regarding Rates*, Order No. 686, FERC Stats. & Regs. ¶ 31,231, at P 9 (2006) (cross-referenced at 117 FERC ¶ 61,074), *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).

blanket certificate if requested.⁵⁸ Accordingly, we will grant Rio Bravo a Part 157 blanket certificate, subject to the conditions imposed herein.

3. Rates

a. Initial Recourse Rates

35. Rio Bravo proposes initial maximum and minimum recourse reservation charges for firm service under Rate Schedule FTS, interruptible service under Rate Schedule ITS, and park and loan service under Rate Schedule PALS. Rio Bravo proposes a capital structure of 50 percent debt and 50 percent equity, a cost of debt of 6.85 percent, a return on equity of 14.00 percent and a depreciation rate of 2.50 percent.⁵⁹ Rio Bravo derived the proposed Rate Schedule FTS recourse rates for the pipeline system using an annual cost of service of \$390,835,526 and annual reservation billing determinants of 55,080,000 Dth.⁶⁰ Rio Bravo proposes: (1) an initial Rate Schedule FTS monthly reservation charge of \$7.0958 per Dth and an initial usage charge of \$0.000 per Dth; and (2) an initial Rate Schedule ITS and Rate Schedule PAL usage charge of \$0.2333 Dth per day, based on a 100 percent load factor equivalent of the Rate Schedule FTS. Section 4 of the General Terms and Conditions (GT&C) of Rio Bravo's *pro forma* tariff also provides for the Annual Charge Adjustment (ACA) as permitted by section 154.402 of the Commission's regulations.⁶¹

36. On March 16, 2017, Commission staff issued a data request asking for a clarification regarding Rio Bravo's treatment of Accumulated Deferred Income Taxes (ADIT). On April 3, 2017, Rio Bravo filed a response stating the ADIT treatment for the pipeline system facilities should have been treated as a liability, not as an asset. Rio Bravo filed a revised Exhibit P to reflect a revised cost of service and rates. Rio Bravo proposes a revised Rate Schedule FTS monthly reservation charge of \$6.9945 per Dth and revised Rate Schedule ITS and Rate Schedule PAL usage charge of \$0.2300 per Dth.

⁵⁸ *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).

⁵⁹ Application, Exhibit P.

⁶⁰ Application, Exhibit P at 1.

⁶¹ Section 154.402 of the Commission's regulations, 18 C.F.R. § 154.402 (2019), states that a pipeline may not recover the Commission's annual charge through an ACA charge until it pays the annual charge and records it in Account No. 928.

37. On May 31, 2017, Commission staff issued a data request concerning the variable costs and associated accounts in Rio Bravo's proposed Operating and Maintenance (O&M) expenses. On June 13, 2017, Rio Bravo filed a response proposing to revise FERC Account No. 859 (Other expenses) from \$2,605,203 to \$204,455 for Pipeline System facilities. The difference of \$2,400,748 for Pipeline System facilities will be reclassified to FERC Account No. 853 (Compressor station labor and expenses). Rio Bravo also proposes to revise FERC Account No. 867 (Maintenance of other equipment) from \$3,214,786 to \$255,859 for Pipeline System facilities. The difference of \$2,958,927 for Pipeline System facilities will be reclassified to FERC Account No. 864 (Maintenance of compressor station equipment). Rio Bravo states it is not proposing any change to the overall O&M expenses proposed, but is reclassifying expenses by account. In addition, Rio Bravo provided a breakdown of O&M expenses by FERC account number and between labor and non-labor. Rio Bravo identified a total of \$2,623,093 in non-labor costs for FERC Account Nos. 853, 857 (Measuring and regulating station expenses), 864 and 865 (Maintenance of measuring and regulating station equipment). Consistent with the Commission's regulation requiring the use of straight fixed-variable rate design (SFV),⁶² these costs are classified as variable costs and should be recovered through a usage charge, not through the reservation charge.⁶³

38. In its January 26, 2018 response to a staff data request, Rio Bravo provided an adjusted cost of service and recalculated its originally proposed initial incremental recourse rates to reflect changes in the federal tax code, as per the Tax Cuts and Jobs Act of 2017,⁶⁴ which became effective January 1, 2018.⁶⁵ Rio Bravo's work papers show that the effect of the tax code change is a reduction in the estimated cost of service to \$346,601,154, resulting in a reduction in the initial maximum reservation charge to \$6.2927 per Dth under Rate Schedule FTS and a revised usage charge to \$0.2069 per Dth under Rate Schedules ITS and PALS. As Rio Bravo's January 26, 2018 revised calculation reflects the federal tax code that will be in effect when the project goes into service, the Commission will use the revised recourse rates for the purpose of

⁶² 18 C.F.R. § 284.7(e).

⁶³ *Columbia Gulf Transmission, LLC*, 152 FERC ¶ 61,214; *Dominion Transmission, Inc.*, 153 FERC ¶ 61,382 (2015).

⁶⁴ Pub. L. No. 115-97, 131 Stat. 2054 (Dec. 22, 2017).

⁶⁵ On August 30, 2018, in response to a staff data request, Rio Bravo states it is not a Master Limited Partnership and it will not incur the proposed federal income tax allowance in its own name. Rio Bravo also states all of its income and losses are consolidated on the federal income tax return of NextDecade Corporation, a C-Corp, which owns 100 percent of Rio Bravo.

establishing the initial recourse rates subject to Rio Bravo recalculating its initial recourse rates in its compliance filing consistent with an SFV rate design as discussed above.

39. Rio Bravo also proposes an initial fuel retainage percentage of 3.00 percent. Rio Bravo states the retainage percentage of 3.00 percent is based on the pipeline design, compression equipment design, and a high system flow rate. Furthermore, Rio Bravo states the retainage percentage will be revised annually after the in-service date of the phase one pipeline facilities pursuant to GT&C section 23, which includes a true-up adjustment that would reconcile actual fuel used versus fuel retained.⁶⁶ The Commission accepts Rio Bravo's proposed initial fuel retainage percentage of 3.00 percent.

b. Allowance for Funds Used During Construction

40. An allowance for funds used during construction (AFUDC) is a component part of the cost of constructing Rio Bravo's facilities. Gas Plant Instruction 3(17) prescribes a formula for determining the maximum amount of AFUDC that may be capitalized as a component of construction cost.⁶⁷ However, that formula is not applicable here, as it uses prior year book balances and cost rates of borrowed and other capital that either do not exist or could produce inappropriate results for initial construction projects of newly created entities such as Rio Bravo. Therefore, to ensure that the amounts of AFUDC are properly capitalized in this project, we will require Rio Bravo 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.⁶⁸

c. Three Year Filing Requirement

41. Consistent with Commission precedent, Rio Bravo is required to file a cost and revenue study no later than three months after its first three years of actual operation to

⁶⁶ Rio Bravo's April 3, 2017 Response to Data Request at 437.

⁶⁷ 18 C.F.R. pt. 201 (2019).

⁶⁸ See *Mill River Pipeline, L.L.C.*, 112 FERC ¶ 61,070 (2005).

justify its existing cost-based firm and interruptible recourse rates.⁶⁹ In this filing, the projected units of service should be no lower than those upon which Rio Bravo'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.⁷⁰ Rio Bravo's cost and revenue study should be filed through the eTariff portal using a Type of Filing Code 580. In addition, Rio Bravo is advised to include as part of the eFiling description, a reference to Docket No. CP16-455-000 and the cost and revenue study.⁷¹ 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, Rio Bravo may make an NGA general section 4 rate filing to propose alternative rates to be effective no later than three years after the in-service date for its proposed facilities.

d. Negotiated Rates

42. Rio Bravo's *pro forma* tariff provides for Rio Bravo to charge negotiated rates for its proposed services. If Rio Bravo charges a negotiated rate, it must file either its negotiated rate agreement or tariff record setting forth the essential terms of agreements in accordance with the Commission's Alternative Rate Policy Statement⁷² and negotiated rate policies.⁷³ Rio Bravo must file the negotiated rate agreements or tariff records at least 30 days, but not more than 60 days, before the proposed effective date for such rates.⁷⁴

⁶⁹ See *Bison Pipeline, LLC*, 131 FERC ¶ 61,013, at P 29 (2010); *Ruby Pipeline, LLC*, 128 FERC ¶ 61,224, at P 57 (2009); *MarkWest Pioneer, L.L.C.*, 125 FERC ¶ 61,165, at P 34 (2008) (*MarkWest*).

⁷⁰ 18 C.F.R. § 154.313 (2019).

⁷¹ *Electronic Tariff Filings*, 130 FERC ¶ 61,047, at P 17 (2010).

⁷² *Alternatives to Traditional Cost-of-Service Ratemaking for Natural Gas Pipelines; Regulation of Negotiated Transportation Services of Natural Gas Pipelines*, 74 FERC ¶ 61,076; *clarification granted*, 74 FERC ¶ 61,194, *order on reh'g*, 75 FERC ¶ 61,024 (1996).

⁷³ *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).

⁷⁴ Pipelines are required to file any service agreement containing non-conforming

4. Tariff

43. As part of its application, Rio Bravo 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. Nominations, Confirmations and Scheduling

44. Rio Bravo's proposed GT&C section 6.7.E states "Transporter shall have the right to curtail, interrupt, discontinue, or not schedule service in whole or in part on all or a portion of its system from time to time to *perform repair and maintenance on Transporter's system as necessary to maintain the operational capability of Transporter's system or to comply with applicable regulatory requirements.*"⁷⁵

45. Rio Bravo proposes that it may curtail scheduled service when "necessary to maintain the operational capability of Transporter's system or to comply with applicable regulatory requirements." The Commission has found that pipelines may only "curtail" service in an emergency situation or when an unexpected capacity loss occurs after the pipeline has scheduled service, and the pipeline is therefore unable to perform the service which it has scheduled.⁷⁶ The term "to perform repair and maintenance on Transporter's system as necessary to maintain operational capability of Transporter's system or to comply with applicable regulatory requirements" is not limited to an emergency situation or an unexpected loss of capacity, and the pipeline should take outages required for routine repair, maintenance, and operating changes into account when it is scheduling service, rather than curtailing service after it is scheduled. If an interruption of service is required for routine repair, maintenance or improvements, then the pipeline should not confirm shipper nominations to schedule service that it will not be able to provide for the period of the outage. For that reason, the Commission has held that pipelines should plan routine repair, maintenance, and improvements through the scheduling process and should not curtail confirmed scheduling nominations in order to perform routine repair,

provisions and to disclose and identify any transportation term or agreement in a precedent agreement that survives the execution of the service agreement. 18 C.F.R. § 154.112(b) (2019).

⁷⁵ Emphasis added.

⁷⁶ *CenterPoint Energy Gas Transmission Co., LLC*, 144 FERC ¶ 61,195, at P 75 (2013) (*CenterPoint*); *Ryckman Creek Resources, LLC*, 136 FERC ¶ 61,061, at P 68 (2011); *MarkWest*, 125 FERC ¶ 61,165 at P 52; *Portland Natural Gas Transmission Sys.*, 76 FERC ¶ 61,123, at 61,663 (1996).

maintenance, and improvements.⁷⁷ Therefore, Rio Bravo is required to revise GT&C section 6.7.E to comply with Commission policy.

b. Force Majeure

46. Rio Bravo's proposed GT&C section 6.14 includes a definition of *force majeure* and provides for reservation charge credits. In general, GT&C section 6.14 provides for full reservation charge credits when Rio Bravo cannot provide primary firm service during non-*force majeure* periods. GT&C section 6.14 provides for partial reservation charge credits during *force majeure* outages pursuant to the Safe Harbor Method, under which the pipeline provides no credits during the first ten days of the outage and full credits thereafter.

47. GT&C section 6.14.C includes in the definition of *force majeure* "the inability of Transporter's pipeline system to deliver gas...." The above phrase is overly broad and could include circumstances that are not both unexpected and outside the pipeline's control, which conflicts with established Commission policy.⁷⁸ In addition, Rio Bravo's proposed definition includes "civil disturbances of any kind" and "civil disturbances...." The two phrases are unnecessarily redundant; therefore, Rio Bravo is directed to delete one instance of the above phrase.

48. Rio Bravo's proposed definition of *force majeure* events also includes "acts of civil or military authority (including, but not limited to, courts, the government or any administrative or regulatory agencies)...." Rio Bravo's proposed tariff language conflicts with Commission policy because it can be interpreted to include regular, periodic maintenance activities required to comply with government actions as *force majeure* events. The Commission has clarified the basic distinction as to whether outages resulting from governmental actions are *force majeure* or non-*force majeure* events.⁷⁹

⁷⁷ *CenterPoint*, 144 FERC ¶ 61,195 at P 75.

⁷⁸ The Commission has defined *force majeure* outages as events that are both "unexpected and uncontrollable." *North Baja Pipeline, LLC v. FERC*, 483 F.3d 819, 823 (D.C. Cir. 2007), *aff'g*, *North Baja Pipeline, LLC*, 109 FERC ¶ 61,159 (2004), *order on reh'g*, 111 FERC ¶ 61,101 (2005). *See also, e.g., Kinder Morgan Louisiana Pipeline LLC*, 154 FERC ¶ 61,145, at P 29 (2016) (*Kinder Morgan*); *Algonquin Gas Transmission, LLC*, 153 FERC ¶ 61,038, at P 103 (2015) (*Algonquin*).

⁷⁹ *Kinder Morgan*, 154 FERC ¶ 61,145 at P 30; *TransColorado Gas Transmission Co., LLC*, 144 FERC ¶ 61,175, at PP 35-43 (2013); *Gulf South Pipeline Co., LP*, 141 FERC ¶ 61,224, at PP 28-47 (2012), *order on reh'g*, 144 FERC ¶ 61,215, at PP 31-34 (2013).

The Commission found that outages necessitated by compliance with government standards concerning the regular, periodic maintenance activities a pipeline must perform in the ordinary course of business to ensure the safe operation of the pipeline, including the PHMSA's integrity management regulations, are non-*force majeure* events requiring full reservation charge credits. Outages resulting from one-time, non-recurring government requirements, including special, one-time testing requirements after a pipeline failure, are *force majeure* events requiring only partial crediting.⁸⁰ Therefore, the Commission directs Rio Bravo to revise GT&C section 6.14.C to comply with Commission policy.

49. GT&C section 6.14.G states in part, "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.*"⁸¹ Commission policy provides that pipelines are not required to provide reservation charge credits if the failure to deliver is based on events due solely to that shipper,⁸² or due solely to the upstream or downstream pipeline and outside the control of the pipeline.⁸³ For example, the Commission has stated that, where the subject pipeline's failure to schedule or deliver gas was due solely to operating conditions on the upstream or downstream pipeline and the subject pipeline was ready to perform the requested service, no credits would be required.⁸⁴ However, if the subject pipeline as well as the other parties were unable to perform, then credits would be due to the shipper because the subject pipeline was not ready to perform regardless of the condition on the upstream or downstream pipeline.⁸⁵ Accordingly, when Rio Bravo files its compliance filing, it is directed to modify the referenced tariff language to comply with Commission policy.

c. Right of First Refusal

50. GT&C section 6.15.B describes how to exercise the Right of First Refusal. Section 6.15.B.1 provides that 12 months prior to the expiration of the primary term, Rio Bravo shall post the available capacity for bid on its website. In response to a data

⁸⁰ See *Algonquin, LLC*, 153 FERC ¶ 61,038 at P 104.

⁸¹ Emphasis added.

⁸² *Kinder Morgan*, 154 FERC ¶ 61,145 at P 20.

⁸³ *Rockies Express Pipeline LLC*, 142 FERC ¶ 61,075, at P 15 (2013).

⁸⁴ *Id.*

⁸⁵ *Id.*

request, Rio Bravo proposes to clarify its Right of First Refusal provision by adding the following to the end of GT&C section 6.15.B.1: “and provide the existing Shipper with the Right of First Refusal written notice of the posting.”⁸⁶ In addition, Rio Bravo proposes to add GT&C section 6.15.B.11 as follows:

“Whenever any Service Agreement subject to a Right of First Refusal at the end of its term is due to expire, Transporter shall implement the above process without requiring the existing Shipper to provide notice triggering the process.”

Rio Bravo is directed to make the proposed revision in its compliance filing.

d. Requests for Service

51. GT&C section 6.20.B.2(c) provides that Rio Bravo shall post on its website information regarding available capacity which includes “term (up to a maximum primary term of twenty (20) years with extensions from year to year thereafter unless canceled by their party by providing *six (6) Months prior notice* to the other partner).”⁸⁷ In section 7.1.4, the Rate Schedule FTS Service Agreement states it “shall continue year to year until terminated by Transporter or Shipper upon *written notice of the one year or the term of this Service Agreement, whichever is less.*”⁸⁸ In its data response, Rio Bravo proposes to revise the language in GT&C section 6.20.B.2(c) to reconcile the notice period with the notice period set forth in GT&C section 7.1.4.⁸⁹ Rio Bravo proposes to

⁸⁶ Rio Bravo’s June 13, 2017 Response to Data Request at 8.

⁸⁷ Emphasis added.

⁸⁸ Emphasis added.

⁸⁹ Rio Bravo’s June 13, 2017 Response to Data Request at 7.

replace the language previously proposed in GT&C section 6.20.B.2(c) with the following:

“term (up to a maximum primary term of twenty (20) years with extensions from year to year thereafter unless canceled by either party by providing written notice of one year or the term of the service agreement, whichever is less, to the other party); and date capacity becomes available.”

Rio Bravo is directed to make the proposed revision in its compliance filing.

e. **Penalty Revenue Crediting**

52. Rio Bravo states that its tariff provides for limited penalties for shippers and anticipates that the penalties recovered pursuant to section 5.1.4.B.2 of Rate Schedule FTS and section 5.3.5.A of Rate Schedule PAL will be minimal.⁹⁰ In its data response, Rio Bravo proposes to add GT&C section 6.34 to its *pro forma* tariff to provide crediting of penalty revenues, including the confiscated gas. Rio Bravo is directed to make the proposed revision in its compliance filing.

V. **Environmental Analysis**

53. To satisfy the requirements of the National Environmental Policy Act of 1969 (NEPA),⁹¹ Commission staff evaluated the potential environmental impacts of the proposed projects in an EIS. Several agencies participated as cooperating agencies in the preparation of the EIS: U.S. Army Corps of Engineers (COE), U.S. Coast Guard (Coast Guard), PHMSA, Federal Aviation Administration (FAA), U.S. Environmental Protection Agency (EPA), U.S. Fish and Wildlife Service (FWS), National Park Service, National Oceanic Atmospheric Administration’s National Marine Fisheries Service (NMFS), and DOE. Cooperating agencies have jurisdiction by law or special expertise with respect to resources potentially affected by the proposals and participate in the NEPA analysis.

54. On October 12, 2018, Commission staff issued a draft EIS addressing issues raised up to the point of publication. The Commission published notice of the draft EIS in the *Federal Register* on October 18, 2018, establishing a 45-day public comment period

⁹⁰ *Id.* at 4, 6.

⁹¹ 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.

ending on December 3, 2018.⁹² Commission staff held three public comment sessions between November 13 and November 15, 2018, to receive comments on the draft EIS. At the public comment sessions, 63 individuals provided verbal comments. We also received 861 written comment letters from federal and state agencies, Native American tribes, companies/organizations, and individuals 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.⁹³

55. On April 26, 2019, Commission staff issued the final EIS for the projects, which addresses all substantive environmental comments received on the draft EIS.⁹⁴ The final EIS addresses geology; soils; water use and quality; wetlands; vegetation; wildlife, aquatic resources, and essential fish habitat; threatened, endangered, and other special-status species; land use, recreation, and visual resources; socioeconomics; cultural resources; air quality and noise; reliability and safety; cumulative impacts; and alternatives.

