UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

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

Eagle LNG Partners Jacksonville LLC Docket No. CP17-41-000

ORDER GRANTING AUTHORIZATION UNDER SECTION 3 OF THE NATURAL GAS ACT

(Issued September 19, 2019)

1. On January 31, 2017, Eagle LNG Partners Jacksonville LLC (Eagle LNG) filed an application, pursuant to section 3 of the Natural Gas Act (NGA)[1] and Part 153 of the Commission's regulations,[2] for authorization to site, construct, and operate a new liquefied natural gas (LNG) terminal (Jacksonville Project) on the St. Johns River in Jacksonville, Florida, for the liquefaction, storage, and export of domestically-produced natural gas. For the reasons discussed in this order, we grant Eagle LNG's requested authorization, subject to conditions.

I. Background and Proposal

2. Eagle LNG is a Delaware limited liability company, wholly-owned by Eagle LNG Partners LLC. Eagle LNG Partners LLC's sole member is Ferus Natural Gas Fuels, L.P.

3. Eagle LNG proposes to site, construct, and operate a new liquefaction, storage, and export terminal facility on the St. Johns River in Jacksonville, Florida. Specifically, Eagle LNG proposes to construct and operate three liquefaction trains, each capable of liquefying approximately 44 million standard cubic feet (MMcf) per day of domestically-produced natural gas or a total project capacity of approximately 132 MMcf per day.[3]

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[1] 15 U.S.C. § 717b (2018).

[2] 18 C.F.R. pt. 153 (2019).

[3] Each liquefaction train has a nominal capacity of about 0.33 million metric tonnes per annum (MTPA). Application, Resource Report 13, at 13-103.

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Each train will include natural gas pretreatment facilities to filter the feed gas and remove carbon dioxide, hydrogen sulfide, mercaptans,[4] mercury, heavy hydrocarbons, and water.[5] The project will also include a 45,000-cubic-meter (m^3) LNG storage tank, four inlet gas compressors (one at each train and a spare), a boil-off gas compression system, a marine LNG load-out facility and a dock for small and medium-sized LNG carriers (with capacities up to 45,000 m^3)[6] and bunkering barges, a LNG and heavy hydrocarbon truck load-out facility, and appurtenant auxiliary and support facilities.[7]

4. Eagle LNG states that the project will receive natural gas from Peoples Gas System (Peoples Gas),[8] liquefy it, and store and transfer the LNG into LNG carriers for export to foreign markets. Eagle LNG states that it designed the project to be small in scale to support the export of LNG via small- to mid-sized LNG carriers to markets that cannot be served by large LNG carriers, such as constrained Caribbean ports.[9] When the project is operating at full production capacity, Eagle LNG estimates that approximately 40 to 100 LNG carriers per year will traverse the St. Johns River.[10] The LNG to be produced by the project is also intended for use in the domestic marine LNG bunkering

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[4] Mercaptan is an organosulfur compound used to odorize natural gas.

[5] Application, Resource Report 1, at 1-6.

[6] Application at 7.

[7] Application, Resource Report 1, at 1-5 to 1-18.

[8] Peoples Gas is a Florida local distribution company. It is a division of TECO Energy Inc. and an indirect subsidiary of Emera Inc. It will receive natural gas from two interstate natural gas companies, Florida Gas Transmission Company, LLC and Southern Natural Gas Company, L.L.C. *See* Application, Resource Report 1, at 1-21. Because Peoples Gas will be transporting interstate natural gas to the LNG terminal site, it has committed to filing an application for blanket certificate authority under 18 C.F.R. § 284.224 (2019). *See* Eagle LNG's January 8, 2018 Data Response and August 24, 2018 Data Response.

[9] *See* Application at 13-15.

[10] Application, Resource Report 1, at 1-12.

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trade at ports near the Jacksonville Project or for LNG vehicular fueling stations in Florida and other southeastern states.[11]

5. Eagle LNG received authorization from the U.S. Department of Energy, Office of Fossil Energy (DOE/FE) to export annually up to the equivalent of 49.8 billion cubic feet (Bcf) per year (0.14 Bcf per day) of natural gas in the form of LNG to countries with which the United States has a Free Trade Agreement (FTA).[12] In addition, Eagle LNG currently has pending before the DOE/FE an application to export LNG to non-FTA countries.[13]

II. Notice, Interventions, and Comments

6. Notice of Eagle LNG's application was published in the *Federal Register* on February 17, 2017, with interventions, comments, and protests due on or before March 6, 2017.[14] CEFL, Inc. and Floridian Natural Gas Storage Company, LLC filed timely, unopposed motions to intervene. Timely, unopposed motions to intervene are granted by operation of Rule 214(c)(1) of the Commission's Rules of Practice and Procedure.[15] U.S. Representatives Ted S. Yoho and Al Lawson, Jr. filed late comments in support of the project.

III. Discussion

A. Public Interest Standard

7. Because the proposed LNG terminal facilities will be used to export natural gas to foreign countries, the construction and operation of the proposed facilities and site of

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[11] Eagle LNG proposes to deliver the LNG by truck to the LNG fueling stations. At full capacity, Eagle LNG estimates 20 trucks per day will load LNG at the project (up to 520 LNG trucks per year). Application, Resource Report 1, at 1-13.

[12] *Eagle LNG Partners Jacksonville, LLC*, FE Docket No. 16-15-LNG, Order No. 3867 (July 21, 2016).

[13] *See* FE Docket No. 16-15-LNG.

[14] 82 Fed. Reg. 11,033 (2017).

[15] 18 C.F.R. § 385.214(c)(1) (2019).

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their location require approval by the Commission under section 3 of the NGA.[16] While section 3 provides that an application for the exportation or importation of natural gas shall be approved unless the proposal "will not be consistent with the public interest," 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."[17] NGA section 3(a) also provides that for good cause shown, the Commission may make supplemental orders as it may find "necessary or appropriate."[18]

8. We have reviewed Eagle LNG's proposal, to determine if the siting, construction, and operation of its LNG terminal as proposed would not be consistent with the public interest.[19] The proposed Jacksonville Project will occupy about 92 acres of land within a

[16] The regulatory functions of section 3 were transferred to the Secretary of Energy in 1977 pursuant to section 301(b) of the Department of Energy Organization Act. 42 U.S.C. § 7151(b) (2012). Pursuant to sections 642 and 402(e) of the Act, 42 U.S.C. §§ 7252 and 7172(e), the Secretary of Energy subsequently delegated to the Commission the authority to approve or disapprove the construction and operation of natural gas import and export facilities and the site at which such facilities shall be located. The most recent delegation is in DOE Delegation Order No. 00-004.00A, effective May 16, 2006. The Commission does not authorize importation or exportation of the commodity itself. *See EarthReports, Inc. v. FERC*, 828 F.3d 949, 952-53 (D.C. Cir. 2016) (detailing how regulatory oversight for the export of LNG and supporting facilities is divided between the Commission and DOE).

[17] 15 U.S.C. §§ 717b(a) and 717b(e)(3) (2018). 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).

[18] 15 U.S.C. § 717b(a).

[19] *See National Steel Corp.*, 45 FERC ¶ 61,100, at 61,332-33 (1988) (observing that the "Commission's authority [regarding a LNG import facility] is limited to consideration of the place of importation, which necessarily includes the technical and environmental aspects of any related facilities.").

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193.4-acre site that is privately owned[20] and zoned for industrial use.[21] Further, the final Environmental Impact Study (EIS) for the proposed project finds that the project would result in limited adverse environmental impacts, most of which would be temporary or short-term during construction and operation of the project.[22] Long-term and permanent impacts from the construction and operation of the facilities will be reduced to less than significant levels if the project is constructed and operated in accordance with applicable laws and regulations and the environmental mitigation measures recommended in the final EIS and adopted by this order.[23] We concur with the final EIS's conclusions.