56. The final EIS concludes that construction and operation of the Rio Grande LNG Terminal and the Rio Bravo Pipeline, collectively referred to as the Rio Grande LNG Project, would result in adverse environmental impacts, but that these impacts would be reduced to less-than-significant levels with the implementation of applicants' proposed, and Commission staff's recommended, avoidance, minimization, and mitigation measures, which are included as conditions in the appendix to this order. The Rio Grande LNG Project, combined with other projects in the geographic scope, including the Texas LNG and Annova LNG Projects,⁹⁵ would result in significant cumulative impacts on surface water quality in the Brownsville Ship Channel during operational vessel transits; on the federally-listed ocelot and jaguarundi from habitat loss and increased potential for vehicular strikes during construction; on the federally listed northern

⁹² 83 Fed. Reg. 52,828.

⁹³ The transcripts for the public comment sessions in Port Isabel, Texas; Raymondville, Texas; and Kingsville Texas were filed in the record on January 2, 2019. *See also* Appendix R to the final EIS reproducing and responding to comments on the draft EIS.

⁹⁴ Final EIS at 1-14 – 1-16 and Appendix R.

⁹⁵ Concurrently with this order, the Commission is also issuing orders approving the construction and operation of the Texas LNG and Annova LNG Projects. *See Texas LNG Brownsville LLC*, 169 FERC ¶ 61,130 (2019); *Annova LNG Common Infrastructure, LLC*, 169 FERC ¶ 61,132 (2019).

aplomado falcon from habitat loss; on visual resources due to the presence of new facilities; and on nearby NSAs during nighttime construction.

57. The Commission received comments on the final EIS from seven individuals, one state agency, one local municipality, and a group of environmental and local resident organizations.⁹⁶ Those comments and major environmental issues addressed in the final EIS are discussed below.

A. Scope of the Environmental Review

58. Citing *Sierra Club v. FERC*,⁹⁷ Sierra Club contends that the Commission's approval of the siting, construction, and operation of the Rio Grande LNG Project and DOE's authorization of LNG exports from the project are "connected actions," the impacts of which must be fully analyzed in the Commission's EIS.⁹⁸ Specifically, Sierra Club asserts that the Commission, as the lead agency responsible for reviewing the environmental effects of the applicants' proposals under NEPA, must ensure that the review consists of impacts of all related approvals, including the indirect effects of both the construction and operation of the LNG Terminal facilities as well as the export of LNG from those facilities.⁹⁹ Asserting that the export of LNG will increase gas production and use of exported natural gas in overseas markets, Sierra Club argues that effects are reasonably foreseeable effects of the Commission's and DOE's authorizations and should be analyzed in the EIS.¹⁰⁰

59. Because DOE authorizes commodity exports of LNG, the Commission's authorization of the siting, construction, and operation of LNG export facilities is not the

⁹⁶ On May 30, 2019, Defenders of Wildlife, Save RGV from LNG, Shrimpers and Fisherman of the RGV, Sierra Club, and Vecinos (collectively, Defenders of Wildlife) jointly filed comments, alleging that the final EIS must be supplemented to account for impacts of a future expansion the LNG Terminal's export capacity. The same group of organizations filed a renewed request for a supplemental EIS on June 17, 2019.

⁹⁷ *Freeport*, 827 F.3d at 47-49.

⁹⁸ Sierra Club's December 3, 2018 Comments on draft EIS at 84-87 (Comments on draft EIS filed on behalf of Save RGV, Shrimpers and Fisherman of the RGV, and Vecinos).

⁹⁹ *Id.* at 87-94.

¹⁰⁰ *Id.*

legally relevant cause of increased natural gas production.¹⁰¹ Nor is the Commission's construction authorization the legally relevant cause of increased use of exported natural gas overseas. Accordingly, the Commission's EIS appropriately did not evaluate the LNG Terminal's impacts on gas production or use of exported gas overseas.

60. Sierra Club again distorts the concept of "connected actions." The requirement that an agency consider connected actions in a single environmental document is to "prevent agencies from dividing one project into multiple individual actions" with less significant environmental effects¹⁰² and "to prevent the government from 'segmenting' its *own* 'federal actions into separate projects and thereby failing to address the true scope and impact of the activities that should be under consideration.'"¹⁰³

61. Here, the proposals before the Commission are requests to site, construct, and operate the Rio Grande LNG Terminal and the Rio Bravo Pipeline Project. These projects were considered together in a single environmental analysis. The export of natural gas from the Rio Grande LNG Terminal, by contrast, was not a proposal before the Commission because, as the *Freeport* court noted, "[DOE], not the Commission, has sole authority to license the export of any natural gas going through the [Rio Grande] facilities."¹⁰⁴

62. Further, in arguing that the NGA "recognizes the connected nature" of DOE's export authorization and the Commission's jurisdiction over export facilities because the Act calls for the Commission to serve as "lead agency" for a coordinated NEPA review, Sierra Club erroneously conflates the Council on Environmental Quality (CEQ)

¹⁰¹ *Sabine Pass*, 827 F.3d at 68.

¹⁰² *Myersville Citizens for a Rural Community, Inc. v. FERC*, 783 F.3d 1301, 1326 (D.C. Cir. 2015) (approving the Commission's determination that, although a Dominion-owned pipeline project's excess capacity may be used to move gas to the Cove Point terminal for export, the projects are "unrelated" for NEPA purposes); *see also City of W. Chicago, Ill. v. U.S. Nuclear Regulatory Comm'n*, 701 F.2d 632, 650 (7th Cir. 1983) (citing *City of Rochester v. United States Postal Serv.*, 541 F.2d 967, 972 (2d Cir. 1976)).

¹⁰³ *Sierra Club v. U.S. Army Corps of Eng'rs*, 803 F.3d 31, 49-50 (D.C. Cir. 2015) (emphasis added) (quoting *Delaware Riverkeeper Network v. FERC*, 753 F.3d 1304, 1313 (D.C. Cir. 2014)).

¹⁰⁴ *See Freeport*, 827 F.3d at 47.

regulations on “connected actions”¹⁰⁵ and “lead agencies.”¹⁰⁶ In the Energy Policy Act of 2005, Congress designated the Commission as “the lead agency for the purposes of coordinating all applicable Federal authorizations and for the purposes of complying with the National Environmental Policy Act” for LNG-related authorizations required under section 3 of the NGA.¹⁰⁷ While the lead agency supervises the preparation of the environmental document where more than one federal agency is involved, the “lead agency” designation does not alter the scope of the project before the Commission either for approval or environmental review.¹⁰⁸ Nor does the lead agency role make the Commission responsible for ensuring a cooperating federal agency’s compliance with its own NEPA responsibilities.¹⁰⁹ Thus, the Commission did not impermissibly segment its environmental review.

63. In any event, Sierra Club’s argument ignores the fact that DOE has authorized Rio Grande to export approximately 26.1 MTPA of LNG to free trade nations.¹¹⁰ This volume is similar to Rio Grande LNG Terminal’s nameplate capacity of 27 MTPA of LNG. Accordingly, the criteria for determining whether the Commission’s proceeding is a connected action with the DOE’s pending proceeding for additional export authorization to non-free trade countries cannot be met.¹¹¹ Specifically, the liquefaction

¹⁰⁵ 40 C.F.R. § 1508.25(a)(1) (2019).

¹⁰⁶ *Id.* § 1501.5.

¹⁰⁷ *See* 15 U.S.C. § 717n(b)(1); *see also Columbia Riverkeeper v. U.S. Coast Guard*, 761 F.3d 1084, 1087-88 (9th Cir. 2014) (discussing FERC’s role as lead agency under the Energy Policy Act of 2005).

¹⁰⁸ *See* 40 C.F.R. § 1501.5(a) (detailing a lead agency’s role).

¹⁰⁹ *See id.* § 1503.3 (cooperating agency required to specify what additional information it needs to fulfill its own environmental review); *see also id.* § 1506.3 (allowing a cooperating agency to adopt the lead agency’s environmental document to fulfill its own NEPA responsibilities if independently satisfied that the environmental document adheres to the cooperating agency’s comments and recommendations).

¹¹⁰ *Supra* P 21.

¹¹¹ *See* 40 C.F.R. § 1508.25(a)(1)(i)-(iii) (defining “connected actions”).

project can proceed without obtaining export authorization to non-free trade countries and so does not depend on obtaining export authorization to non-free trade countries.¹¹²

B. Geology

64. Construction of the LNG Terminal would permanently modify topographic contours present at the site.¹¹³ Results of Rio Grande's geotechnical investigations concluded that a shallow foundation system would adequately support lightly loaded structures at the LNG Terminal site and aboveground facilities; however, at heavily loaded and settlement-sensitive structures, deep foundations consisting of piles will be necessary.¹¹⁴ No mineral resources would be affected by the LNG Terminal.

65. Rio Grande performed a fault and seismic analysis for the LNG Terminal. Based on staff's review of this analysis, and due to the absence of a major fault in proximity to the site and lower ground motions, the final EIS concludes that the seismic risk to the site is low.¹¹⁵ The potential for a seismic event large enough to cause soil liquefaction in the project area is also low.¹¹⁶ Moreover, the LNG Terminal facilities would be constructed on either a site improved with deep soil mixing or in some cases deep foundations, mitigating any potential impacts of soil liquefaction.¹¹⁷ If soil improvement becomes necessary to counteract soil liquefaction, Rio Grande would use ground improvement techniques (e.g., densification, cementitious strengthening) or would remove and replace existing soils with non-liquefiable material.¹¹⁸ Further, the final EIS concludes that the LNG Terminal facilities would be able to withstand storm surge without damage during a 500-year storm event.¹¹⁹

66. The potential for geologic hazards (e.g., earthquakes, soil liquefaction, or landslides) to significantly affect construction or operation of the Rio Bravo Pipeline is

¹¹² *Id.*

¹¹³ Final EIS at 4-421.

¹¹⁴ *Id.* at 4-9.

¹¹⁵ *Id.* at 4-344.

¹¹⁶ *Id.* at 4-345.

¹¹⁷ *Id.*

¹¹⁸ *Id.*

¹¹⁹ *Id.* at 4-350.

low.¹²⁰ To mitigate potential flood hazard, critical infrastructure and potential contamination sources would be elevated, and Compressor Station 3 would be constructed within a flood protection levee.¹²¹ Due to the location of facilities within active oil and gas fields and near water supply wells for groundwater withdrawals from the Gulf Coast Aquifer, the final EIS found that subsidence could occur in the project vicinity, but noted that water withdrawal and associated subsidence along the pipeline route would be minimal.¹²² The permanent alteration of geologic conditions at the aboveground facilities would be the pipeline system's primary impact on geologic resources.¹²³ Rio Bravo must submit the results of any outstanding geotechnical investigations for certain aboveground facilities and waterbodies to be crossed by horizontal directional drill, as well as any related mitigation measures, prior to construction.¹²⁴ Blasting is not anticipated during construction of the pipeline facilities or the LNG Terminal.¹²⁵ Therefore, the final EIS concludes that the Rio Grande LNG Project's impacts on geologic resources would be adequately minimized and not significant, and that the potential impacts on the LNG Terminal and pipeline facilities from geological hazards would be minimal.

C. Soils

67. During construction of the projects, clearing, grading, excavation, backfilling, and relocating construction equipment would affect soil resources.¹²⁶ The applicants would apply their project-specific *Upland Erosion Control, Revegetation and Maintenance Plan* (project-specific Plan) and *Wetland and Waterbody Construction and Mitigation*

¹²⁰ *Id.* at 5-1.

¹²¹ *Id.*

¹²² *Id.*

¹²³ *Id.* at 5-2.

¹²⁴ *Id.*

¹²⁵ *Id.* at 4-8.

¹²⁶ *Id.* at 5-2.

Procedures (project-specific Procedures),¹²⁷ including installing, maintaining, and monitoring temporary erosion and sedimentation controls to prevent sediment flow from construction areas into adjacent, undisturbed areas.¹²⁸

68. To prepare the LNG Terminal site, Rio Grande would add material (e.g., cement or lime) to stabilize soils, deposit fill to increase ground elevation, and install aggregate material to provide a level work surface, resulting in permanent alteration of the spoils and increased erosion potential until the LNG Terminal is constructed and the exposed soils remaining are stabilized and revegetated.¹²⁹ Dredging at the LNG Terminal site would be conducted in accordance with permits issued by the COE, and Rio Grande will reallocate dredged materials in accordance with its Dredged Material Management Plan, which will be finalized with the Brownsville Navigational District and COE.¹³⁰ To minimize shoreline erosion, Rio Grande would stabilize the LNG Terminal waterfront along the Brownsville Ship Channel from the material offloading facility to the berths and turning basin, and would maintain the integrity of the shoreline throughout the operational life of the terminal.¹³¹

69. Although construction of the Rio Bravo Pipeline would impact approximately 880 acres of soils designated as prime farmland, only 97 acres of prime farmland would be permanently impacted by aboveground facilities and access roads.¹³² Thus, the majority of this land would be restored to pre-construction conditions in accordance with the project-specific Plan and Procedures. In accordance with its project-specific Plan, Rio Bravo would decompact soils in severely compacted areas on agricultural land by tilling.¹³³ Further, Rio Grande and Rio Bravo would also develop and implement *Spill*

¹²⁷ The applicants' Plan and Procedures are based on the 2013 FERC Plan and Procedures, which are a set of baseline construction and mitigation measures developed to minimize the potential environmental impacts of construction on upland areas, wetlands, and waterbodies. See Federal Energy Regulatory Commission, *Environmental Guidelines* (May 2013), <https://www.ferc.gov/industries/gas/enviro/guidelines.asp>.

¹²⁸ *Id.*

¹²⁹ Final EIS at 4-13.

¹³⁰ *Id.* at 5-2 – 5-3.

¹³¹ *Id.* at 4-14, 5-3.

¹³² *Id.* at 4-10.

¹³³ *Id.* at 5-2.

Prevention, Control, and Countermeasures (SPCC) Plans to minimize soil impacts during construction and operation by controlling sediment and restoring workspaces. Commission staff recommends and we require in Environmental Condition 18 that the applicants file copies of the final SPCC Plans with the Commission prior to construction. Accordingly, the final EIS determines that projects' construction and operational impacts on soils would be permanent, but minor.

D. Water Resources

70. The Rio Grande LNG Project is within the Coastal Lowlands Aquifer System, but it is not located within the portion classified as a major aquifer.¹³⁴ Because the groundwater in Cameron County is generally not potable due to its high salinity, drinking water in the vicinity of the LNG Terminal site is primarily surface water from the Rio Grande River and associated reservoirs.¹³⁵ The LNG Terminal site is not located within 0.25 mile of public or private water supply wells, near wellhead protection areas, within a state designated Groundwater Conservation District, or within an area with documented groundwater contamination.¹³⁶ No new groundwater wells would be required for construction and operation of the LNG Terminal as Rio Grande intends to use municipal water supply to meet its construction and operational water needs.¹³⁷

71. The Rio Bravo Pipeline would be located within 200 feet of 13 water supply wells.¹³⁸ For wells within 150 feet of project workspaces, Rio Bravo would offer to perform pre- and post-construction monitoring for changes in well water quality and yield.¹³⁹ To minimize the potential for groundwater contamination, Rio Bravo would prohibit refueling within 200 feet of a water supply well.¹⁴⁰ While construction of the projects could result in temporary impacts on groundwater quality and recharge, the

¹³⁴ *Id.* at 4-24. The Coastal Lowland Aquifer System are the aquifers proximal to the Gulf of Mexico from the Texas-Mexico border through the panhandle of Florida. In Texas, the Coastal Lowlands Aquifer System is referred to as the Gulf Coast Aquifer.

¹³⁵ *Id.*

¹³⁶ *See id.*

¹³⁷ *Id.* at 4-27.

¹³⁸ *Id.* at 4-28.

¹³⁹ *Id.*

¹⁴⁰ *Id.*

applicants would reduce the potential for groundwater impacts by implementing their project-specific Plan and Procedures, SPCC Plans, and *Stormwater Pollution Prevention Plan* (Stormwater Plan).¹⁴¹

72. Surface water impacts from construction and operation of the Rio Grande LNG Terminal could occur during dredging and placement of dredged materials, vessel traffic, site construction and stormwater runoff, hydrostatic testing and use of the firewater system, and spills or leaks of hazardous materials.¹⁴² With implementation of Rio Grande's proposed mitigation measures for each of these activities, the final EIS concludes that impacts on surface waters from construction and operation of the Rio Grande LNG Terminal would be temporary and minor. Permanent impacts on surface water, although not significant, would occur where open water would be converted to industrial/commercial land within the LNG Terminal site, and where dredging would permanently modify the profile of the shipping channel and would convert existing mudflats to open water.¹⁴³

73. The Rio Bravo Pipeline would cross 63 waterbodies, including 21 perennial streams, 19 intermittent streams, 10 ephemeral streams, and 13 ponds or reservoirs, by various crossing methods, including open cut, conventional bore, and horizontal directional drill.¹⁴⁴ Water for hydrostatic testing of the pipeline system would be withdrawn from three waterbodies crossed by the pipelines (Los Olmos Creek, Arroyo Colorado, and Resaca De Los Cuates), and would be re-used across different pipe segments to decrease the total volume of water required.¹⁴⁵ To minimize potential impacts on surface water, Rio Bravo would implement its project-specific Procedures, employ trenchless crossing methods for 26 of 34 flowing waterbodies, and, following construction of each waterbody crossing, would restore waterbody contours to pre-construction conditions and revegetate riparian areas.¹⁴⁶

74. With implementation of the applicants' project-specific Plan and Procedures; Stormwater Plan; SPCC Plans; adherence to applicable permits; and staff

¹⁴¹ *Id.* at 5-3.

¹⁴² *Id.* at 4-37.

¹⁴³ *Id.* at 4-55.

¹⁴⁴ *Id.* at ES-5.

¹⁴⁵ *Id.* at 5-4.

¹⁴⁶ *Id.* at ES-6.

recommendations, the final EIS concludes that the projects' impacts on groundwater and surface water would be adequately minimized.¹⁴⁷

E. Wetlands

75. Construction and operation of the Rio Grande LNG Terminal would result in the permanent loss of approximately 182 acres of wetlands and special aquatic sites (e.g., mangroves and mudflats).¹⁴⁸ The construction and operation of the Rio Bravo Pipeline Project would temporarily affect approximately 145 acres of wetlands, of which approximately 107 acres would be maintained in an herbaceous state within the pipeline right-of-way, while 38 acres would be restored to pre-construction conditions.¹⁴⁹ Section VI.A.6 of the Commission's Procedures specify that aboveground facilities, with few exceptions, should be located outside of wetlands. However, the final EIS finds Rio Grande's proposal to site the LNG Terminal, including Compressor Station 3, in wetlands to be the most environmentally preferable and practicable alternative.¹⁵⁰ Prior to construction, the COE must approve the proposed siting of the LNG Terminal in wetlands.¹⁵¹ Accordingly, Rio Grande is developing for COE approval a plan to mitigate wetland impacts.¹⁵² Construction of the LNG Terminal would not start until Rio Grande's wetland mitigation plans are finalized and the COE has issued its permits under sections 404 and 10 of the Clean Water Act (CWA).¹⁵³ In accordance with its Procedures, Rio Bravo would consult with the COE to develop a wetland restoration plan.¹⁵⁴ After construction in wetlands, the applicants would implement their project-specific Procedures to control erosion and restore the pre-construction grade and hydrology.¹⁵⁵

¹⁴⁷ *Id.* at 5-5.