9. In accordance with the Memorandum of Understanding signed on August 31, 2018, by the Commission and the Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA),[24] PHMSA undertook a review of the proposed facility's ability to comply with the federal safety standards under Part 193, Subpart B, of Title 49 of the Code of Federal Regulations.[25] On March 13, 2019, PHMSA issued a conditional Letter of Determination (LOD) indicating that Eagle LNG has demonstrated that the siting of the Jacksonville Project generally complies with these federal safety standards, except its siting hazard analysis showed flammable and toxic vapor dispersion and thermal radiation hazard zones from jet fires for certain design spill scenarios would extend beyond the Eagle LNG terminal property line.[26] Therefore, PHMSA required Eagle LNG to submit acceptable final design safety measures with PHMSA demonstrating

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[20] Eagle LNG has entered into a purchase agreement with the owner of the land for the project site, which will allow title transfer prior to the commencement of construction activities. *See* Eagle LNG's September 4, 2018 Data Response General No. 2.

[21] Final EIS at 4-66.

[22] *Id.* at 5-1.

[23] *Id.*

[24] *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.

[25] 49 C.F.R. pt. 193, subpt. B (2018).

[26] PHMSA, Analysis of Compliance with 49 CFR Part 193, Subpart B for Eagle LNG Partners Jacksonville LLC at 35-36, 92 (filed in a memo dated March 18, 2019).

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compliance 49 C.F.R. § 193.2051[27] and NFPA 59A, section 2.1.1(d).[28] Due to PHMSA's conditional LOD for the project, we require Eagle LNG, as provided in Environmental Condition No. 23 in the appendix to this order, to file, prior to initial site preparation, documentation of consultation with PHMSA demonstrating that the final design safety features comply with 49 C.F.R. § 193.2051 and NFPA 59A, section 2.1.1(d). 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.

10. Eagle LNG is proposing to operate its LNG terminal under the terms and conditions mutually agreed to by its customers and will solely bear the responsibility for the recovery of any costs associated with construction and operation of the terminal. Accordingly, Eagle LNG's proposal does not trigger NGA section 3(e)(4).[29]

11. In view of the above, we find that, subject to the conditions imposed in this order, Eagle LNG's proposal is not inconsistent with the public interest. Therefore, we will grant Eagle LNG's application for authorization under section 3 of the NGA to site, construct, and operate its proposed LNG terminal facility.

B. Environmental Analysis

12. To satisfy the requirements of the National Environmental Policy Act of 1969 (NEPA),[30] Commission staff evaluated the potential environmental impacts of the proposed project in an EIS. The U.S. Army Corps of Engineers (Corps), U.S. Coast Guard, DOE, and U.S. Department of Transportation's (DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA) participated as cooperating agencies in the preparation of the EIS. Cooperating agencies have jurisdiction by law or special

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[27] Requiring the siting of an LNG facility to comply with 49 C.F.R. Part 193 and NFPA 59A (2001), *Standard for the Production, Storage, and Handling of Liquefied Natural Gas (LNG)*.

[28] PHMSA's March 13, 2019 Letter of Determination at 4 (filed in a memo dated March 18, 2019).

[29] 15 U.S.C. § 717b(e)(4) (governing orders for LNG terminal offering open-access service).

[30] 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.

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expertise with respect to resources potentially affected by the proposals and participate in the NEPA analysis.[31]

13. On November 16, 2018, Commission staff issued the draft EIS addressing issues raised up to the point of publication. Notice of the draft EIS was published in the *Federal Register* on November 26, 2018, establishing a public comment period ending on January 7, 2019.[32] Commission staff held one public comment session on December 12, 2018, to receive comments on the draft EIS.[33] At the public comment session, four individuals provided oral comments. The Commission also received five written comment letters from federal and state agencies, Native American tribes, and companies/organizations 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 project.

14. On February 7, 2019, Commission staff extended the public comment period on the draft EIS to February 25, 2019, due to a funding lapse at certain government agencies between December 22, 2018 and January 25, 2019.[34] No additional comments were received in response to this notice.