¹⁴⁸ *Id.* at 4-61.

¹⁴⁹ *Id.* at 4-60.

¹⁵⁰ *Id.* at 5-6.

¹⁵¹ *Id.*

¹⁵² *Id.* at 5-5.

¹⁵³ *Id.* at ES-6.

¹⁵⁴ *Id.* at 5-5.

¹⁵⁵ *Id.*

76. With adherence to the applicants' project-specific Procedures, applicable permits, and staff recommendations, the final EIS concludes that impacts on wetlands would be reduced, with the majority of adverse permanent impacts occurring at the LNG Terminal site.¹⁵⁶ In addition, the final EIS anticipates that any permit issued by the COE would require wetland mitigation to offset the LNG Terminal's adverse permanent impacts on waters of the United States, thereby reducing such impacts to less-than-significant levels.¹⁵⁷

F. Vegetation

77. Construction of the Rio Grande LNG Terminal would result in the clearing and permanent loss of approximately 563 acres of vegetation.¹⁵⁸ Impacts on wetland vegetation would be mitigated as required by the COE pursuant to section 404 of the CWA.¹⁵⁹ Rio Grande conducted noxious and invasive weed surveys at the LNG Terminal site; no state-listed weeds were identified.¹⁶⁰ Although the construction and operation of the LNG Terminal would result in permanent impacts on vegetation within the facility footprint, the final EIS concludes that these impacts would be minor.¹⁶¹

78. Construction of the Rio Bravo Pipeline Project would result in the clearing of approximately 1,981 acres of vegetation.¹⁶² Following construction, approximately 1,213 acres of vegetation would be located within the pipeline's permanent right-of-way and subject to routine maintenance.¹⁶³ The construction and operation of the pipeline's aboveground facilities would permanently convert approximately 93 acres of vegetation to a developed state.¹⁶⁴ Additional noxious weed surveys along the pipeline route would be conducted prior to construction, and Rio Bravo would implement its *Noxious and*

¹⁵⁶ *Id.* at 5-6.

¹⁵⁷ *Id.* at 4-69, 5-7.

¹⁵⁸ *Id.* at 5-6.

¹⁵⁹ 33 U.S.C. § 1344 (2012).

¹⁶⁰ Final EIS at 5-7.

¹⁶¹ *Id.* at 4-78.

¹⁶² *Id.*

¹⁶³ *See id.* at 5-6.

¹⁶⁴ *Id.* at 4-75.

Invasive Plant Management Plan to control the potential spread of weeds.¹⁶⁵ Although vegetated habitat would be permanently lost within the footprint of the aboveground facilities or would be maintained as part of the permanent right-of-way, the final EIS concludes that the Rio Bravo Pipeline's impacts on vegetation would generally be temporary or short-term.¹⁶⁶

G. Wildlife and Aquatic Resources

79. Construction of the Rio Grande LNG Terminal would permanently convert the vegetated acreage within the footprint of the facility, as well as 174.8 acres of open water onsite and in the proposed dredging areas, to an industrial state, resulting in some wildlife displacement, stress, and mortality.¹⁶⁷ To minimize the potential for wildlife mortality during site clearing, Rio Grande would conduct pre-construction surveys and hazing to flush wildlife from the site. Although LNG Terminal construction and operation would result in increased human activity, lighting, and noise, these impacts are not expected to be significant due to the site's close proximity to existing transportation thoroughfares (i.e., State Highway 48 and the Brownsville Ship Channel), as well as the requirement that Rio Grande develop nighttime lighting plans to minimize impacts on wildlife.¹⁶⁸ The direct loss of habitat and the indirect effects associated with displacement resulting from construction and operation of the LNG Terminal would result in minor to moderate permanent impacts on local wildlife. Construction of the Rio Bravo Pipeline would affect approximately 1,999 acres of wildlife habitat, resulting in wildlife displacement, stress, and direct mortality during construction.¹⁶⁹ However, because these impacts on wildlife would be temporally limited to periods of active construction and, with the exception of the aboveground facilities and permanent right-of-way, habitat would be restored to pre-construction conditions, the final EIS concluded these impacts would not be significant.

¹⁶⁵ *Id.* at 5-7.

¹⁶⁶ *Id.* at 4-84.

¹⁶⁷ *Id.* at 5-7.

¹⁶⁸ *See id.* Environmental Condition 22 requires Rio Grande to consult with the Texas Parks and Wildlife Department and the FWS to finalize nighttime lighting plans to minimize impacts on wildlife to the greatest extent practical.

¹⁶⁹ *Id.* at 5-8.

80. The proposed projects are within the migratory bird Central Flyway, which spans the central portion of North American into Central America.¹⁷⁰ To avoid or minimize impacts on migratory birds, Rio Grande would implement measures from its Migratory Bird Conservation Plan during construction of the LNG Terminal.¹⁷¹ During construction of the pipeline system, Rio Bravo would also implement measures from the Migratory Bird Conservation Plan if vegetation clearing during March 1 and August 31 becomes necessary.¹⁷² Environmental Condition 23 requires the applicants to consult with FWS and the Texas Parks and Wildlife Department prior to filing a final Migratory Bird Conservation Plan with the Commission. Although the increase in nighttime lighting associated with construction and operation of the projects would permanently impact resident or migratory birds, the final EIS concludes that these impacts would be minor.¹⁷³

81. Construction of the Rio Grande LNG Terminal and the Rio Bravo Pipeline would have minor impacts on aquatic resources due to the projects' water quality impacts, noise impacts, and mortality of some immobile individuals during dredging and waterbody crossings during pipeline installation. Construction of the LNG Terminal site would convert open water to industrial land and existing wetlands to open water via dredging, resulting in permanent impacts on aquatic habitat. To minimize impacts on aquatic resources caused by increased turbidity and suspended solids, Rio Grande would adhere to the COE's permit requirements and would use equipment designed to meet Texas water quality standards. In addition, Rio Grande has committed to conducting the majority of pile-driving from land to minimize impacts on aquatic resources, and plans to use a vibratory hammer, rather than impact hammers, for the sheet piling at the material offloading facility to the greatest extent possible.¹⁷⁴ LNG Terminal operations would have minor impacts on aquatic resources due to maintenance dredging and increased vessel traffic. Regarding the pipeline, Rio Bravo must ensure that all waterbodies with

¹⁷⁰ *Id.* South Texas acts as a funnel for migratory birds as they try to avoid flying too far east (into open Gulf waters) or west (into desert habitat).

¹⁷¹ *Id.*

¹⁷² In accordance with FWS's recommendations, Rio Bravo plans to avoid vegetarian clearing and maintenance between March 1 and August 31. *Id.* at 4-95.

¹⁷³ *Id.* at 5-8.

¹⁷⁴ *Id.* at 4-109. Impact hammers typically result in higher sound levels and may be more injurious to aquatic resources.

perceptible flow be crossed between November 1 and January 31.¹⁷⁵ By implementing the applicants' proposed mitigation measures, the final EIS concludes that the projects would have temporary and minor impacts on fisheries and aquatic resources.

82. Portions of the Brownsville Ship Channel, the channel to San Martin Lake, the Bahia Grande Channel, and the water column at potential dredged material disposal sites have been designated as Essential Fish Habitat (EFH).¹⁷⁶ Project-related dredging and dredged material placement; pile-driving; vessel traffic; site modification and stormwater runoff; water use; facility lighting; and hazardous material spills have the potential to affect EFH and managed species. The final EIS concludes that the potential for these impacts would be minimized by the applicants' implementation of their project-specific Plan and Procedures, SPCC Plans, Stormwater Plan, and mitigation measures.¹⁷⁷ Although project construction activities would result in the alteration of habitat and the mortality or displacement of individuals, the impacts on EFH and the species and life stages that use EFH would be temporary and minor.¹⁷⁸ Consultation under the Magnuson-Stevens Fishery Conservation and Management Act¹⁷⁹ is complete.¹⁸⁰ Given the temporary, minor impacts on EFH, NMFS did not provide EFH conservation recommendations for the projects.¹⁸¹

H. Threatened, Endangered Species, and Other Special Status Species

83. The final EIS identifies 25 species that are federally listed as threatened or endangered (or are identified as proposed, candidates, or under review for federal listing) that may occur within the counties affected by the projects or just offshore along LNG vessel transit routes.¹⁸² Within these counties, or just offshore, critical habitat has been

¹⁷⁵ *Id.* at 5-9.

¹⁷⁶ *Id.* at ES-7.

¹⁷⁷ *See id.* at 4-125 – 4-126.

¹⁷⁸ *Id.* at ES-7.

¹⁷⁹ 16 U.S.C. §§ 180 *et seq.* (2018).

¹⁸⁰ *See* NMFS's February 22, 2019 Letter (concurring with staff's EFH assessment).

¹⁸¹ *Id.*

¹⁸² Final EIS at 4-128 – 4-132 (Table 4.7-1).

designated for two species (the piping plover and the loggerhead sea turtle).¹⁸³ As required by section 7 of the Endangered Species Act of 1973, we requested that the FWS and NMFS accept the information provided in the draft EIS as the biological assessment for the Rio Grande LNG Project.

84. For terrestrial species under FWS's purview, Commission staff determined that the projects are *not likely to adversely affect* nine species, are *not likely to adversely modify* the piping plover's critical habitat, would have *no effect* on two species or on sea turtles while on nesting beaches, and are unlikely to result in a trend towards federal listing for two species.¹⁸⁴ Commission staff also determined that the projects are *likely to adversely affect* two federally endangered cat species under FWS jurisdiction – the ocelot and the jaguarundi – based on direct and indirect habitat impacts.¹⁸⁵ Ocelots could face a heightened risk of injury or mortality during pre-construction habitat clearing, and may be indirectly affected by habitat disturbance and fragmentation, increased human presence, and increased noise during project construction and operation.¹⁸⁶ Although there has not been a confirmed sighting of the species since 1986, the jaguarundi, if present in the project area, would experience impacts similar to the ocelot.¹⁸⁷ By letter filed December 27, 2018, FWS provided preliminary comments on staff's biological assessment and requested additional information on ocelot habitat loss. FWS filed a second letter on July 27, 2019, reporting that the applicants had provided the requested information and had committed to pursuing voluntary conservation measures to minimize the projects' direct impacts on cat habitat. On August 21, 2019, FWS informed the Commission that it had received all the information required to initiate formal consultation for the ocelot and jaguarundi.¹⁸⁸

85. On October 2, 2019, FWS filed a Final Biological Opinion, concluding that the Rio Grande LNG Project is not likely to jeopardize the continued existence of the ocelot and jaguarundi. FWS's Biological Opinion authorizes the incidental take of one endangered cat (ocelot or jaguarundi) over the life of the projects (i.e., 30 years). In order to minimize the impact of incidental take on the ocelot and jaguarundi, the Biological Opinion includes four reasonable and prudent measures requiring Rio Grande and Rio

¹⁸³ *Id.* at 4-127.

¹⁸⁴ *Id.* at 5-9.

¹⁸⁵ *Id.* at 5-10.

¹⁸⁶ *Id.* at 4-156.

¹⁸⁷ *Id.* at 4-160.

¹⁸⁸ FWS's August 21, 2019 Letter at 1.

Bravo to: (1) implement the voluntary conservation measures proposed in their biological opinion; (2) notify FWS of any unauthorized take or if any endangered cat is found dead or injured during project implementation; (3) provide information and training on ocelot habitat requirements and avoidance measures to all project employees and contractors; and (4) monitor take of the ocelot and jaguarundi and provide periodic monitoring reports to FWS. In addition, the Biological Opinion contains six mandatory terms and conditions, which implement the reasonable and prudent measures described above and outline the applicants' reporting and monitoring requirements.

86. The south Texas ambrosia was inadvertently omitted from the Final Biological Opinion, but FWS concurred with Commission staff's *not likely to adversely affect* determination.¹⁸⁹ Accordingly, Endangered Species Act consultation with FWS is complete.

87. For marine species under NMFS's purview, Commission staff determined that the projects are *not likely adversely affect* ten species, and that the projects would have *no effect* on the critical habitat for the loggerhead sea turtle. By letter dated August 8, 2019, NMFS agreed, concluding that the Rio Grande LNG Project is *not likely to adversely affect* listed species or critical habitat under NMFS's purview.¹⁹⁰ Accordingly, Endangered Species Act consultation with NMFS is complete.

88. Because consultation under section 7 of the Endangered Species Act is complete, the final EIS's recommended Environmental Condition 29 is no longer required.

89. Although the final EIS found that dolphins, federally protected under the Marine Mammal Protection Act,¹⁹¹ may be affected by noise produced by in-water pile-driving at the LNG Terminal site, Rio Grande has minimized this potential by restricting in-water pile-driving to four conventional piles and one sheet pile.¹⁹² Environmental Condition 30 requires Rio Grande to consult with NMFS to identify mitigation measures to avoid or minimize take of bottlenose dolphins during in-water pile-driving.

¹⁸⁹ Commission staff's October 8, 2019 Memo (containing email correspondence from FWS).

¹⁹⁰ NMFS's August 22, 2019 Letter at 16 (responding to Commission staff's October 25, 2018 letter requesting consultation pursuant to section 7 of the Endangered Species Act).

¹⁹¹ 16 U.S.C. §§ 1361 *et seq.* (2018).

¹⁹² Final EIS at 5-10.

90. The final EIS identifies 30 state-listed threatened or endangered species with the potential to occur in the project area.¹⁹³ However, with the applicants' implementation of their project-specific Plan and Procedures, Stormwater Plan, and SPCC Plans, the final EIS concludes that the Rio Grande LNG Project would not significantly affect state-listed species.¹⁹⁴

91. We have reviewed all the information and analysis contained in the record regarding the potential environmental effects of the projects on all threatened, endangered and other special status species, including the ocelot and jaguarundi. With imposition of the conditions required herein, which include all measures required by FWS in its Biological Opinion, we find construction and operation of the projects as approved will be an environmentally acceptable action and not inconsistent with the public interest.

I. Land Use, Recreation, and Visual Resources

92. Land use in the vicinity of the projects is generally classified as shrub/forest land, open land, non-forested wetlands, barren, open water, industrial/commercial, and agricultural. Construction of the Rio Grande LNG Project would occur predominately on large tracts of land classified as open land with scrub-shrub vegetation.¹⁹⁵ The LNG Terminal would be sited on 750.4 acres of a 984.2-acre undeveloped parcel of land along the northern embankment of the Brownsville Ship Channel. The proposed LNG Terminal site includes shrub/forest land (27.8 percent), open land (25.5 percent), non-forested wetlands (21.7 percent), barren lands (10.8 percent), and open water (14.1 percent).¹⁹⁶ There are no existing or planned residential developments within 0.25 mile of the project site, but one planned commercial development, the Texas LNG Project, would be adjacent to the proposed LNG Terminal site along the northeast boundary, also on the north side of the Brownsville Ship Channel.¹⁹⁷ In addition, the Annova LNG Project is proposed for a 650-acre site approximately 0.3 mile south of the project site.¹⁹⁸

¹⁹³ *Id.*

¹⁹⁴ *Id.*

¹⁹⁵ *Id.* at 5-10.

¹⁹⁶ *Id.* at 4-180.

¹⁹⁷ *Id.* at 4-188.

¹⁹⁸ *Id.*

93. The Rio Bravo Pipeline would be sited predominately on rural, unincorporated areas, with the northern portion of the pipeline route characterized by large tracts of land used for ranch and cattle operations, and the southern portion characterized by grassland and cropland.¹⁹⁹ No residences would be located within 0.25 mile of the LNG Terminal, compressor stations, booster stations, or within 50 feet of the pipeline system.²⁰⁰ Although two residences are within 50 feet of proposed access roads, the roads are existing and would not require modification for project use.²⁰¹

94. Two National Wildlife Refuges, one National Historic Landmark, one public boat launch/fishing pier, four birding trails, one land acquisition project, and three conservation easements are within 0.25 mile of the proposed projects.²⁰² With the exception of the two wildlife refuges, which would only experience temporary impacts during construction of the Rio Bravo Pipeline, construction of the pipeline would directly affect each of these recreation/special use areas.²⁰³ However, because pipeline construction would only last a few weeks in any one area, with up to 10 weeks needed at 19 discrete locations for waterbodies that would be crossed by horizontal directional drill, these impacts would be temporary.²⁰⁴ Portions of the Laguna Atascosa and Lower Rio Grande Valley National Wildlife Refuges are proximal to the boundary of the LNG Terminal site. Although direct impacts on the wildlife or habitat in the refuges are not anticipated, some indirect impacts may occur during construction and operation of the projects (e.g., disturbance due to increased noise and nighttime lighting).²⁰⁵

95. Operation of the LNG Terminal would permanently modify the viewshed.²⁰⁶ However, the residential areas nearest to the LNG Terminal, Port Isabel and Laguna Heights, are each approximately 2.2 miles away. The presence of the LNG Terminal

¹⁹⁹ *Id.* at 4-181.

²⁰⁰ *Id.* at ES-9.

²⁰¹ *Id.* at 4-189.

²⁰² *Id.* at ES-9.

²⁰³ *Id.* The Rio Bravo Pipeline would not directly affect the Laguna Atascosa and Lower Rio Grande Valley National Wildlife Refuges. *Id.* at 5-10.

²⁰⁴ *Id.* at ES-9.

²⁰⁵ *See id.* at 4-98 – 4-101.

²⁰⁶ *Id.* at ES-10.

would primarily impact the views of motorists using State Highway 48 and of boaters using the Brownsville Ship Channel for a limited duration (i.e., until the vehicle or vessel passes the site).²⁰⁷ To minimize visual impacts of the aboveground structures, Rio Grande would use gray LNG storage tanks, maintain vegetation plantings, and construct a storm surge protection levee, which would obscure most construction activities and low-to-ground operational facilities from view.²⁰⁸

96. Vegetation clearing along the pipeline rights-of-way would result in minor long-term and permanent impacts on the viewshed.²⁰⁹ However, this would not be a substantial change from existing conditions due to the presence of other pipeline easements in the area and Rio Bravo's efforts to site the pipelines within or directly adjacent to existing pipeline corridors for about 66 percent of the route.²¹⁰ Although visual impacts from the compressor stations would be permanent, they would not be significant because the nearest residence is 2.9 miles away.²¹¹

97. The LNG Terminal and a portion of the pipeline facilities would be constructed within a designated coastal zone.²¹² Environmental Condition 31 requires the applicants, prior to construction, to file documentation of concurrence from the Texas Coastal Coordination Advisory Committee that the projects are consistent with the Texas Coastal Zone Management Program. Therefore, the final EIS concludes that the land use, recreation, and visual impacts associated with the projects would not be significant.

²⁰⁷ *Id.* at 5-11.

²⁰⁸ *Id.* at ES-10.

²⁰⁹ *Id.* at 5-12.

²¹⁰ *Id.*

²¹¹ *Id.*

²¹² *Id.* at 4-205.

J. Socioeconomics

98. The final EIS concludes that construction of the Rio Grande LNG Project would result in minor impacts on local populations,²¹³ employment,²¹⁴ housing,²¹⁵ public services,²¹⁶ and property values.²¹⁷ Neither construction nor operation of the projects would result in disproportionately high or adverse environmental and human health impacts on low-income and minority populations.²¹⁸ The projects are not anticipated to result in significant impacts on tourism or commercial fisheries.²¹⁹

99. Construction and operation of the projects would potentially impact vehicular and marine traffic due to, respectively, the influx of construction workers commuting to and from the LNG Terminal and pipeline facilities, and increased large vessel movements in the Brownsville Ship Channel.²²⁰ To mitigate impacts on vehicular traffic, Rio Grande would implement mitigation measures recommended in a traffic impact analysis, hire off-duty police officers to direct traffic during peak commuting hours, and install roadway signs to notify drivers of construction activities.²²¹ Rio Bravo, as required by Environmental Condition 32, must file traffic mitigation procedures to monitor roadway use during pipeline construction. Although adding six LNG carriers per week would double the Brownsville Ship Channel's current volume of large vessel marine traffic, the

²¹³ *Id.* at 4-205 – 4-211.

²¹⁴ *Id.* at 4-211 – 4-213.

²¹⁵ *Id.* at 4-224 – 4-225.

²¹⁶ *Id.* at 4-226 – 4-227.

²¹⁷ *Id.* at 4-232 – 4-233.

²¹⁸ *Id.* at 4-237 – 4-238. The dissent suggests that it is not enough to find that low-income and minority groups “will experience conditions no worse” than the surrounding county. However, the final EIS concludes, and we agree, that no populations in the area, including the low-income and minority groups, will experience significance adverse impacts.

²¹⁹ *See id.* at 4-216 – 4-219, 4-221 – 4-222.

²²⁰ *Id.* at 5-13 – 5-14.

²²¹ *Id.* at 5-13.

Coast Guard found the waterway suitable for use by the Rio Grande LNG Project.²²² The final EIS concludes that the projects would not have significant socioeconomic impacts.

K. Cultural Resources

100. Cultural resources surveys have been completed for the entire LNG Terminal site, and surveys conducted through 2016 covered approximately 56 percent of the proposed pipeline route and facility locations.²²³ Though some areas along pipeline reroutes have been surveyed since 2016, surveys for the entirety of the Rio Bravo Pipeline Project, including approximately 30 miles of the pipeline route that would cross the King Ranch National Historic Landmark, have not been completed due to access restrictions.²²⁴

101. Within the study area for indirect effects associated with the LNG Terminal, two additional National Historic Landmarks were identified – Palmito Ranch Battlefield and the Palo Alto Battlefield – located approximately 4.1 miles and 12 miles, respectively, from the boundary of the LNG Terminal site.²²⁵ The applicants completed viewshed and noise impacts assessments for these two historic battlefields, concluding that, due to distance and topography, the LNG Terminal would result in moderate (Palmito Ranch) and minor (Palo Alto) visual impacts, and no audible noise impacts.²²⁶ The National Park Service, which administers the National Historic Landmarks Program, has not yet commented on these assessments. In addition, the applicants have developed a plan for addressing unanticipated discovery of cultural resources or human remains during construction that Commission staff and the Texas State Historic Preservation Officer (SHPO) find acceptable.²²⁷

102. Among other things, Environmental Condition 33 prohibits the applicants from commencing construction of project facilities or use of work areas or proposed access

²²² *Id.* at ES-11; *see also* Commission staff's January 18, 2018 memo in Docket No. CP16-454-000 (containing the Coast Guard's December 26, 2017 Letter of Recommendation).

²²³ Final EIS at 5-14.

²²⁴ *Id.*

²²⁵ *Id.* at 4-239.

²²⁶ *Id.* at 5-14.

²²⁷ *See id.* at 5-15.

roads until all outstanding cultural resources survey reports and plans have been completed and reviewed by Commission staff, the SHPO, and the National Park Service, as applicable. To ensure that the Commission has fulfilled its responsibilities under section 106 of the National Historic Preservation Act,²²⁸ the applicants must also provide to the Commission additional documentation of consultation with the SHPO and the National Park Service, as applicable. If it is determined that the projects may adversely affect historic properties, the Advisory Council on Historic Preservation will be afforded an opportunity to comment.

L. Air Quality and Noise

103. Construction of the Rio Grande LNG Project would result in air pollutant emissions caused by vehicle operation, marine traffic, and fugitive dust generated during construction activities. The LNG Terminal would be constructed over a 78-month period. During the final three years of construction, concurrent emissions from commissioning, start-up, and operation of the Rio Grande LNG Terminal may exceed the National Ambient Air Quality Standards (NAAQS) in the immediate vicinity of the LNG Terminal.²²⁹ However, any 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.²³⁰ Construction emissions from the Rio Bravo Pipeline would consist of fuel combustion emissions from vehicles and construction equipment, and fugitive dust generated by excavation, grading and fill activities, and general construction activities. Although this could result in elevated emissions near construction areas, air quality impacts from construction of the pipeline facilities would be short-term and minor.²³¹

104. Operation of the Rio Grande LNG Project would result in minor impacts on local and regional air quality. The LNG Terminal (including Compressor Station 3) would be a Prevention of Significant Deterioration (PSD)²³² major source and a Title V major

²²⁸ 54 U.S.C. § 306108 (Pub. L. No. 113-287, 128 Stat. 3227, Dec. 19, 2014).

²²⁹ Final EIS at 4-269.

²³⁰ *Id.*

²³¹ *Id.* at 4-272.

²³² As applicable here, a major source of air pollutants is any stationary source which emits, or has the potential to emit, 250 tons per year of a regulated criteria pollutant. *Id.* at 4-251 (citing 40 C.F.R. § 51.166(b)(1)(i)(b)) (2018).

source for certain criteria pollutants and hazardous air pollutants.²³³ Once triggered by other pollutants, the PSD and Title V programs also extend to GHGs.²³⁴ The applicants completed a Best Available Control Technology assessment for the LNG Terminal as part of its application for a PSD permit,²³⁵ which the Texas Commission of Environmental Quality granted on December 17, 2018.²³⁶ The applicants plan to submit a Title V permit application for the LNG Terminal and Compressor Station 3 prior to commencing construction.²³⁷ Air quality modeling and ozone monitoring results demonstrate that emissions from the LNG Terminal and Compressor Station 3 would not cause or significantly contribute to an exceedance of the NAAQS.²³⁸ Similarly, because emissions from the Rio Bravo Pipeline would be minor and dispersed over the length of the pipeline, operation of the pipelines would not exceed the NAAQS.²³⁹ Given the applicants' proposed mitigation measures and adherence to air quality control and monitoring permit requirements, the final EIS concludes that the projects would not result in regionally significant impacts on air quality.²⁴⁰

105. Noise levels associated with project construction would vary depending on the phase of construction in progress at any time, with the highest noise levels during construction of the LNG Terminal construction occurring during pile-driving. There are four NSAs near the Rio Grande LNG Terminal site, as well as five other sites that would be potentially sensitive to sound level impacts (i.e., cultural sites and wildlife areas).²⁴¹ To ensure that noise levels associated with pile-driving do not exceed acceptable levels, Environmental Condition 34 requires Rio Grande to monitor pile-driving activities, file weekly noise data once pile-driving activities have begun, and implement mitigation

²³³ *Id.* at 5-15.

²³⁴ *E.g., id.* at 4-253 (noting that the applicants submitted a PSD application for CO, NO_x, VOC, PM₁₀, PM_{2.5}, and GHGs).

²³⁵ *Id.* at 4-253.

²³⁶ *Id.* at 5-15.

²³⁷ *Id.* at 5-16.

²³⁸ *Id.* at 5-15.

²³⁹ *Id.* at 4-272.

²⁴⁰ *Id.* at ES-13.

²⁴¹ *See id.* at 4-282 (Table 4.11.2-2).

measures if noise impacts exceed 10 decibels (dB) over ambient levels at nearby NSAs. Although nighttime pile-driving has been proposed at the nearby Annova LNG Project, the only 24-hour construction proposed at the Rio Grande LNG Terminal is dredging.²⁴² Construction of the Rio Bravo Pipeline Project would result in noise from internal combustion engines as well as horizontal directional drilling activities. Most pipeline construction would occur during daytime hours, and the resulting noise impacts would be temporary and vary in intensity as construction progresses along the pipeline corridor.²⁴³ Environmental Condition 37 requires Rio Bravo to prepare a horizontal directional drilling noise mitigation plan to reduce noise levels attributable to drilling operations for each NSA where horizontal directional drilling noise would exceed the Commission's day-night sound level limit of 55 dBA.

106. Operation of the LNG Terminal and the pipeline system's compressor, meter, and booster stations would produce noise on a continual basis during the lifetime of the project facilities.²⁴⁴ Operational noise impacts would be minor at the aboveground facilities along the pipeline system and at the NSAs in the vicinity of the LNG Terminal.²⁴⁵ To ensure NSAs are not significantly affected by operational noise, Environmental Conditions 35, 36, and 38 require the applicants to conduct post-construction noise surveys after each noise-producing unit (e.g., each liquefaction train and compressor) is placed into service and after the entire LNG Terminal (including Compressor Station 3) is placed into service. With the implementation of the mitigation measures proposed by the applicants and required by our environmental conditions, the final EIS concludes that construction and operation of the projects would not result in significant noise impacts on residents and surrounding communities.²⁴⁶

M. Greenhouse Gas Emissions

107. With respect to impacts from greenhouse gases (GHGs), the final EIS discusses the GHG emissions from construction and operation of the projects,²⁴⁷ the climate change

²⁴² *See id.* at 4-494.

²⁴³ *Id.* at ES-13.

²⁴⁴ *Id.* at ES-14.

²⁴⁵ *Id.* at 5-18.

²⁴⁶ *Id.*

²⁴⁷ *Id.* at 4-256 – 4-271 (LNG Terminal including Compressor Station 3) and 4-271 to 4-288 (pipeline facilities).

impacts in the region,²⁴⁸ and the regulatory structure for GHGs under the Clean Air Act.²⁴⁹

108. The final EIS estimates that operation of the projects, including the LNG Terminal and pipeline facilities, may result in GHG emissions of up to 9,070,827 metric tons per year of carbon dioxide equivalent (CO₂e).²⁵⁰ To provide context to the direct and indirect²⁵¹ GHG estimate, according to the national net CO₂e emissions estimate in the EPA's *Inventory of U.S. Greenhouse Gas Emissions and Sinks* (EPA 2019), 5.743 billion metric tons of CO₂e were emitted at the national level in 2017 (inclusive of CO₂e sources and sinks).²⁵² The operational emissions of these facilities could potentially increase annual CO₂e emissions based on the 2017 levels by approximately 0.17 percent at the national level. Currently, there are no national targets to use as benchmarks for comparison and, similarly, Texas does not have GHG targets or benchmarks.²⁵³

109. The final EIS included a qualitative discussion that addressed various effects of climate change.²⁵⁴ The final EIS acknowledges that the quantified GHG emissions from the construction and operation of the projects will contribute incrementally to climate

²⁴⁸ *Id.* at 4-480 – 4-481.

²⁴⁹ *Id.* at 4-248 – 4-254.

²⁵⁰ *Id.* at Tables 4.11.1-7, 4.11.1-16, and 4.11.1-18. CO₂e emissions in the final EIS are expressed in short tons, which have been converted to metric tons in this order so the emissions may be viewed in context with the EPA's *Inventory of U.S. Greenhouse Gas Emissions and Sinks*.

²⁵¹ Indirect GHG emissions are from vessel traffic associated with the project.

²⁵² EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2017*, at ES-8 (2019), <https://www.epa.gov/sites/production/files/2019-04/documents/us-ghg-inventory-2019-main-text.pdf>.

²⁵³ The national emissions reduction targets expressed in the EPA's Clean Power Plan were repealed, *Greenhouse Gas Emissions From Existing Electric Utility Generating Units; Revisions to Emissions Guidelines Implementing Regulations*, 84 Fed. Reg. 32,520, 32,522-32, 532 (July 8, 2019), and the targets in the Paris climate accord are pending withdrawal.

²⁵⁴ Final EIS at 4-479 – 4-482.

change.²⁵⁵ Further, the Commission has previously concluded it could not determine a project's incremental physical impacts on the environment caused by GHG emissions.²⁵⁶ The Commission has also previously concluded it could not determine whether a project's contribution to climate change would be significant.²⁵⁷

N. Reliability and Safety

110. As part of the NEPA review, Commission 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 conducted a preliminary engineering and technical review of the Rio Grande LNG Terminal, including potential external impacts based on the site location. Based on this review, the final EIS recommends a number of mitigation measures for implementation 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 the life of the facility, to enhance the reliability and safety of the facility. With these measures, the final EIS concludes that acceptable layers of protection or safeguards would reduce the risk of a potentially hazardous scenario from developing that could impact the offsite public.²⁵⁸ These recommendations have been adopted as mandatory conditions in the appendix to this order. Environmental Conditions 43, 56, 60, 73, 117, 118, and 122 have been modified since issuance of the final EIS to be consistent with language in recently issued orders; however, the original intent of each environmental condition is the same.

111. The applicants state that the proposed project would be designed, constructed, operated, and maintained to meet or exceed Coast Guard Safety Standards,²⁵⁹ the DOT Minimum Federal Safety Standards,²⁶⁰ and other applicable federal and state regulations.²⁶¹ On December 26, 2017, the Coast Guard issued a Letter of

²⁵⁵ See *id.* at 4-481.

²⁵⁶ *Dominion Transmission, Inc.*, 163 FERC ¶ 61,128, at PP 67-70 (2018) (LaFleur, Comm'r, *dissenting in part*; Glick, Comm'r, *dissenting in part*).

²⁵⁷ *Id.*

²⁵⁸ Final EIS at 5-19.

²⁵⁹ 33 C.F.R. pts. 105, 127 (2019).

²⁶⁰ 49 C.F.R. pts. 192 and 193 (2019).

²⁶¹ See final EIS at 1-21 – 1-24 (Table 1.5-1) (summarizing the major federal and state permits, approvals, and consultations required for the construction and operation of

Recommendation to the Commission, indicating that the Brownsville Ship Channel would be considered suitable for accommodating the type and frequency of LNG marine traffic associated with the Rio Grande LNG Terminal.²⁶² If the LNG Terminal is authorized and constructed, the facility would be subject to the Coast Guard's inspection and enforcement program to ensure compliance with the requirements of 33 C.F.R. 105 and 33 C.F.R. 127.²⁶³

112. Further, as described above,²⁶⁴ 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.²⁶⁵ PHMSA's Letter of Determination summarizes PHMSA's evaluation of the hazard modeling results and endpoints used to establish exclusion zones, as well as its review of Rio Grande LNG's evaluation of potential incidents and safety measures that could have a bearing on the safety of plant personnel and the surrounding public. PHMSA's safety standards would also apply to the currently under construction Valley Crossing Pipeline that would be routed through the northern portion of the proposed LNG Terminal site.²⁶⁶ To protect the Valley Crossing Pipeline during construction and operation of the LNG Terminal, Rio Grande has identified protective measures and staff has made additional recommendations for temporary and permanent crossings.²⁶⁷ Accordingly, with regard to the Valley Crossing Pipeline, the final EIS determines that the likelihood of a pipeline incident or failure would be low, and that a pipeline rupture would be even less likely.²⁶⁸

113. Commission staff corresponded with the FAA in evaluating the impacts on and from the SpaceX rocket launch facility in Cameron County. Certain conditions of this order require Rio Grande to address potential impacts from rocket launch failures on the

the Project).

²⁶² See Commission staff's January 18, 2018 memo in Docket No. CP16-454-000 (containing the Coast Guard's December 26, 2017 Letter of Recommendation).

²⁶³ 33 C.F.R. §§ 105 and 127 (2019).

²⁶⁴ See *supra* P 23.

²⁶⁵ See 49 C.F.R. pt. 193, Subpart B (2019).

²⁶⁶ 49 C.F.R. pt. 195 (2019).

²⁶⁷ Final EIS at 5-18.

²⁶⁸ *Id.*

LNG Terminal.²⁶⁹ However, the extent of potential impacts on SpaceX operations, the National Space Program, and to the federal government would not fully be known until SpaceX submits an application with the FAA requesting to launch, and will depend on whether the LNG Terminal is under construction or in operation at that time.²⁷⁰

114. Rio Bravo must design, construct, operate, and maintain its pipelines and aboveground facilities in accordance with the DOT Minimum Federal Safety Standards. These regulations, which are intended to protect the public and to prevent natural gas facility accidents and failures, include specifications for material selection and qualification, minimum design requirements, and protection of pipelines from corrosion. Accordingly, the final EIS concludes that Rio Bravo's compliance with the DOT's safety standards will ensure that construction and operation of the Rio Bravo Pipeline Project would not have a significant impact on public safety.²⁷¹

O. Cumulative Impacts

115. The final EIS considers the cumulative impacts of the proposed Rio Grande LNG and Rio Bravo Pipeline Projects with other projects in the same geographic and temporal scope of the projects.²⁷² The types of other projects evaluated in the final EIS that could potentially contribute to cumulative impacts on a range of environmental resources include future LNG liquefaction and export projects, currently operating and future oil and gas projects, electric transmission and generation projects, land transportation projects, commercial developments, waterway improvement projects, and other miscellaneous activities.²⁷³

116. The final EIS concludes that for the majority of resources where a level of impact could be ascertained, 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

²⁶⁹ See Environmental Conditions 46 (construction crew positioning procedures during rocket launch activity) and 131 (rocket launch monitoring procedures).

²⁷⁰ Final EIS at 4-381.

²⁷¹ *Id.* at 5-19.

²⁷² *Id.* at ES-15 – ES-18, 4-392 – 4-495.

²⁷³ *Id.* at 5-19.

insignificant.²⁷⁴ However, the Rio Grande LNG Project combined with other projects within the geographic scope, including the Texas LNG and Annova LNG Projects, would contribute to potential significant cumulative impacts on surface water quality in the Brownsville Ship Channel during operational vessel transits; on the federally listed ocelot and jaguarundi from habitat loss and increased potential for vehicular strikes during construction; on the federally listed aplomado falcon from habitat loss; on visual resources from the presence of aboveground structures; and on nearby NSAs to the LNG terminals during nighttime construction. The final EIS discusses applicable mitigation measures, laws and regulations protecting environmental resources, and permitting requirements to minimize effects on these resources. Below, we briefly address each potentially significant cumulative impact in turn.

117. Concurrent operation of the Rio Grande LNG, Texas LNG, and Annova LNG Projects would increase the number of large, ocean-going vessels transiting the Brownsville Ship Channel by 48 percent.²⁷⁵ Increased marine vessel traffic would result in a significant cumulative impact on surface water resources during operations from increased turbidity and shoreline erosion.²⁷⁶ The Rio Grande LNG, Texas LNG, and Annova LNG Projects would incorporate design features to minimize shoreline erosion and would be responsible for maintaining the shoreline to prevent future erosion.²⁷⁷ Moreover, use of the channel by LNG carriers, barges, and support vessels would be consistent with the planned purpose and use of the Brownsville Ship Channel.²⁷⁸ However, given the substantial increase in large vessel traffic within the channel related to the three Brownsville LNG projects, and other projects, the final EIS anticipates that cumulative impacts on surface water resources associated with shoreline erosion and turbidity from increased vessel traffic would be significant and relatively persistent throughout the life of the projects.²⁷⁹

118. Due to the extent of habitat modification associated with the Rio Grande LNG Project, and other projects in the geographic scope that would be built at the same time as the proposed Rio Grande LNG Project, moderate to significant cumulative impacts would

²⁷⁴ *Id.* at 5-19 – 5-22.

²⁷⁵ *Id.* at 4-427.