15. On April 12, 2019, Commission staff issued the final EIS for the project, which addresses all substantive environmental comments received on the draft EIS.[35] The final EIS addresses geology; soils; water resources; wetlands; vegetation; wildlife and aquatic resources; threatened, endangered, and other special status species; land use, recreation, and visual resources; socioeconomics; cultural resources; air quality and noise; reliability and safety; cumulative impacts; and an alternatives analysis. The final EIS concludes that construction and operation of the project will result in limited adverse environmental

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[31] *See* 40 C.F.R. § 1501.6 (2018).

[32] 83 Fed. Reg. 60,414 (Apr. 26, 2018). The U.S. Environmental Protection Agency's (EPA) notice of the draft EIS, which establishes the 45-day public comment period pursuant to 40 C.F.R. § 1506.10 (2018), was published on November 23, 2018. 83 *Fed. Reg*. 59,378. The Council on Environmental Quality's regulations require agencies to calculate comment periods based on the publication date of the EPA's notice. 40 C.F.R. § 1506.10(a) (2018).

[33] Commission staff held the public comment session in Jacksonville, Florida.

[34] 84 Fed. Reg. 3771 (Feb. 13, 2019).

[35] Final EIS at Appendix K.

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impacts, but impacts will be reduced to less-than-significant levels with the implementation of Eagle LNG's proposed and the Commission staff's recommended mitigation measures, which are included as conditions in the appendix of this order.[36] The Commission received comments on the final EIS from the EPA and Eagle LNG. Their comments and major environmental issues addressed in the final EIS are discussed below.

1. Geology

16. The proposed project is on a terraced coastal plain with a submerged margin that is bordered by numerous barrier islands. The risk of seismic and tsunami activity is low.[37] Eagle LNG proposes to dredge about 179,000 cubic yards of material from a 10.1-acre area within the St. Johns River to construct the marine facility.[38] It has committed to complying with its Marine Terminal Dredging and Dredged Material Management Area Plan, which provides procedures for dredging, on-site dredged material management, and dredged material removal.[39] In addition, Eagle LNG will also implement measures in its project-specific Upland Erosion Control, Revegetation, and Maintenance Plan (Eagle LNG's Plan), and Wetland and Waterbody Construction and Mitigation Procedures (Eagle LNG's Procedures) during construction and operation of the LNG terminal.[40] Construction and operation of the project would not materially alter the geologic conditions of the project area, and the project would not affect the extraction of nearby mineral resources during construction or operation. Blasting is not anticipated during construction of the project. The final EIS concludes that impacts on geologic resources would be adequately minimized and would not be significant, subject to implementation of the project-specific Plan and Procedures and recommended mitigation measures in the EIS, which are incorporated into the order.[41]

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[36] Final EIS at ES-11.

[37] *See id.* at 4-3, 4-144, 4-145.

[38] *Id.* at 4-4.

[39] *Id.*

[40] *Id.*

[41] *Id.*

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2. Soils

17. Typical soil impacts that may occur during construction include mixing of topsoil and subsoil layers, compaction, rutting, erosion, and alteration of drainage characteristics.[42] To minimize the impacts of construction on soils, Eagle LNG commits to implement its project-specific Plan and Procedures.[43] The Plan and Procedures include measures to control erosion and sedimentation during construction, limit soil compaction, and ensure proper revegetation of temporarily disturbed areas following construction. Soil contamination may result from hazardous material or fuel spills during construction and/or from construction occurring in pre-existing undocumented or unidentified contaminated areas.[44] To prevent contamination of soils within nearby uplands, wetlands, waterbodies, and other sensitive resources, Eagle LNG has committed to following its Construction Spill Control and Waste Management Plan during construction.[45] During operation, Eagle LNG has committed to implementing its Spill Prevention, Control, and Countermeasure Plan (SPCC), which it will file prior to the start of construction.[46] Eagle LNG will also develop and file with the Commission, prior to construction, an Unanticipated Discovery of Contaminated Soils Plan, which sets guidelines for identifying contaminated soils, isolating the contaminated area, notifying appropriate agencies, and monitoring conditions.[47] Impacts on soils due to construction and operation of the project would be permanent. However, with implementation of the impact minimization and mitigation measures described in this order and in the final EIS, the final EIS concludes that impacts would not be significant.[48]

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[42] *Id.* at 4-9.