²⁷⁶ *Id.*

²⁷⁷ *Id.*

²⁷⁸ *Id.*

²⁷⁹ *Id.*

likely occur for certain federally listed threatened and endangered species. Specifically, the final EIS anticipates that significant cumulative impacts would likely occur for the ocelot and jaguarundi, given the loss and/or decrease in suitability of habitat within and adjacent to the projects and the increased potential for vehicular strikes during construction. The final EIS also anticipates significant cumulative impacts for the northern aplomado falcon due to loss of foraging and nesting habitat and potential disruption of nesting in the vicinity of the projects.²⁸⁰ Moderate cumulative impacts are anticipated for sea turtles due to dredging, vessel traffic, and pile-driving.²⁸¹

119. The potential for cumulative visual impacts would be greatest if, in addition to the proposed Rio Grande LNG Terminal, the Annova LNG and Texas LNG Projects are permitted and built concurrently along the Brownsville Ship Channel. Because motorists on State Highway 48 and other local roadways and visitors to local recreation areas would experience a permanent change in the existing viewshed during construction and operation of the projects, the final EIS concludes that the cumulative impacts of the three LNG projects on visual resources would be significant.²⁸²

120. With regards to nighttime construction noise, the only 24-hour construction proposed at the Rio Grande LNG Terminal would be dredging. The estimated sound level from dredging associated with the Rio Grande LNG Terminal at the nearest NSAs would be below existing ambient sound levels, and noise associated with dredging activities is not expected to be perceptible.²⁸³ Although significantly higher noise levels are estimated for the duration of the Annova LNG Project's nighttime pile-driving, resulting in significant cumulative noise impacts, the Rio Grande LNG Terminal's contribution to cumulative nighttime construction noise would be negligible.²⁸⁴ The predicted sound level impacts for simultaneous operation of all three LNG projects are much lower than the construction impacts, with potential sound level increases between 0.3 and 1.5 dBA L_{dn} at NSAs, resulting in a negligible to minor cumulative impact.²⁸⁵

²⁸⁰ *Id.* at 4-451.

²⁸¹ *Id.*

²⁸² *Id.* at 5-21.

²⁸³ *Id.* at 4-494.

²⁸⁴ *Id.*

²⁸⁵ *Id.* at 5-22.

P. Alternatives

121. 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 Terminal site alternatives, and pipeline configuration and route alternatives.²⁸⁶ The final EIS also describes Rio Grande's original proposal to construct a temporary haul road to transport fill material from the Port Isabel dredge pile to the LNG Terminal site, Commission staff's assessment of impacts on wetlands along the proposed haul road, and the draft EIS's recommendation that Rio Grande conduct a feasibility assessment to evaluate the use of existing roads or barges to transport fill material.²⁸⁷ Following the draft EIS's recommended assessments, Rio Grande eliminated the temporary haul road from its proposal and plans to pursue transportation of fill material by barge.²⁸⁸ The final EIS concludes that the alternatives considered do not offer a significant environmental advantage and the proposed projects, as modified by Commission staff's recommended measures, are the preferred alternative.²⁸⁹

Q. Comments Received After Issuance of the Final EIS

122. As noted above, seven individuals, one state agency, one local municipality, and a group of environmental and local resident organizations filed comments after issuance of the final EIS. David Davidson commented that the projects should not be built at the proposed location and, without elaboration, urged that the projects be relocated north to an area with less environmental impacts. Erika Garzoria also filed comments in general opposition to the LNG facilities. Christi Craddick, Chairman of the Railroad Commission of Texas, and Doyle Wells each filed letters in support of the Rio Grande LNG Project.

123. Kenneth Teague asserts that the final EIS does not satisfy the requirements of NEPA for several reasons, most of which are related to data and assessments that are pending finalization by other federal agencies. Mr. Teague reasserts many of the issues raised in his comment letter on the draft EIS, which Commission staff previously

²⁸⁶ *Id.* at 3-2 – 3-28.

²⁸⁷ *Id.* at 3-22 – 3-24.

²⁸⁸ *Id.* at 3-24.

²⁸⁹ *Id.* at 5-23 – 5-24.

addressed in the final EIS.²⁹⁰ New or revised issues raised by Mr. Teague are discussed herein.

124. Mr. Teague indicates that the final EIS fails to acknowledge, in all appropriate locations, the co-equal roles of the EPA and the COE in authorizing use of an Ocean Dredged Material Disposal Site (ODMDS), and the rigorous testing, per the Green Book,²⁹¹ needed for sediment placement at an ODMDS. We disagree. The final EIS explains that use of an ODMDS would require EPA and COE approval,²⁹² development of an EPA Site Management and Monitoring Plan, and COE approval of a dredged material disposal site alternatives analysis.²⁹³ Further, the final EIS references a publicly available copy of Rio Grande's Dredged Material Management Plan,²⁹⁴ which identifies the need for survey and sediment testing of the dredge site in accordance with the Green Book, as well as benthic monitoring of the ODMDS.

125. Mr. Teague indicates that the impacts of dredged material disposal is only disclosed in extremely broad, general terms, as final placement of dredged materials is not yet determined. As dredged material would be placed in accordance with applicable permits, the predominant impacts associated with the use of existing upland placement areas, the ODMDS, or the feeder berm would be a temporary increase in turbidity and suspended sediments. In addition, use of the feeder berm, if deemed appropriate, would result in beneficial impacts due to beach re-nourishment.²⁹⁵ The final EIS further notes

²⁹⁰ See *id.*, Appendix R. Mr. Teague's comment letter on the draft EIS, and Commission staff's responses to each, is included in volume III, part 6 as comment IND73.

²⁹¹ This manual approved by the EPA and the COE, commonly referred to as the "Green Book," contains technical guidance for determining the suitability of dredged material for ocean disposal through chemical, physical, and biological evaluations. The technical guidance is intended for use by dredging applicants, laboratory scientists and regulators in evaluating dredged-material compliance with the U.S. Ocean Dumping Regulations.

²⁹² Final EIS at 2-39, 4-19, 4-21.

²⁹³ *Id.*

²⁹⁴ *Id.* at 4-41.

²⁹⁵ *Id.* at 4-40. As the final EIS explains, the feeder berm is a 313-acre beneficial use site about 2 miles north of the jetty and about 0.5 mile offshore. *Id.* at 4-22. After testing to confirm that material is suitable beach quality sand, materials placed at this

that placement of dredged materials at an ODMDS would result in impacts on aquatic life including, but not limited to, temporary displacement, a decrease in foraging success, and burial of benthic organisms.²⁹⁶

126. Mr. Teague claims that the final EIS does not acknowledge the existence of seagrasses in Bahia Grande and fails to analyze whether project dredging will impact them. We disagree. No seagrasses have been mapped or identified within the Bahia Grande.²⁹⁷ However, anecdotal reports of seagrasses have been noted near the center of the Bahia Grande, by which point suspended sediments would have likely settled given Rio Grande's required adherence to water quality permits associated with dredging²⁹⁸ and the relatively low current speed at the proposed site (0.3 knots).²⁹⁹

127. Mr. Teague indicates that Commission staff's assessment of low revegetation potential across 2,200 acres contradicts statements in the final EIS that refer to "simple restoration by revegetation." The final EIS acknowledges that 2,215.9 acres of affected soils would have low revegetation potential.³⁰⁰ A total of 1,026.5 acres of these affected soils are within the footprint of the LNG Terminal site and would be converted to industrial use. The remaining 1,225.4 acres of affected soils with low revegetation potential are located along the pipeline route. Although the final EIS acknowledges the potential restoration difficulties of these areas, restoration is nevertheless required by the applicants' project-specific Plan and Procedures, which include criteria for successful revegetation. Further, Rio Bravo plans to mitigate for the low revegetation potential by using seed mixes recommended by the National Resource Conservation Service, which would include species suitable for saline soils as appropriate, and, where applicable, by adding fertilizer and pH modifiers to topsoil in accordance with recommendations from the National Resource Conservation Service, land management agencies, or landowners.³⁰¹

location migrate inshore to replenish the adjacent beach. *Id.*

²⁹⁶ *Id.* at 4-108.

²⁹⁷ *Id.* at 4-105.

²⁹⁸ *Id.* at 4-105 – 4-106, 4-108.

²⁹⁹ *Id.* at 4-39.

³⁰⁰ *Id.* at 4-13.

³⁰¹ *Id.* at 4-17.

128. Mr. Teague asserts that the final EIS improperly identifies the preservation of lomas to compensate for wetland loss. Although the final EIS identifies the Loma Ecological Preserve as Rio Grande's proposed mitigation site for wetland impacts, Rio Grande is proposing the preservation of wetlands present at the Loma Ecological Preserve to mitigate for wetland impacts. Further, the final EIS specifies that Rio Grande's and Rio Bravo's proposed mitigation has not been approved by the COE and that final mitigation would occur as required by any permit issued by the COE under section 404 of the CWA and section 10 of the Rivers and Harbors Act.³⁰²

129. In May 30, 2019 and June 17, 2019 filings, Defenders of Wildlife asserts that the Commission must prepare a supplemental EIS to address future expansion of the Rio Grande LNG Terminal. Pointing to other facilities that reportedly have similar designs and nameplate capacity, Defenders of Wildlife contends that the Rio Bravo Pipeline design is significantly larger than what is needed to supply the authorized capacity of 27 MTPA at the LNG Terminal. Defenders of Wildlife also asserts that expansion of the LNG Terminal is reasonably foreseeable and that therefore the Commission cannot approve the project without considering the environmental impacts of these additional exports. Relying on a May 5, 2019 presentation,³⁰³ a May 28, 2019 press release,³⁰⁴ and a June 5, 2019 presentation,³⁰⁵ Defenders of Wildlife claims that NextDecade, Rio Grande's and Rio Bravo's parent company, plans to increase the LNG Terminal's capacity by an additional 1.0 MTPA beyond the nameplate 4.5 MTPA capacity for each liquefaction train, for a total capacity of 33 MTPA. Maria Galasso, John Young, and the Town of Laguna Vista each filed comments echoing Defenders of Wildlife's request for a supplemental EIS to address the claims that the design and capacity of Rio Grande's LNG Terminal will exceed 27 MTPA.

130. In response, Rio Grande maintains that it does not intend to produce more than 27 MTPA of LNG, the volume evaluated by Commission staff and authorized by DOE for export to Free Trade Agreement counties.³⁰⁶ However, Rio Grande acknowledges that it must secure authorization from the Commission, DOE, and any other federal or state agency with jurisdiction over the project prior to increasing the LNG Terminal's

³⁰² *Id.* at 4-68, 4-69.

³⁰³ Defenders of Wildlife's May 30, 2019 Comment, Exhibit 1.

³⁰⁴ Defenders of Wildlife's June 17, 2019 Comment, Exhibit 1.

³⁰⁵ *Id.*, Exhibit 2.

³⁰⁶ *See supra* P 21; *see also* Rio Grande and Rio Bravo's June 3, 2019 Response to Request for Supplemental EIS at 2.

production capacity or exports in excess of previously-authorized volumes.³⁰⁷ In addition, based on pipeline capacity modeling performed by Commission staff, the Rio Bravo Pipeline Project cannot accommodate a smaller pipeline (i.e., 36 inch-diameter pipeline as opposed to 42-inch-diameter pipeline as proposed) to deliver 4.5 Bcf per day to the LNG Terminal without additional compressor stations and/or pipeline looping, which would increase the project's environmental impact.

131. Section 1502.9(c)(1) of CEQ's regulations requires agencies to prepare a supplemental EIS if (i) "the agency makes substantial changes in the proposed action that are relevant to environmental concerns" or (ii) "there are significant new circumstances or information relevant to environmental concerns."³⁰⁸ Neither circumstance is applicable here. The presentations and press release referenced by Defenders of Wildlife appear to be publicly available marketing documents and investor materials. These documents are not, as suggested by Defenders of Wildlife, evidence of an intent by NextDecade to pursue expansion of its Rio Grande LNG Terminal. Further, as Rio Grande recognizes, any expansion of export capacity and/or additional LNG exports vessels at the Rio Grande LNG Terminal would require Rio Grande to seek and receive additional authorizations from DOE, the Commission, and other applicable federal and state agencies. Any incremental environmental impacts not evaluated as part of the instant proceeding would be analyzed prior to Commission action on any future request for authorization to expand the LNG Terminal's export capacity. Accordingly, because Defenders of Wildlife's filings do not provide new environmentally significant information or pose substantial changes to the proposed action, preparation of a supplemental EIS is not required.³⁰⁹

R. Environmental Analysis Conclusion

132. 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 the record. We are adopting the environmental recommendations in the final EIS, as modified herein, 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

³⁰⁷ Rio Grande and Rio Bravo's June 3, 2019 Response to Request for Supplemental EIS at 5-7.

³⁰⁸ 40 C.F.R. § 1502.9(c)(1) (2019).

³⁰⁹ *See id.*

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.³¹⁰

133. 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 Rio Grande LNG Terminal is not inconsistent with the public interest and that the Rio Bravo Pipeline Project is in the public convenience and necessity.

134. 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 applicants 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.³¹¹

VI. Conclusion

135. At a hearing held on November 21, 2019, the Commission on its own motion received and made part of the record in this proceeding all evidence, including the application, as supplemented, and exhibits thereto, and all comments, and upon consideration of the record,

The Commission orders:

(A) In Docket No. CP16-454-000, Rio Grande is authorized under section 3 of the NGA to site, construct, and operate the proposed project located in Cameron County,

³¹⁰ See Environmental Conditions 2 and 3.

³¹¹ See 15 U.S.C. § 717r(d) (state or federal agency's failure to act on a permit considered to be inconsistent with Federal law); see also *Schneidewind v. ANR Pipeline Co.*, 485 U.S. 293, 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).

Texas, as described and conditioned herein, and as more fully described in Rio Grande'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) Rio Grande's facilities being fully constructed and made available for service within seven years of the date of this order.
- 2) Rio Grande's compliance with the environmental conditions listed in the appendix to this order.

(C) In Docket No. CP16-455-000, a certificate of public convenience and necessity under section 7(c) of the NGA is issued to Rio Bravo, authorizing it to construct and operate the proposed project, as described and conditioned herein, and as more fully described in Rio Bravo'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) Rio Bravo'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) Rio Bravo'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) Rio Bravo's compliance with the environmental conditions listed in the appendix to this order.

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

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

(G) Rio Bravo 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) Rio Bravo's initial recourse rates and *pro forma* tariff are approved, as conditioned and modified in this order.

(I) Rio Bravo 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) As discussed herein, Rio Bravo must file a cost and revenue study no later than three months after its first three years of actual operation to justify its existing cost-based firm and interruptible recourse rates.

(K) Rio Bravo shall adhere to the AFUDC accounting and reporting requirements discussed in the body of the order.

(L) Rio Grande and Rio Bravo 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 Rio Grande or Rio Bravo. Rio Grande and Rio Bravo shall file written confirmation of such notification with the Secretary of the Commission within 24 hours.

(M) Defenders of Wildlife's request for a formal hearing is denied.

By the Commission. 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. Rio Grande LNG, LLC (Rio Grande) and Rio Bravo Pipeline Company, LLC (Rio Bravo) shall follow the construction procedures and mitigation measures described in their application and supplements (including responses to staff data requests) and as identified in the final environmental impact statement (EIS), unless modified by the Order. Rio Grande and Rio Bravo must:
 - a. request any modification to these procedures, measures, or conditions in a filing with the Secretary of the Commission (Secretary);
 - b. justify each modification relative to site-specific conditions;
 - c. explain how that modification provides an equal or greater level of environmental protection than the original measure; and
 - d. receive approval in writing from the Director of the Office of Energy Projects (OEP) **before using that modification.**

2. For the liquefied natural gas (LNG) Terminal, 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.

3. 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.
4. **Prior to any construction**, Rio Grande and Rio Bravo shall each 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 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**, Rio Grande and Rio Bravo 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.

Rio Bravo'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. Rio Bravo'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 facilities to accommodate future needs or to acquire a right-of-way for a pipeline to transport a commodity other than natural gas.

6. Rio Grande and Rio Bravo 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, contractor/pipe yards, new access roads, and other areas that will be used or disturbed and have

not been previously identified in filings with the Secretary. Approval for each of these areas must be explicitly requested in writing. For each area, the request must include a description of the existing land use/cover type, documentation of landowner approval, whether any cultural resources or federally listed threatened or endangered species will be affected, and whether any other environmentally sensitive areas are within or abutting the area. All areas shall be clearly identified on the maps/sheets/aerial photographs. Each area must be approved in writing by the Director of OEP **before construction in or near that area.**

This requirement does not apply to extra workspace allowed by the Commission's *Upland Erosion Control, Revegetation, and 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;
- 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 Order and before construction begins,** Rio Grande and Rio Bravo shall each file an Implementation Plan with the Secretary for review and written approval by the Director of OEP. Rio Grande and Rio Bravo must file revisions to the plan as schedules change. The plans shall identify:
 - a. how Rio Grande and Rio Bravo will implement the construction procedures and mitigation measures described in their application and supplements (including responses to staff data requests), identified in the EIS, and required by the Order;
 - b. how Rio Grande and Rio Bravo will incorporate these requirements into the contract bid documents, construction contracts (especially penalty clauses and specifications), and construction drawings so that the mitigation required at each site is clear to onsite construction and inspection personnel;
 - c. the number of EIs assigned per spread and/or facility, and how Rio Grande and Rio Bravo 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 Rio Grande and Rio Bravo will give to all personnel involved with construction and restoration (initial and refresher training as the projects progress and personnel changes), with the opportunity for OEP staff to participate in the training session(s);
 - f. the company personnel (if known) and specific portion of Rio Grande's and Rio Bravo's organizations having responsibility for compliance;
 - g. the procedures (including use of contract penalties) Rio Grande and Rio Bravo will follow if noncompliance occurs; and
 - h. for each discrete facility, a Gantt or PERT chart (or similar project scheduling diagram), and dates for:
 - i. the completion of all required surveys and reports;
 - ii. the environmental compliance training of onsite personnel;
 - iii. the start of construction; and
 - iv. the start and completion of restoration.
8. Rio Grande and Rio Bravo shall employ a team of EIs (at least one EI per stage of LNG Terminal construction and at least two EIs per pipeline spread) for the project. The EIs 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 their respective Implementation Plans, Rio Grande and Rio Bravo shall file updated status reports with the Secretary on a **monthly** basis for the LNG Terminal and a **weekly** basis for the pipeline facilities until all construction and restoration activities are complete. Problems of a significant magnitude shall be reported to the Commission **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:

- a. an update on Rio Grande's and Rio Bravo's efforts to obtain the necessary federal authorizations;
 - b. Project schedule, including current construction status of the project and 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 Rio Grande or Rio Bravo from other federal, state, or local permitting agencies concerning instances of noncompliance, and Rio Grande's or Rio Bravo's response.
10. Rio Grande and Rio Bravo must receive written authorization from the Director of OEP **before commencing construction of any project facilities**. To obtain such authorization, Rio Grande and Rio Bravo must file with the Secretary documentation that they have received all applicable authorizations required under federal law (or evidence of waiver thereof).
 11. Rio Grande must receive written authorization from the Director of OEP **prior to introducing hazardous fluids into the project facilities**. Instrumentation and controls, hazard detection, hazard control, and security components/systems necessary for the safe introduction of such fluids shall be installed and functional.
 12. Rio Bravo must receive written authorization from the Director of OEP, **before placing each phase of the pipeline system into service** (i.e., Header System/Pipeline 1 and associated facilities, and Pipeline 2 and upgrades to associated facilities). Such authorization will only be granted following a determination that rehabilitation and restoration of the right-of-way and other areas affected by the project are proceeding satisfactorily.
 13. Rio Grande must receive written authorization from the Director of OEP **before**

placing the LNG Terminal into service. Such authorization will only be granted following a determination that the facilities have been constructed in accordance with the Commission's approval, can be expected to operate safely as designed, and the rehabilitation and restoration of the areas affected by the LNG Terminal are proceeding satisfactorily.

14. **Within 30 days of placing each of the authorized facilities in service,** Rio Grande and Rio Bravo shall each file an affirmative statement with the Secretary, certified by a senior company official:
 - a. that the facilities have been constructed in compliance with all applicable conditions, and that continuing activities will be consistent with all applicable conditions; or
 - b. identifying which of the conditions of the Order Rio Grande and Rio Bravo have complied with or will comply with. This statement shall also identify any areas affected by the project where compliance measures were not properly implemented, if not previously identified in filed status reports, and the reason for noncompliance.
15. **Prior to construction of Compressor Station 2, and Booster Stations 1 and 2,** Rio Bravo shall file with the Secretary results of its geotechnical investigations and recommended site preparation and foundation designs that Rio Bravo will adopt, stamped and sealed by the professional engineer-of-record licensed in the state where the project is being constructed, for each site, that incorporates the results of geotechnical investigations. (*section 4.1.1.1*)
16. **Prior to construction of each of the Horizontal Directional Drill (HDD) locations,** Rio Bravo shall file with the Secretary, results of its geotechnical investigations for each of these sites, including any recommended mitigation measures Rio Bravo will adopt as part of the final engineering design, for review and written approval by the Director of OEP. (*section 4.1.1.1*)
17. **Prior to construction,** Rio Grande and Rio Bravo shall file their final Fugitive Dust Control Plans for the LNG Terminal and Pipeline System with the Secretary, for review and written approval by the Director of OEP. The final plans shall specify that no chemicals may be used for dust control in Willacy and Cameron Counties, Texas. (*section 4.2.2.1*)
18. **Prior to construction,** Rio Grande and Rio Bravo shall file with the Secretary, for review and written approval by the Director of the OEP, final versions of their *Stormwater Pollution Prevention Plans* and *Spill Prevention, Control, and Countermeasure Plans* for construction and operation of each project, as well as the final version of the *Unanticipated Contaminated Sediment and Soils Discovery Plan*. (*section 4.2.2.1*)

19. **Prior to construction of the LNG Terminal**, Rio Grande shall file with the Secretary, for review and written approval by the Director of OEP, its final LNG Tank Hydrostatic Test Plan. (*section 4.3.2.2*)
20. **Prior to construction of the Rio Bravo Pipeline through wetland WW-T04-015**, Rio Bravo shall file with the Secretary, for review and written approval by the Director of OEP, revised construction right-of-way configurations that either exclude inaccessible temporary workspace at the wetland crossing, or reconfigure the workspace so that it complies with section 6.1.3 of Rio Bravo's project-specific Procedures. (*section 4.4.2.2*)
21. **Prior to construction of the Rio Bravo Pipeline**, Rio Bravo shall consult with the Texas Parks and Wildlife Department (TPWD) to determine specific locations along the pipeline right-of-way that may warrant topsoil segregation based on the probable presence of rare plant species. Copies of consultation with the TPWD, along with any additional areas warranting topsoil segregation, shall be filed with the Secretary, for review and written approval by the Director of OEP. (*section 4.5.4*)
22. **Prior to construction of the LNG Terminal**, Rio Grande shall consult with the TPWD and the U.S. Fish and Wildlife Service (FWS) to finalize nighttime lighting plans to minimize impacts on wildlife to the greatest extent practical. The final plans and copies of consultation with the agencies shall be filed with the Secretary for review and written approval by the Director of OEP. (*section 4.6.1.2*)
23. **Prior to construction**, Rio Grande and Rio Bravo shall consult with the FWS and TPWD to develop a final Migratory Bird Conservation Plan (MBCP), which shall include outstanding surveys at the Port Isabel dredge pile. Rio Grande and Rio Bravo shall file with the Secretary the revised MBCP and evidence of consultation with the FWS and TPWD. (*section 4.6.1.3*)
24. **Prior to construction of the Rio Bravo Pipeline HDD crossings at Mileposts (MPs) 115.6 and 116.4**, Rio Bravo shall file with the Secretary, for review and written approval by the Director of OEP, estimates of ambient sound levels at the boundary of the Lower Rio Grande Valley National Wildlife Refuge near the HDDs, as well as anticipated noise impacts and any necessary mitigation to minimize potential effects on wildlife. (*section 4.6.1.4*)
25. **Prior to construction**, Rio Grande and Rio Bravo shall file documentation with the Secretary, for review and written approval by the Director of OEP, demonstrating how Rio Grande's and Rio Bravo's commitments (as referenced in Final EIS sections 4.7.1.1, 4.7.1.2, 4.7.1.4, 4.7.2.1 and 4.7.3) to implement agency recommended monitoring, avoidance, and mitigation measures for federal and state-listed species have been incorporated into Rio Grande and Rio Bravo's

- environmental training program. (*section 4.7.1.1*)
26. **Prior to construction of the LNG Terminal**, Rio Grande shall conduct training for construction and operational employees that includes the identification, treatment, and reporting protocols for the West Indian manatee. Training materials shall be developed in coordination with the FWS. (*section 4.7.1.2*)
 27. **Prior to construction of each pipeline and the LNG Terminal**, Rio Grande and Rio Bravo shall file with the Secretary documentation confirming that they obtained updated records of active northern aplomado falcon nests from The Peregrine Fund for the appropriate breeding season and consulted with the FWS to determine if any additional mitigation is warranted based on the new nest data. Rio Grande and Rio Bravo shall also consult with the FWS on the project-specific northern aplomado falcon Best Management Practices (BMPs), and file with the Secretary the FWS comments and any BMP modifications, for review and written approval by the Director of OEP. (*section 4.7.1.3*)
 28. **Prior to construction of the Rio Bravo Pipeline**, Rio Bravo shall file with the Secretary, the results of its completed surveys for the black lace cactus, slender rush-pea, and south Texas ambrosia as well as any comments from the FWS regarding the results. If applicable, Rio Bravo shall include in its filing avoidance/minimization measures that it will implement if individual plants are found, developed in consultation with the FWS, for review and written approval by the Director of OEP. (*section 4.7.1.6*)
 29. **Prior to construction**, Rio Grande and Rio Bravo shall consult with the TPWD, and file with the Secretary copies of this consultation, to specifically identify locations of sensitive habitat that may warrant the restriction of synthetic mesh/netted erosion control materials. The specific areas warranting restriction of synthetic erosion control materials, shall be filed with the Secretary, for review and written approval by the Director of OEP. (*section 4.7.2.1*)
 30. **Prior to construction of the LNG Terminal**, Rio Grande shall file with the Secretary, for review and written approval by the Director of OEP, (1) its proposed mitigation measures to avoid or minimize take of bottlenose dolphins during in-water pile-driving (including the potential for entrapment behind sheet pilings) at the LNG Terminal site, developed in consultation with NMFS; and (2) if applicable, a copy of its Marine Mammal Protection Act Incidental Take Authorization. (*section 4.7.2.2*)
 31. **Prior to construction**, Rio Grande and Rio Bravo shall file with the Secretary a determination from the Texas Coastal Coordination Advisory Committee that their respective project is consistent with the laws and rules of the Texas Coastal Zone Management Program. (*section 4.8.3*)

32. **Prior to construction of the Rio Bravo Pipeline**, Rio Bravo shall file with the Secretary, for review and written approval by the Director of OEP, traffic mitigation procedures, developed in consultation with applicable transportation authorities, to monitor Level-of-Service (LOS) on roadways proposed for use during construction of the pipeline system. These procedures shall describe mitigation measures that will be implemented for a resultant LOS of “C” or below, including alternative routes if necessary. (*section 4.9.9.1*)
33. Rio Grande and Rio Bravo shall **not begin** construction of facilities or use of staging, storage, or temporary work areas and new or to-be-improved access roads **until**:
- a. Rio Grande and Rio Bravo file with the Secretary:
 - i. outstanding State Historic Preservation Officer (SHPO) comments on reports, plans, special studies, or information provided to date, as well as any National Park Service comments, as applicable;
 - ii. any outstanding updates, reports, plans, or special studies, and the SHPO’s comments on these, as well as any National Park Service comments, as applicable; and
 - iii. any necessary treatment plans or site-specific avoidance/protection plans, and the SHPO’s comments on the plans.
 - b. The Advisory Council on Historic Preservation is afforded an opportunity to comment if historic properties will be adversely affected.
 - c. FERC staff reviews and the Director of OEP approves all cultural resources survey reports and plans, and notifies Rio Grande and Rio Bravo in writing that construction may proceed.

All material filed with the Commission containing location, character, and ownership information about cultural resources must have the cover and any relevant pages therein clearly labeled in bold lettering: “**CUI/PRIV – DO NOT RELEASE.**” (*section 4.10.5*)

34. Rio Grande shall monitor pile-driving activities, and file **weekly** noise data with the Secretary **following the start of pile-driving activities** that identify the noise impact on the nearest noise-sensitive areas (NSAs). If any measured noise impacts (L_{max}) at the nearest NSAs are greater than 10 decibels on the A-weighted scale (dBA) over the ambient equivalent sound level (L_{eq}), Rio Grande shall:
- a. cease pile-driving activities and implement noise mitigation measures; and
 - b. file with the Secretary evidence of noise mitigation installation and request written notification from the Director of OEP that pile-driving may resume. (*section 4.11.2.3*)

35. Rio Grande shall file a full power load noise survey with the Secretary for the LNG Terminal **no later than 60 days** after each liquefaction train is placed into service. If the noise attributable to operation of the equipment at the LNG Terminal and Compressor Station 3 exceeds a day-night sound level (L_{dn}) of 55 dBA at the nearest NSA, **within 60 days** Rio Grande 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. Rio Grande shall confirm compliance with the above requirement by filing a second noise survey with the Secretary **no later than 60 days** after it installs the additional noise controls. (*section 4.11.2.3*)
36. Rio Grande shall file a noise survey with the Secretary **no later than 60 days** after placing the entire LNG Terminal, including the Compressor Station 3, into service. If a full load condition noise survey is not possible, Rio Grande shall provide an interim survey at the maximum possible horsepower load **within 60 days** of placing the LNG Terminal and Compressor Station 3 into service and provide the full load survey **within 6 months**. If the noise attributable to operation of the equipment at the LNG Terminal and Compressor Station 3 exceeds an L_{dn} of 55 dBA at the nearest NSA under interim or full horsepower load conditions, Rio Grande 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. Rio Grande shall confirm compliance with the above requirement by filing an additional noise survey with the Secretary **no later than 60 days** after it installs the additional noise controls. (*section 4.11.2.3*)
37. **Prior to construction of HDDs at MPs 82.0, 92.0, 93.0, 99.8, 101.2, 102.0, and 118.7**, Rio Bravo 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 proposed drilling operations. The noise mitigation plan shall identify all reasonable measures Rio Bravo will implement to reduce noise levels attributable to the proposed drilling operations to no more than an L_{dn} of 55 dBA at NSAs, and the resulting noise levels at each NSA with mitigation. (*section 4.11.2.3*)
38. Rio Bravo shall file a noise survey with the Secretary **no later than 60 days** after each set of compressor units at Compressor Stations 1 and 2, and Booster Stations 1 and 2 are placed in service. If a full load condition noise survey is not possible, Rio Bravo shall provide an interim survey at the maximum possible horsepower load **within 60 days** of placing the phased station into service and provide the full load survey **within 6 months**. If the noise attributable to the operation of all of the equipment at any of the facilities under interim or full horsepower load conditions exceeds an L_{dn} of 55 dBA at any nearby NSAs, Rio Bravo shall file a report on what additional noise controls are needed and shall install the additional noise controls to meet the level **within 1 year** of the in-service date. Rio Bravo

shall confirm compliance with the above requirement by filing an additional noise survey with the Secretary **no later than 60 days** after it installs the additional noise controls. (*section 4.11.2.3*)

39. **Prior to pipeline construction across, in, or adjacent to the Union Pacific Railroad Company right-of-way**, Rio Bravo shall file with the Secretary, for review and written approval by the Director of OEP, details concerning the pipeline construction under the railroad, including the depth of cover for the pipeline under the railroad, correspondence with the Union Pacific Railroad Company regarding construction and operation of the pipeline under and parallel to the railroad, and the specific federal and state regulations that Rio Bravo will follow to ensure safety and reliability of the pipeline operations in or under the railroad right-of-way. (*section 4.12.2*)
40. **Prior to initial site preparation**, Rio Grande shall file with the Secretary documentation demonstrating LNG marine vessels will be no higher than existing ship traffic or it has received a determination of no hazard (with or without conditions) by the U.S. Department of Transportation (DOT) Federal Aviation Administration (FAA) for mobile objects that might exceed the height requirements in 14 C.F.R. § 77.9. (*section 4.12.1.7*)
41. **Prior to initial site preparation**, Rio Grande shall file with the Secretary a plan to conduct a supplemental geotechnical investigation for all four LNG Tanks and piperack along the south face of the facility, including a geotechnical investigation location plan with spacing of no more than 300 feet, a minimum of five equally distributed borings, cone penetration tests, and/or seismic cone penetration tests to a depth of at least 100 feet or refusal underneath the locations of each LNG storage tank, and field sampling methods and laboratory tests that are at least as comprehensive as the existing geotechnical investigations. In addition, the geotechnical investigations and report must demonstrate soil modifications and foundation designs will be similar to areas already investigated. (*section 4.12.1.7*)
42. **Prior to construction of final design**, Rio Grande shall file with the Secretary correspondence with the DOT on the use of normally closed valves to remove stormwater from local bunds and curbed areas. (*section 4.12.1.7*)
43. **Prior to construction of final design**, Rio Grande shall file with the Secretary the following information, stamped and sealed by the professional engineer-of-record, registered in Texas:
 - a. site preparation drawings and specifications;
 - b. LNG storage tank and foundation design drawings and calculations;
 - c. LNG Terminal structures and foundation design drawings and calculations;

- d. seismic specifications for procured Seismic Category I equipment prior to the issuing of requests for quotations; and
- e. quality control procedures to be used for civil/structural design and construction.

In addition, Rio Grande shall file, in its Implementation Plan, the schedule for producing this information. (*section 4.12.1.7*)

- 44. **Prior to construction of final design**, Rio Grande shall file with the Secretary design information adopting the recommendations presented by Fugro Consultants, Inc. to minimize the impacts of the identified surface growth fault in the southwestern portion of the LNG Terminal, stamped and sealed by the professional engineer-of-record registered in Texas. (*section 4.12.1.7*)
- 45. **Prior to commencement of service**, Rio Grande shall file with the Secretary a monitoring and maintenance plan, stamped and sealed by the professional engineer-of-record registered in Texas, 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. (*section 4.12.1.7*)

Conditions 46 through 139 shall apply to the Rio Grande LNG Terminal facilities. Information pertaining to these specific conditions 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 C.F.R. § 388.113. *See Critical Electric Infrastructure Security and Amending Critical Energy Infrastructure Information*, Order No. 833, 81 Fed. Reg. 93,732 (Dec. 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 must be **filed a minimum of 30 days** before approval to proceed is requested.

- 46. **Prior to initial site preparation**, Rio Grande shall develop and implement procedures to monitor rocket launch activity and to position onsite construction crews and plant personnel in areas that are unlikely to be impacted by rocket debris of a failed launch during initial moments of rocket launch activity from the Brownsville SpaceX facility. Rio Grande's procedures for positioning of onsite construction crews and plant personnel shall include reference to any guidance from the FAA to the public regarding anticipated SpaceX launches. (*section 4.12.1.7*)

47. **Prior to initial site preparation**, Rio Grande shall file calculations demonstrating the loads on buried pipelines and utilities at temporary crossings will be adequately distributed. The analysis shall be based on American Petroleum Institute (API) RP 1102 or other approved methodology. (*section 4.12.1.7*)
48. **Prior to initial site preparation**, Rio Grande shall file pipeline and utility damage prevention procedures for personnel and contractors. The procedures shall include provisions to mark buried pipelines and utilities prior to any site work and subsurface activities. (*section 4.12.1.7*)
49. **Prior to initial site preparation**, Rio Grande shall file an overall project schedule, which includes the proposed stages of the commissioning plan. (*section 4.12.1.7*)
50. **Prior to initial site preparation**, Rio Grande shall file quality assurance and quality control procedures for construction activities. (*section 4.12.1.7*)
51. **Prior to initial site preparation**, Rio Grande shall file procedures for controlling access during construction. (*section 4.12.1.7*)
52. **Prior to initial site preparation**, Rio Grande shall file its design wind speed criteria for all other facilities not covered by DOT Pipeline Hazardous Materials Safety Administration (PHMSA) Letter of Determination to be designed to withstand wind speeds commensurate with the risk and reliability associated with the facilities in accordance with ASCE 7-16 or equivalent. (*section 4.12.1.7*)
53. **Prior to initial site preparation**, Rio Grande shall develop an Emergency Response Plan (ERP) (including evacuation) and coordinate procedures with the U.S. Coast Guard (Coast Guard); state, county, and local emergency planning groups; fire departments; state and local law enforcement; and appropriate federal agencies. This plan shall include at a minimum:
 - a. designated contacts with state and local emergency response agencies;
 - b. scalable procedures for the prompt notification of appropriate local officials and emergency response agencies based on the level and severity of potential incidents;
 - c. procedures for notifying residents and recreational users within areas of potential hazard;
 - d. evacuation routes/methods for residents and public use areas that are within any transient hazard areas along the route of the LNG marine transit;
 - e. locations of permanent sirens and other warning devices; and

- f. an “emergency coordinator” on each LNG marine vessel to activate sirens and other warning devices.