[43] *Id.*

[44] *Id.* at 4-10.

[45] *Id.*

[46] *Id.*

[47] *Id.* at 4-10 to 4-11.

[48] *Id.* at 4-11.

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3. Water Resources

18. The proposed project is on the north bank of the St. Johns River within the Lower St. Johns River Basin, about 14.5 river miles from the river mouth. Eagle LNG proposes to dredge the marine facilities berthing area, removing about 179,000 cubic yards of dredged material. Dredging would result in increased suspended solid and turbidity levels in the St. Johns River.[49] As stated in the final EIS, Eagle LNG has committed to monitoring turbidity levels during initial and periodic maintenance dredging activities and will cease dredging operations if turbidity levels exceed 29 nephelometric turbidity units (NTU) above ambient river water quality in accordance with state water quality standards.[50] Dredging will only resume when turbidity levels reach less than 29 NTUs. Eagle LNG will store dredged material in the permanent on-site dredged material management area. Eagle LNG will install turbidity barriers, if needed, at the water discharge point. Moreover, Eagle LNG will implement construction techniques and mitigation measures described in its project-specific Plan and Procedures, and protective measures developed by Eagle LNG.[51]

19. Inadvertent spills or leaks of hazardous materials during construction and operation of the LNG terminal pose a potential risk of contamination to groundwater and surface water near the project. As stated in the final EIS, Eagle LNG will follow its project-specific Construction Spill Control and Waste Management Plan during construction and commits to develop a SPCC Plan, which Eagle LNG will file with the Commission prior to construction, for use during operation to minimize potential impacts associated with an inadvertent spill or leak of hazardous materials.[52] Additionally,

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[49] *Id.* at 4-18.

[50] *See id.* at 4-19. *See* FLA. ADMIN. CODE ANN. r.62-302.530 (2019) (stating the surface water quality criteria).

[51] Protective measures include decreasing bucket speed through the water column and taking smaller bucket bites if mechanical dredging is used, using slow and deliberate sweeps to minimize stirring loose sediment if cutterhead suction dredging is used, temporarily halting dredging activities during times of extreme tidal change, using turbidity curtains around the dredge to restrict the turbidity zone, and placing dredged material in the dredged material management area to allow suspended sediments to settle out before the water is discharged.

[52] Final EIS at 4-10.

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vessels calling on the LNG terminal would be required to have a shipboard oil pollution emergency plan in accordance with International Maritime Organization[53] provisions.[54]

20. Given the impact minimization and mitigation measures, the final EIS concludes that impacts on water resources, including the St. Johns River, from the construction and operation of the project would be temporary and minor.[55]

4. Wetlands

21. The project facilities will affect about 2.2 acres of wetlands during construction, including about 1.4 acres of palustrine forested wetlands and about 0.9 acre of saltwater marsh.[56] About 1.2 acres of palustrine forested wetlands and about 0.7 acre of saltwater marsh will be permanently lost.[57] As stated in the final EIS, Eagle LNG will implement the mitigation measures in its Procedures to minimize impacts on wetlands and ensure all temporarily disturbed areas successfully revegetate with wetland herbaceous and/or woody plant species.[58] Eagle LNG has committed to purchasing credits from off-site mitigation banks in the approved watershed to offset the 1.9 acres of permanent wetland impacts in accordance with Corps' requirements,[59] which would result in no-net loss of wetlands.[60] The final EIS concludes that construction and operation of the project will have permanent but not significant impacts on wetlands.[61]

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[53] The International Maritime Organization is a United Nations agency responsible for regulating the international shipping industry.

[54] *See International Convention on Oil Pollution Preparedness, Response and Cooperation*, 30 I.L.M. 735, art. 3(a) at 737 (Nov. 30, 1990).