Rio Grande shall notify FERC staff of all planning meetings in advance and shall report progress on the development of its ERP at **3-month intervals**. (*section 4.12.1.7*)

54. **Prior to initial site preparation**, Rio Grande shall file a Cost-Sharing Plan identifying the mechanisms for funding all project-specific security/emergency management costs that will be imposed on state and local agencies. This comprehensive plan shall include funding mechanisms for the capital costs associated with any necessary security/emergency management equipment and personnel base. Rio Grande shall notify Commission staff of all planning meetings in advance and shall report progress on the development of its Cost-Sharing Plan at **3-month intervals**. (*section 4.12.1.7*)
55. **Prior to construction of final design**, Rio Grande shall file calculations demonstrating the loads on buried pipelines and utilities at permanent crossings will be adequately distributed. The analysis shall be based on API RP 1102 or other approved methodology. (*section 4.12.1.7*)
56. **Prior to construction of final design**, Rio Grande shall file change logs that list and explain any changes made from the front end engineering design provided in Rio Grande ’s application and filings. A list of all changes with an explanation for the design alteration shall be provided and all changes shall be clearly indicated on all diagrams and drawings. Records of changes must be kept so Commission staff can verify during construction inspections. (*section 4.12.1.7*)
57. **Prior to construction of final design**, Rio Grande shall file information/revisions pertaining to Rio Grande’s response numbers 5, 6, 7, 8, 14, 19, 22, 24, 25, 31, and 44 of its October 20, 2016 filing, which indicated features to be included or considered in the final design. (*section 4.12.1.7*)
58. **Prior to construction of final design**, Rio Grande shall file a plot plan of the final design showing all major equipment, structures, buildings, and impoundment systems. (*section 4.12.1.7*)
59. **Prior to construction of final design**, Rio Grande shall file three-dimensional plant drawings to confirm plant layout for maintenance, access, egress, and congestion. (*section 4.12.1.7*)
60. **Prior to construction of final design**, Rio Grande shall file an up-to-date equipment list, process and mechanical data sheets, and specifications. The specifications shall include:

- a. building specifications (e.g., control buildings, electrical buildings, compressor buildings, storage buildings, pressurized buildings, ventilated buildings, blast resistant buildings);
 - b. mechanical specifications (e.g., piping, valve, insulation, rotating equipment, heat exchanger, storage tank and vessel, other specialized equipment);
 - c. electrical and instrumentation specifications (e.g., power system, control system, safety instrument system [SIS], cable, other electrical and instrumentation); and
 - d. security and fire safety specifications (e.g., security, passive protection, hazard detection, hazard control, firewater). (*section 4.12.1.7*)
61. **Prior to construction of final design**, Rio Grande shall file a list of all codes and standards and the final specification document number where they are referenced. (*section 4.12.1.7*)
62. **Prior to construction of final design**, Rio Grande shall file complete specifications and drawings of the proposed LNG tank design and installation. (*section 4.12.1.7*)
63. **Prior to construction of final design**, Rio Grande shall file the design specifications and drawings for the feed gas inlet facilities (e.g., metering, pigging system, pressure protection system, compression, etc.). (*section 4.12.1.7*)
64. **Prior to construction of final design**, Rio Grande 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. (*section 4.12.1.7*)
65. **Prior to construction of final design**, Rio Grande 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. (*section 4.12.1.7*)
66. **Prior to construction of final design**, Rio Grande shall file a car seal philosophy and a list of all car-sealed and locked valves consistent with the P&IDs. (*section 4.12.1.7*)
67. **Prior to construction of final design**, and at the onset of detailed engineering, Rio Grande shall complete a preliminary hazard and operability review of the proposed design. A copy of the review, a list of recommendations, and actions taken on the recommendations shall be filed. (*section 4.12.1.7*)
68. **Prior to construction of final design**, Rio Grande 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. (*section 4.12.1.7*)
69. **Prior to construction of final design**, Rio Grande shall file an evaluation of the need for additional check valves and relief valves in the truck LNG fill line. (*section 4.12.1.7*)
70. **Prior to construction of final design**, Rio Grande shall file the safe operating limits (upper and lower), alarm and shutdown set points for all instrumentation (i.e., temperature, pressures, flows, and compositions). (*section 4.12.1.7*)
71. **Prior to construction of final design**, Rio Grande 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. (*section 4.12.1.7*)
72. **Prior to construction of final design**, Rio Grande shall file an evaluation of the emergency shutdown valve closure times. The evaluation shall account for the time to detect an upset or hazardous condition, notify plant personnel, and close the emergency shutdown valve(s). (*section 4.12.1.7*)
73. **Prior to construction of final design**, Rio Grande shall file an evaluation of dynamic pressure surge effects from valve opening and closure times and pump

operations that demonstrate that the surge effects do not exceed the design pressures. (*section 4.12.1.7*)

74. **Prior to construction of final design**, Rio Grande shall demonstrate that, for hazardous fluids, piping and piping nipples 2 inches or less in diameter are designed to withstand external loads, including vibrational loads in the vicinity of rotating equipment and operator live loads in areas accessible by operators. (*section 4.12.1.7*)
75. **Prior to construction of final design**, Rio Grande shall file electrical area classification drawings that reflect additional hazardous classification areas where the heat transfer fluid would be processed above its flash point (e.g., near the heat medium heaters) and at areas of fuel gas piping (e.g., fired heaters), including areas where equipment could be exposed to flammable gas during a purge cycle of a fired heater. (*section 4.12.1.7*)
76. **Prior to construction of final design**, Rio Grande 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 Standard 59A (NFPA 59A) (2001). (*section 4.12.1.7*)
77. **Prior to construction of final design**, Rio Grande 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. (*section 4.12.1.7*)
78. **Prior to construction of final design**, Rio Grande 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. (*section 4.12.1.7*)
79. **Prior to construction of final design**, Rio Grande shall include LNG storage tank fill flow measurement with high flow alarm. (*section 4.12.1.7*)
80. **Prior to construction of final design**, Rio Grande shall include boil-off gas flow measurement from each LNG storage tank. (*section 4.12.1.7*)
81. **Prior to construction of final design**, Rio Grande shall file the structural analysis of the LNG storage tank and outer containment demonstrating they are designed to withstand all loads and combinations. (*section 4.12.1.7*)

82. **Prior to construction of final design**, Rio Grande shall file an analysis of the structural integrity of the outer containment of the full containment LNG storage tank demonstrating it can withstand the radiant heat from a roof tank top fire or adjacent tank roof fire. (*section 4.12.1.7*)
83. **Prior to construction of final design**, Rio Grande shall file a projectile analysis to demonstrate that the outer concrete impoundment wall of the full-containment LNG tank could withstand projectiles from explosions and high winds. The analysis shall detail the projectile speeds and characteristics and method used to determine penetration or perforation depths. (*section 4.12.1.7*)
84. **Prior to construction of final design**, Rio Grande 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. (*section 4.12.1.7*)
85. **Prior to construction of final design**, Rio Grande 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 will be accessible during an emergency. (*section 4.12.1.7*)
86. **Prior to construction of final design**, Rio Grande shall specify that all Emergency Shutdown valves will be equipped with open and closed position switches connected to the Distributed Control System/Safety Instrumented System. (*section 4.12.1.7*)
87. **Prior to construction of final design**, and prior to injecting corrosion inhibitors into the 42-inch-diameter pipeline at any time during the life of the plant, Rio Grande shall file the information used to determine that an inhibitor is required, the material data sheet for the inhibitor, the amount injected, and the schedule of injections. (*section 4.12.1.7*)
88. **Prior to construction of final design**, the feed gas flow to the Inlet Gas/Gas Exchanger (E-1701) shall include a high temperature alarm and shutdown to protect from exposure to hot feed gas. (*section 4.12.1.7*)
89. **Prior to construction of final design**, the De-ethanizer (C-1701) shall include an additional cryogenic manual isolation valve downstream of shutoff valve (XV-117011). (*section 4.12.1.7*)
90. **Prior to construction of final design**, Rio Grande shall equip a low-low temperature shutdown on the temperature transmitter (TT-117014) located on the De-ethanizer bottoms discharge piping to detect temperatures that may reach below the minimum design metal temperature of the discharge piping transition

from stainless to carbon steel. This shutdown shall include isolation under cryogenic conditions. (*section 4.12.1.7*)

91. **Prior to construction of final design**, Rio Grande shall file an explanation and justification for the dump lines located upstream of each LNG Loading Arm. (*section 4.12.1.7*)
92. **Prior to construction of final design**, Rio Grande shall file the complete range of anti-surge recycle conditions on the LP MR Compressor to confirm that the minimum temperature conditions will not require stainless steel piping. (*section 4.12.1.7*)
93. **Prior to construction of final design**, Rio Grande shall specify the set pressure of high pressure alarm (PAH-141002) is to be below the set pressure of regulator PCV-141005 on the Hot Oil Expansion Drum. (*section 4.12.1.7*)
94. **Prior to construction of final design**, Rio Grande shall file the design details of the shelters to verify safe access in all weather conditions. (*section 4.12.1.7*)
95. **Prior to construction of final design**, Rio Grande shall file drawings and specifications for crash rated vehicle barriers at each facility entrance for access control. (*section 4.12.1.7*)
96. **Prior to construction of final design**, Rio Grande shall file drawings of the security fence. The fencing drawings shall provide details of fencing that demonstrates it will restrict and deter access around the entire facility and has a setback from exterior features (e.g., power lines, trees, etc.) and from interior features (e.g., piping, equipment, buildings, etc.) that does not allow the fence to be overcome. (*section 4.12.1.7*)
97. **Prior to construction of final design**, Rio Grande shall file security camera and intrusion detection drawings. The security camera drawings shall show the locations, areas covered, and features of each camera (e.g., 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 will enable rapid monitoring of the terminal, including a camera at the top of each LNG storage tank, and coverage within pretreatment areas, within liquefaction areas, within truck transfer areas, within marine transfer areas, and buildings. The drawings shall show or note the location of the intrusion detection to verify it covers the entire perimeter of the terminal. (*section 4.12.1.7*)
98. **Prior to construction of final design**, Rio Grande shall file lighting drawings. The lighting drawings shall show the location, elevation, type of light fixture, and lux levels of the lighting system and shall be in accordance with API 540 and

provide illumination along the entire perimeter of the facility, process equipment, mooring points, and along paths/roads of access and egress to facilitate security monitoring and emergency response operations. The lighting drawings shall address the issues raised in condition 22. (*section 4.12.1.7*)

99. **Prior to construction of final design**, Rio Grande shall evaluate the terminal alarm system and external notification system design to ensure the location of the terminal alarms and other fire and evacuation alarm notification devices (e.g. audible/visual beacons and strobes) will provide adequate warning at the terminal and external off-site areas in the event of an emergency. (*section 4.12.1.7*)
100. **Prior to construction of final design**, Rio Grande 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. The evaluation shall justify the type, quantity, and location of hazard detection and hazard control, passive fire protection, emergency shutdown and depressurizing systems, firewater, and emergency response equipment, training, and qualifications in accordance with NFPA 59A (2001). The justification for the flammable and combustible gas detection and flame and heat detection shall be in accordance with International Society of Automation (ISA) 84.00.07 or equivalent methodologies that will demonstrate 90 percent or more of releases (unignited and ignited) that could result in an off-site or cascading impact will be detected by two or more detectors and result in isolation and de-inventory within 10 minutes. The analysis shall take into account the set points, voting logic, wind speeds, and wind directions. The justification for firewater shall provide calculations for all firewater demands (including firewater coverage on the LNG storage tanks) based on design densities, surface area, and throw distance and specifications for the corresponding hydrant and monitors needed to reach and cool equipment. (*section 4.12.1.7*)
101. **Prior to construction of final design**, Rio Grande 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 will transfer spills from the tank top to the ground-level impoundment system. The spill containment drawings shall show containment for all hazardous fluids, including all liquids handled above their flashpoint, from the largest flow from a single line for 10 minutes, including de-inventory, or the maximum liquid from the largest vessel (or total of impounded vessels) or otherwise demonstrate that providing spill containment will not significantly reduce the flammable vapor dispersion or radiant heat consequences of a spill. In addition, Rio Grande shall demonstrate that the stainless steel piping spill trays at each LNG storage tank

- will withstand the force and shock of a sudden cryogenic release. (*section 4.12.1.7*)
102. **Prior to construction of final design**, Rio Grande shall file an analysis demonstrating the side on overpressures will be less than 1 pound per square inch (psi) at the LNG storage tanks and the condensate storage tanks, or demonstrating the tanks will be able to withstand overpressures within the terminal. (*section 4.12.1.7*)
103. **Prior to construction of final design**, Rio Grande 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. (*section 4.12.1.7*)
104. **Prior to construction of final design**, Rio Grande 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 flammable limit set points for methane, propane, ethane/ethylene, and condensate. (*section 4.12.1.7*)
105. **Prior to construction of final design**, Rio Grande 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 set points for toxic components such as natural gas liquids and hydrogen sulfide. (*section 4.12.1.7*)
106. **Prior to construction of final design**, Rio Grande shall file 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 will isolate or shut down any combustion or heating ventilation and air conditioning equipment whose continued operation could add to or sustain an emergency. (*section 4.12.1.7*)
107. **Prior to construction of final design**, Rio Grande shall file an analysis of the off gassing of hydrogen in battery rooms and ventilation calculations that limit concentrations below the lower flammability limits (LFL) (e.g., 25 percent LFL) and shall also provide hydrogen detectors that alarm (e.g., 20 to 25 percent LFL) and initiate mitigative actions (e.g., 40 to 50 percent LFL). (*section 4.12.1.7*)
108. **Prior to construction of final design**, Rio Grande shall file 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 and

elevation by tag number of all fixed dry chemical systems in accordance with NFPA 17, wheeled and hand-held extinguishers location travel distances are along normal paths of access and egress in accordance with NFPA 10. The list shall include the equipment tag number, type, capacity, equipment covered, discharge rate, and automatic and manual remote signals initiating discharge of the units. (*section 4.12.1.7*)

109. **Prior to construction of final design**, Rio Grande shall file a design that includes clean agent systems in the instrumentation buildings and electrical substations. (*section 4.12.1.7*)
110. **Prior to construction of final design**, Rio Grande 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. In addition, firewater coverage shall include the coverage of each LNG storage tank. (*section 4.12.1.7*)
111. **Prior to construction of final design**, Rio Grande shall demonstrate that the firewater tank would be in compliance with NFPA 22 or demonstrate how API 650 provides an equivalent or better level of safety. (*section 4.12.1.7*)
112. **Prior to construction of final design**, Rio Grande 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. (*section 4.12.1.7*)
113. **Prior to construction of final design**, Rio Grande shall specify the dimension ratio (DR) to be DR 7 for the high density polyethylene piping to allow consistent pressure rating requirements with the firewater system. (*section 4.12.1.7*)
114. **Prior to construction of final design**, Rio Grande shall file drawings and specifications for the structural passive protection systems to protect equipment and supports from cryogenic releases. (*section 4.12.1.7*)
115. **Prior to construction of final design**, Rio Grande shall file calculations or test results for the structural passive protection systems to demonstrate that equipment and supports are protected from cryogenic releases. (*section 4.12.1.7*)

116. **Prior to construction of final design**, Rio Grande shall file drawings and specifications for the structural passive protection systems demonstrating that equipment and supports are protected from pool and jet fires. (*section 4.12.1.7*)
117. **Prior to construction of final design**, Rio Grande shall file a detailed quantitative analysis to demonstrate that adequate mitigation will be provided for each significant component within the 4,000 British thermal units per square foot per hour (Btu/ft²-hr) zone from pool and jet fires that could cause failure of the component, including the Jetty Monitor Buildings and the LNG Storage and Loading Substation 2. Trucks at the truck loading/unloading areas shall be included in the analysis. A combination of passive and active protection for pool fires and passive and/or active protection for jet fires shall be provided and demonstrate the effectiveness and reliability. Effectiveness of passive mitigation shall be supported by calculations or test results for the thickness limiting temperature rise and effectiveness of active mitigation shall be justified with calculations or test results demonstrating flow rates and durations of any cooling water will mitigate the heat absorbed by the vessel. (*section 4.12.1.7*)
118. **Prior to construction of final design**, Rio Grande shall file an evaluation and associated specifications and drawings of how it will prevent cascading damage of transformers (e.g., firewalls or spacing) in accordance with NFPA 850 or equivalent. (*section 4.12.1.7*)
119. **Prior to construction of final design**, Rio Grande shall file an evaluation of the voting logic and voting degradation for hazard detectors. (*section 4.12.1.7*)
120. **Prior to commissioning**, Rio Grande 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. Rio Grande shall file documentation certifying that each of these milestones has been completed before authorization to commence the next phase of commissioning and startup will be issued. (*section 4.12.1.7*)
121. **Prior to commissioning**, Rio Grande 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. (*section 4.12.1.7*)
122. **Prior to commissioning**, Rio Grande shall file the procedures for pressure/leak tests which address the requirements of American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code Section VIII and ASME B31.3. In addition, Rio Grande shall file a line list of pneumatic and hydrostatic test pressures. (*section 4.12.1.7*)

123. **Prior to commissioning**, Rio Grande 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. (*section 4.12.1.7*)
124. **Prior to commissioning**, Rio Grande shall file the operation and maintenance procedures and manuals, as well as safety procedures, hot work procedures and permits, abnormal operating conditions reporting procedures, simultaneous operations procedures, and management of change procedures and forms. (*section 4.12.1.7*)
125. **Prior to commissioning**, Rio Grande shall tag all equipment, instrumentation, and valves in the field, including drain valves, vent valves, main valves, and car-sealed or locked valves. (*section 4.12.1.7*)
126. **Prior to commissioning**, Rio Grande shall file a plan to maintain a detailed training log to demonstrate that operating, maintenance, and emergency response staff have completed the required training. (*section 4.12.1.7*)
127. **Prior to commissioning**, Rio Grande shall file the settlement results from hydrostatic testing the LNG storage containers as well as a routine monitoring program to ensure settlements are as expected and do not exceed applicable criteria in API 620, API 625, API 653, and American Concrete Institute (ACI) 376. The program shall specify what actions would be taken after seismic events. (*section 4.12.1.7*)
128. **Prior to commissioning**, Rio Grande 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. (*section 4.12.1.7*)
129. **Prior to introduction of hazardous fluids**, Rio Grande shall complete and document all pertinent tests (e.g., Factory Acceptance Tests, Site Acceptance Tests, Site Integration Tests) associated with the Distributed Control System/Safety Instrumented System that demonstrates full functionality and operability of the system. (*section 4.12.1.7*)
130. **Prior to introduction of hazardous fluids**, Rio Grande shall develop and implement an alarm management program to reduce alarm complacency and maximize the effectiveness of operator response to alarms. (*section 4.12.1.7*)

131. **Prior to introduction of hazardous fluids**, Rio Grande shall develop and implement procedures for plant personnel to monitor the rocket launches from the Brownsville SpaceX facility and take mitigative actions before and after a rocket launch failure to minimize the potential of release reaching offsite areas or resulting in cascading effects that could extend offsite or impact safe operations. (*section 4.12.1.7*)
132. **Prior to introduction of hazardous fluids**, Rio Grande 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). (*section 4.12.1.7*)
133. **Prior to introduction of hazardous fluids**, Rio Grande 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. (*section 4.12.1.7*)
134. Rio Grande 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, Rio Grande shall file **weekly** reports on the commissioning of the proposed systems that detail the progress toward demonstrating the facilities can safely and reliably operate at or near the design production rate. The reports shall include a summary of activities, problems encountered, and remedial actions taken. The weekly reports shall also include the latest commissioning schedule, including projected and actual LNG production by each liquefaction train, LNG storage inventories in each storage tank, and the number of anticipated and actual LNG commissioning cargoes, along with the associated volumes loaded or unloaded. Further, the weekly reports shall include a status and list of all planned and completed safety and reliability tests, work authorizations, and punch list items. Problems of significant magnitude shall be reported to the Commission **within 24 hours**. (*section 4.12.1.7*)
135. **Prior to commencement of service**, Rio Grande shall label piping with fluid service and direction of flow in the field, in addition to the pipe labeling requirements of NFPA 59A (2001). (*section 4.12.1.7*)
136. **Prior to commencement of service**, Rio Grande shall file plans for any preventative and predictive maintenance program that performs periodic or continuous equipment condition monitoring. (*section 4.12.1.7*)

137. **Prior to commencement of service**, Rio Grande shall develop procedures for offsite contractors' responsibilities, restrictions, and limitations and for supervision of these contractors by Rio Grande staff. (*section 4.12.1.7*)
138. **Prior to commencement of service**, Rio Grande shall notify FERC staff of any proposed revisions to the security plan and physical security of the plant. (*section 4.12.1.7*)
139. **Prior to commencement of service**, Rio Grande shall file a request for written authorization from the Director of OEP. Such authorization will only be granted following a determination by the Coast Guard, under its authorities under the Ports and Waterways Safety Act, the Magnuson Act, the Maritime Transportation Security Act of 2002, and the Security and Accountability For Every Port Act, that appropriate measures to ensure the safety and security of the facility and the waterway have been put into place by Rio Grande or other appropriate parties. (*section 4.12.1.7*)

In addition, conditions 140 through 143 shall apply **throughout the life of the Rio Grande LNG Terminal**.