[55] *See* Final EIS at 4-24, 5-2 to 5-4.

[56] Table 4.4.2-1 of the Final EIS at 4-27.

[57] Final EIS at 4-25.

[58] *Id.* at 4-27.

[59] *See* 33 C.F.R. pt. 332 (2018).

[60] Final EIS at 5-5.

[61] *Id.* at 5-6.

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5. Vegetation

22. Construction of the LNG terminal would affect a total of 81.1 acres of vegetation.[62] Project operations would convert the majority of the vegetation affected at the LNG terminal (70.7 acres) to developed land for industrial use, resulting in the permanent loss of 67.9 acres of upland forest, 0.9 acre of open land, 1.2 acres of mixed wetland forest, and 0.7 acre of salt marsh.[63] About 10.0 acres of upland forest, 0.2 acre of mixed forested wetland, and 0.1 acre each of open land and salt marsh outside the LNG terminal site would be allowed to return to their preconstruction vegetation types.[64] Eagle LNG has committed to implementing the measures in its project-specific Plan and Procedures to minimize impacts on vegetation communities within and adjacent to the LNG terminal, including the use of temporary and permanent erosion control measures, revegetation procedures, and post-construction monitoring.[65] Due to the presence of similar undeveloped vegetation within a 1.0-mile radius of the project, the relatively small size of the LNG terminal, and the implementation of the project-specific Plan and Procedures, the final EIS concludes that impacts on vegetation from construction and operation of the LNG terminal would be permanent but not significant.[66]

6. Wildlife and Aquatic Resources

a. Wildlife

23. Construction of the project will affect about 92.2 acres of wildlife habitat, of which about 70.7 acres of vegetated land will be permanently converted to industrial facilities and about 11.1 acres of submerged lands will be converted to industrial use or retained in open water.[67] Eagle LNG will allow the remaining 10.4 acres to revegetate following construction. Wildlife would be directly displaced from the facility footprint, and some wildlife may be indirectly displaced within a larger area due to the increase in

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[62] *Id.* at 4-29.

[63] *Id.*

[64] *Id.*

[65] *Id.* at 4-31.

[66] *Id.*

[67] *Id.* at 4-33.

(continued ...)

noise and lighting during construction and operation of the LNG facility. Project construction would result in direct impacts on gopher tortoises and any commensal species utilizing this habitat for burrowing or foraging because they will be permanently displaced.[68] However, as stated in the final EIS, Eagle LNG will conduct gopher tortoise surveys prior to construction, and any gopher tortoises present in the construction area, along with any commensal species found in the burrows, will be relocated to suitable habitat in accordance with Eagle LNG's state-issued relocation permit.[69]

24. Project construction will also result in direct impacts on migratory birds because the LNG terminal is within the migratory bird Atlantic Flyway and within potential habitat for migratory bird species, including colonial waterbirds.[70] However, 37 acres of the construction site is deemed poor-quality habitat because, between 2011 and 2013, the landowner cleared the site and replanted pine trees on the site.[71] In addition, the presence of suitable forested areas and saltmarsh outside the terminal footprint would provide potential habitat for some migratory birds.[72] Nearby forest areas would also provide refuge and buffer for some impacts from light and noise associated with the project operations.[73] Because Eagle LNG has not provided specific mitigation measures in its Migratory Bird Plan to protect colonial waterbirds in the event site clearing were to occur during the nesting season, the EIS recommends and we require in Environmental Condition No. 14, that Eagle LNG consult with the U.S. Fish and Wildlife Service (FWS) to develop specific mitigation measures if initial site clearing occurs during the colonial waterbird nesting season from March through August.[74]

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[68] *Id.*

[69] *Id.*

[70] *Id.* at 4-36 to 4-37. The Atlantic Flyway is a north-south migratory bird route and generally follows the Atlantic coast. *See* FWS, *Flyways*, https://www.fws.gov/birds/management/flyways.php (last updated March 18, 2019).

[71] Final EIS at 4-37; Final EIS, Appendix C, C-4.

[72] Final EIS at 4-37.