140. The facilities 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, Rio Grande 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. (*section 4.12.1.7*)
141. **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 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 FERC staff with early notice of anticipated future construction/maintenance at the LNG facilities. (*section 4.12.1.7*)

142. 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. (*section 4.12.1.7*)
143. 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; and suspicious activities) shall be reported to 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 FERC staff **within 24 hours**. This notification practice shall be incorporated into the LNG facility’s emergency plan. Examples of reportable hazardous fluids-related incidents include:
 - a. fire;
 - b. explosion;
 - c. estimated property damage of \$50,000 or more;
 - d. death or personal injury necessitating in-patient hospitalization;
 - e. release of hazardous fluids for 5 minutes or more;
 - f. unintended movement or abnormal loading by environmental causes, such as an earthquake, landslide, or flood, that impairs the serviceability, structural integrity, or reliability of an LNG facility that contains, controls, or processes hazardous fluids;

- g. any crack or other material defect that impairs the structural integrity or reliability of an LNG facility that contains, controls, or processes hazardous fluids;
- h. any malfunction or operating error that causes the pressure of a pipeline or LNG facility that contains or processes hazardous fluids to rise above its maximum allowable operating pressure (or working pressure for LNG facilities) plus the build-up allowed for operation of pressure-limiting or control devices;
- i. a leak in an LNG facility that contains or processes hazardous fluids that constitutes an emergency;
- j. inner tank leakage, ineffective insulation, or frost heave that impairs the structural integrity of an LNG storage tank;
- k. any safety-related condition that could lead to an imminent hazard and cause (either directly or indirectly by remedial action of the operator), for purposes other than abandonment, a 20 percent reduction in operating pressure or shutdown of operation of a pipeline or an LNG facility that contains or processes hazardous fluids;
- l. safety-related incidents from 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, FERC staff would determine the need for a separate follow-up report or follow-up in the upcoming semi-annual operational report. All company follow-up reports shall include investigation results and recommendations to minimize a reoccurrence of the incident. (*section 4.12.1.7*)

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Rio Grande LNG, LLC
Rio Bravo Pipeline Company, LLC

Docket Nos. CP16-454-000
CP16-455-000

(Issued November 22, 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). The Commission once again refuses to consider the consequences its actions have for climate change. Although neither the NGA nor NEPA permit the Commission to assume away the impact that constructing and operating this liquefied natural gas (LNG) facility and associated natural gas pipeline will have on climate change, that is precisely what the Commission is doing here.

2. In today's order authorizing Rio Grande LNG, LLC's (Rio Grande) LNG export facility and associated natural gas pipeline facilities (Project) pursuant to section 3 and section 7 of the NGA, the Commission continues to treat climate change differently than all other environmental impacts. The Commission steadfastly refuses to assess whether the impact of the Project's greenhouse gas (GHG) emissions on climate change is significant, even though it quantifies the GHG emissions caused by the Project.³ That refusal to assess the significance of the Project's contribution to the harm caused by climate change is what allows the Commission to misleadingly state that its approval of the Project will result in environmental impacts that are generally "less-than-significant"⁴

¹ 15 U.S.C. §§ 717b, 717f (2018).

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

³ *Rio Grande LNG, LLC*, 169 FERC ¶ 61,131, at PP 104–105 (2019) (Certificate Order); Final Environmental Impact Statement at 4-256–4-288 (EIS).

⁴ Certificate Order, 169 FERC ¶ 61,131 at P 24; EIS at ES-19. *But see* Certificate Order, 169 FERC ¶ 61,131 at PP 22, 56, 113, 115 (noting that the Project, in conjunction with the two other LNG facilities in the region approved today, will have significant cumulative impacts on, among other things, federally listed endangered species, including the ocelot and jaguarundi).

and, as a result, conclude that the Project satisfies the NGA's public interest standards.⁵ Claiming that a project generally has no significant environmental impacts while at the same time refusing to assess the significance of the project's impact on the most important environmental issue of our time is not reasoned decisionmaking.

3. In addition, the Commission's public interest analysis also does not adequately weigh or wrestle with the Project's adverse impacts.⁶ Collectively, the three export projects approved for the Brownsville Ship Channel⁷ will have a significant adverse impact on water quality, visual resources, and noise-sensitive areas as well as federally listed endangered species, including the ocelot, jaguarundi, and aplomado falcon. Moreover, all three projects are located in Cameron County, Texas—a region of the country where roughly one third of the population is below the poverty line and a substantial portion is made up of minority groups.⁸ I fully appreciate that the jobs and economic stimulus that a facility like the Project can provide may be especially important in a community facing economic challenges. But we cannot lose sight of the cumulative environmental toll on regions, like Cameron County, from the development of new industrial facilities. Although today's order recites these impacts, I believe that reasoned decisionmaking requires the Commission to affirmatively consider those impacts and explain how it nevertheless reached its public interest determinations. After all, surely considering the public interest requires us to do more than merely recite the significant adverse impacts and proceed to approve the Project.

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

4. 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

⁵ *Id.* at PP 25, 32, 130.

⁶ See EIS at ES-16 – ES-18 (discussing the neighboring Texas Brownsville LNG and Annova LNG projects).

⁷ In addition to Rio Grand LNG, the Commission today is also approving the Annova LNG facility, *Annova LNG Common Infrastructure, LLC*, 169 FERC ¶ 61,132 (2019), and the Texas Brownsville LNG facility, *Texas LNG Brownsville LLC*, 169 FERC ¶ 61,130 (2019).

⁸ EIS at 4-235 (noting that the poverty rate in Cameron County is roughly a third); *id.* 4-236 (noting that three out of the four block groups of land studied were made up of more than 50 percent minority populations).

the Commission.⁹ 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.”¹⁰ Section 3 of the NGA 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.”¹¹ The Commission evaluates whether “an application for the siting, construction, expansion, or operation of an LNG terminal” is itself consistent with the public interest.¹² Pursuant to that authority, the Commission must approve a proposed

⁹ *Sierra Club v. FERC*, 827 F.3d 36, 40 (D.C. Cir. 2016) (*Freeport*).

¹⁰ 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).

¹¹ 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*). Nevertheless, NEPA requires that the Commission consider the direct GHG emissions associated with a proposed LNG export facility. See *Freeport*, 827 F.3d at 41, 46.

¹² 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 *EarthReports*, 828 F.3d at 952-53.

LNG facility unless the record shows that the facility would be inconsistent with the public interest.¹³

5. As part of that determination, the Commission examines a proposed facility's impact on the environment and public safety. A facility's impact on climate change is one of the environmental impacts that must be part of a public interest determination under the NGA.¹⁴ Nevertheless, the Commission maintains that it need not consider whether the Project's contribution to climate change is significant in this order because it lacks a means to do so—or at least so it claims.¹⁵ However, the most troubling part of the Commission's rationale is what comes next. Based on this alleged inability to assess the significance of the Project's impact on climate change, the Commission concludes that the Project's environmental impacts would generally be reduced to "less-than-significant" levels.¹⁶ Think about that. The Commission is saying out of one side of its mouth that it cannot assess the significance of the Project's impact on climate change¹⁷ while, out of the other side of its mouth, assuring us that its environmental impacts are generally not significant.¹⁸ That is ludicrous, unreasoned, and an abdication of our responsibility to give climate change the "hard look" that the law demands.¹⁹

¹³ See *Freeport*, 827 F.3d at 40-41.

¹⁴ See *Sabal Trail*, 867 F.3d at 1373 (explaining that the Commission must consider a pipeline's direct and indirect GHG emissions because 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").

¹⁵ Certificate Order, 169 FERC ¶ 61,131 at PP 105–106; EIS at 4-481–4-482.

¹⁶ Certificate Order, 169 FERC ¶ 61,131 at P 56; EIS at ES-19.

¹⁷ Certificate Order, 169 FERC ¶ 61,131 at PP 105–106; EIS 4-482 ("[W]e are unable to determine the significance of the Project's contribution to climate change.")

¹⁸ Certificate Order, 169 FERC ¶ 61,131 at P 56 (stating that, with few exceptions and not considering cumulative impacts, the Project's environmental impact will be "reduced to less-than-significant levels").

¹⁹ See, e.g., *Myersville Citizens for a Rural Cmty., Inc. v. FERC*, 783 F.3d 1301, 1322 (D.C. Cir. 2015) (explaining that agencies cannot overlook a single environmental consequence if it is even "arguably significant"); see also *Michigan v. EPA*, 135 S. Ct.

6. It also means that the Project's impact on climate change does not play a meaningful role in the Commission's public interest determination, no matter how often the Commission assures us that it does. Using the approach in today's order, the Commission will always conclude that a project will not have a significant environmental impact irrespective of that project's actual GHG emissions or those emissions' impact on climate change. If the Commission's conclusion will not change no matter how many GHG emissions a project causes, those emissions cannot, as a logical matter, play a meaningful role in the Commission's public interest determination. A public interest determination that systematically excludes the most important environmental consideration of our time is contrary to law, arbitrary and capricious, and not the product of reasoned decisionmaking.

7. The failure to meaningfully consider the Project's GHG emissions is all-the-more indefensible given the volume of GHG emissions at issue in this proceeding. The Project will directly release over 9 million tons of GHG emissions per year.²⁰ That is equivalent to the annual GHG emissions of roughly 2 million automobiles.²¹ The Commission acknowledges that "GHGs emissions due to human activity are the primary cause of increased levels of all GHG since the industrial age,"²² a result that the Commission has previously (although notably not in the environmental analysis accompanying today's order) acknowledged will "threaten the public health and welfare of current and future generations through climate change."²³ In light of this undisputed relationship between

2699, 2706 (2015) ("Not only must an agency's decreed result be within the scope of its lawful authority, but the process by which it reaches that result must be logical and rational." (internal quotation marks omitted)); *Motor Vehicle Mfrs. Ass'n, Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) (explaining that agency action is "arbitrary and capricious if the agency has . . . entirely failed to consider an important aspect of the problem, [or] offered an explanation for its decision that runs counter to the evidence before the agency").

²⁰ Certificate Order, 169 FERC ¶ 61,131 at P 105; EIS at 4-262 & Table 4.11.1-7 (estimating the Project's emissions from routine operation).

²¹ This figure was calculated using the U.S. Environmental Protection Agency's (EPA) Greenhouse Gas Equivalencies Calculator. See U.S. Env'tl. Prot. Agency, Greenhouse Gas Equivalencies Calculator, <https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator> (last visited Nov 21, 2019).

²² EIS at 4-243.

²³ Environmental Assessment, Docket No. CP18-512-000 at 112 (Mar. 29, 2019); *see also id.* at 235 ("Construction and operation of the Project would increase the

anthropogenic GHG emissions and climate change, the Commission must carefully consider the Project's contribution to climate change when determining whether the Project is consistent with the public interest—a task that it entirely fails to accomplish in today's order.

8. In addition, the cumulative effects of the Project along with the Texas Brownsville LNG and Annova LNG facilities will have a significant adverse effect on the environment, notably on endangered species, including the ocelot, the jaguarundi, and the aplomado falcon.²⁴ Although the Commission reports those impacts in its EIS²⁵ and mentions them briefly in today's order,²⁶ it is far from clear whether and how they factor into the Commission's public interest analysis. Given the extent of those adverse impacts on endangered species—which appear to be more extensive than those caused by other energy infrastructure projects that the Commission has approved under NGA section 3 and section 7 in recent years²⁷—reasoned decisionmaking requires the Commission to do more than simply recite the potential harm to endangered species and then proceed to make a public interest determination without any further discussion.

9. Finally, the Project will be located in Cameron County, Texas—a county in which nearly a third of the population is below the poverty line and a substantial portion is made up of minority groups.²⁸ I fully appreciate that the jobs and economic stimulus that a facility like the Project can provide may be especially important in a community facing economic challenges. But, by the same token, we cannot turn a blind eye to the incremental impact that increased pollution will have on economically disadvantaged communities, which frequently experience a disproportionate toll from the development

atmospheric concentration of GHGs in combination with past and future emissions from all other sources and contribute incrementally to future climate change impacts.”).

²⁴ See EIS at ES-19, 4-447 – 4-450 (ocelot and jaguarundi); *id.* at 4-445 (aplomado falcon).

²⁵ See *id.*

²⁶ Certificate Order, 169 FERC ¶ 61,131 at PP 56, 113, 115.

²⁷ For example, the EIS states “the primary threat to ocelot and jaguarundi populations in the United States is habitat loss, degradation, and fragmentation” noting that for ocelots in particular even “incremental habitat loss could be significant.” EIS at 4-448.

²⁸ See *supra* note 8.

of new industrial facilities. Especially in light of the potential cumulative impact of building three large LNG export facilities in a few-mile radius, I do not agree that we can dispose of the environmental justice concerns simply on the basis that those groups will experience conditions no worse than the surrounding county—particularly when the surrounding county presents many of the same concerns that underlie the Council on Environmental Quality’s (CEQ) and EPA’s environmental justice guidance.²⁹

II. The Commission Fails to Satisfy Its Obligations under NEPA

10. The Commission’s NEPA analysis of the Project’s GHG emissions is similarly flawed. In order to evaluate the environmental consequences of the Project under NEPA, the Commission must consider the harm caused by its GHG emissions and “evaluate the ‘incremental impact’ that those emissions will have on climate change or the environment more generally.”³⁰ As noted, the operation of the Project will emit more than 9 million tons of GHG emissions per year.³¹ Although quantifying the Project’s GHG emissions is a necessary step toward meeting the Commission’s NEPA obligations, listing the volume of emissions alone is insufficient.³² 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

²⁹ EIS at 4-234 (discussing the guidelines provided by CEQ and EPA to identify environmental justice communities).

³⁰ *Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1216 (9th Cir. 2008); *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41, 51 (D.D.C. 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”).

³¹ Certificate Order, 169 FERC ¶ 61,131 at P 105; *see also* EIS at 4-262 & Table 4.11.1-7.

³² *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 ‘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.”).

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.”³³ It is hard to see how hiding the ball by refusing to assess the significance of the Project’s climate impacts is consistent with either of those purposes.

11. In addition, under NEPA, a finding of significance informs the Commission’s inquiry into potential ways of mitigating environmental impacts.³⁴ An environmental review document must “contain a detailed discussion of possible mitigation measures” to address adverse environmental impacts.³⁵ “Without such a discussion, neither the agency nor other interested groups and individuals can properly evaluate the severity of the adverse effects” of a project, meaning that an examination of possible mitigation measures is necessary to ensure that the agency has taken a “hard look” at the environmental consequences of the action at issue.³⁶

12. The Commission responds that it need not determine whether the Project’s contribution to climate change is significant because “[t]here is no universally accepted methodology” for assessing the harms caused by the Project’s contribution to climate change.³⁷ But the lack of a single consensus methodology does not prevent the

³³ *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)).

³⁴ 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.”).

³⁵ *Robertson*, 490 U.S. at 351.

³⁶ *Id.* at 352.

³⁷ EIS at 4-481 – 4-482 (stating that “there is no universally accepted methodology to attribute discrete, quantifiable, physical effects on the environment to Project’s incremental contribution to GHGs” and “[w]ithout either the ability to determine discrete resource impacts or an established target to compare GHG emissions against, we are unable to determine the significance of the Project’s contribution to climate change”); *see also* Certificate Order, 169 FERC ¶ 61,131 at P 106 (“The Commission has also previously concluded it could not determine whether a project’s contribution to climate change would be significant.”).

Commission from adopting *a* methodology, even if it is not universally accepted. The Commission could, for example, select one methodology to inform its reasoning while also disclosing its potential limitations or the Commission could employ multiple methodologies to identify a range of potential impacts on climate change. In refusing to assess a project's climate impacts without a perfect model for doing so, the Commission sets a standard for its climate analysis that is higher than it requires for any other environmental impact.

13. In any case, the Commission has several tools to assess the harm from the Project's contribution to climate change. For example, by measuring the long-term damage done by a ton of carbon dioxide, the Social Cost of Carbon links GHG emissions to the harm caused by 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.³⁸

14. Furthermore, even without a formal tool or methodology, the Commission can consider all factors and determine, quantitatively or qualitatively, whether the Project's GHG emissions will have a significant impact on climate change. After all, that is precisely what the Commission does in other aspects of its environmental review, where the Commission makes several significance determinations without the tools it claims it needs to assess the significance of the Project's impact on climate change.³⁹ The Commission's refusal to similarly analyze the Project's impact on climate change is arbitrary and capricious.

15. And even if the Commission were to determine that the Project's GHG emissions are significant, that is not the end of the analysis. Instead, as noted above, the Commission could blunt those impacts through mitigation—as the Commission often

³⁸ See, e.g., *Fla. Se. Connection, LLC*, 164 FERC ¶ 61,099 (2018) (Glick, Comm'r, dissenting).

³⁹ See, e.g., EIS at 4-191 – 4-198, 4-59 – 4-69, 4-76 – 4-84, 4-86 – 4-103, 4-107 – 4-112 (concluding that there will be no significant impact on recreational and special interest areas, wetlands, vegetation, wildlife, migratory bird populations, pollinator habitat, and aquatic resources due to cooling water intake, among other things).

does with regard to other environmental impacts. The Supreme Court has held that an environmental review must “contain a detailed discussion of possible mitigation measures” to address adverse environmental impacts.⁴⁰ As noted above, “[w]ithout such a discussion, neither the agency nor other interested groups and individuals can properly evaluate the severity of the adverse effects.”⁴¹ Consistent with this obligation, the EIS discusses mitigation measures to ensure that the Project’s adverse environmental impacts (other than its GHG emissions) are reduced to less-than-significant levels.⁴² And throughout today’s order, the Commission uses its conditioning authority under section 3 and section 7 of the NGA⁴³ to implement these mitigation measures, which support its public interest finding.⁴⁴ Once again, however, the Project’s climate impacts are treated differently, as the Commission refuses to identify any potential climate mitigation measures or discuss how such measures might affect the magnitude of the Project’s impact on climate change.

16. Finally, 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.”⁴⁵ NEPA “merely prohibits uninformed—rather

⁴⁰ *Robertson*, 490 U.S. at 351.

⁴¹ *Id.* at 351-52; *see also* 40 C.F.R. § 1508.20 (defining mitigation); *id.* § 1508.25 (including in the scope of an environmental impact statement mitigation measures).

⁴² *See, e.g.*, Certificate Order, 169 FERC ¶ 61,131 at P 107 (discussing mitigation required by the Commission to address reliability and safety impacts from the Project); *id.* PP 101, 103 (discussing mitigation measures required to address air quality and noise); *id.* PP 77-78 (discussing mitigation measures required to address impacts on vegetation).

⁴³ 15 U.S.C. § 717b(e)(3)(A); *id.* § 717f(e); Certificate Order, 169 FERC ¶ 61,131 at P 129 (“[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.”).

⁴⁴ *See* Certificate Order, 169 FERC ¶ 61,131 at P 129 (explaining that the environmental conditions ensure that the Project’s environmental impacts are consistent with those anticipated by the environmental analyses, which found that the Project would not significantly affect the quality of the human environment).

⁴⁵ *Sierra Club v. U.S. Army Corps of Engineers*, 803 F.3d 31, 37 (D.C. Cir. 2015).

than unwise—agency action.”⁴⁶ The Commission could find that a project contributes significantly to climate change, but that it is nevertheless in the public interest because its benefits outweigh its adverse impacts, including on climate change. In other words, 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 satisfies the relevant public interest standard.

For these reasons, I respectfully dissent.

Richard Glick
Commissioner

⁴⁶ *Id.* (quoting *Robertson*, 490 U.S. at 351).