[73] *Id.*

[74] *See id.* at 5-8.

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25. Moreover, one bald eagle nest was identified outside of the FWS's 660-foot buffer area near the construction site. Construction activities associated with the LNG terminal would not occur within 660 feet of the bald eagle nest. If construction activities occur during the bald eagle nesting season (October 1 through May 15), Eagle LNG has committed to monitor construction activities to determine if the nest is active. If bald eagle nesting is observed, Eagle LNG has committed to monitor nests during pile-driving activities within 0.5 mile of the nest site in accordance with FWS's Bald Eagle Monitoring Guidelines.[75] If any disruption is observed, Eagle LNG will cease pile-driving activities and consult with the FWS for guidance on mitigation methods that could be implemented prior to continuing pile driving activities. If no disturbance is apparent, Eagle LNG would complete pile driving activities and submit a final report to the FWS when work is completed. Eagle LNG has also committed to filing a copy of any correspondence and/or the final report with the Commission.[76]

26. With the implementation of the measures described above, the final EIS concludes that the impacts of construction and operation of the project will not have significant impacts on wildlife resources, including migratory birds, colonial-nesting waterbirds, and bald eagles.[77]

b. Aquatic Resources

27. Construction of the berthing area would affect 11.1 acres of submerged offshore land, and would permanently convert 0.7 acre of saltmarsh to industrial facilities.[78] Dredging of the berthing area would temporarily increase noise, turbidity, and suspended solid levels within the water column, thereby adversely affecting fish eggs and juvenile fish survival, benthic community diversity and health, foraging success, and suitability of spawning habitat.[79] Deposition of water column sediments on nearby substrates could

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[75] FWS, *BALD EAGLE MANAGEMENT GUIDELINES AND CONSERVATION MEASURES*, https://www.fws.gov/northeast/ecologicalservices/eagleguidelines/constructionnesting.html (last updated Jan. 31, 2014).

[76] Final EIS at 4-38.

[77] *Id.* at 5-6 to 5-7.

[78] *Id.* atES-5.

[79] *Id.* at 4-40.

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bury aquatic macroinvertebrates.[80] As stated in the final EIS, following construction, aquatic resources will likely return to the berthing area, which would be similar to the existing habitat, but deeper. Eagle LNG will implement dredging mitigation measures appropriate for the dredging technique used and monitor turbidity levels during dredging, in accordance with its state-issued permit.[81] Eagle LNG will also follow its project-specific Plan and Procedures and stormwater pollution prevention plan.[82] Eagle LNG will also provide compensatory mitigation for the permanent loss of saltmarsh.[83] In addition, in response to our recommendation in the draft EIS, Eagle LNG confirmed it would either adhere to the June 1 through November 30 waterbody construction time window or file documentation from all appropriate federal and state agencies demonstrating their approval to construct in waterbodies outside of this window.[84]

28. In a period of ten months, Eagle LNG will install 239 piles to construct the LNG terminal, which will increase underwater noise levels, thereby potentially impacting fish, sea turtles, and other animals with gas-filled cavities, such as swim bladders and hearing structures.[85] To reduce underwater noise levels associated with pile driving to below injury thresholds, the final EIS recommends and we require in Environmental Condition No. 15, that Eagle LNG file an Underwater Noise Mitigation Plan to identify specific mitigation measures Eagle LNG will implement to reduce underwater noise to target levels and file a monitoring plan to ensure target noise levels are achieved.[86]

29. During operations, Eagle LNG will conduct maintenance dredging of the berthing area every one to two years. The impacts would be similar to the impacts during initial dredging but would occur for a shorter duration, with less dredge material. Eagle LNG

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[80] *Id.*

[81] *Id.* at 4-40 to 4-41.

[82] *Id.* at 4-41 and 4-49.

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

[84] *Id.* at 4-40.

[85] *Id.* at 4-41.

[86] *Id.* at 4-45.

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will implement similar mitigation measures as those implemented during the initial dredging.[87]

30. The final EIS concludes that, with the implementation of the proposed mitigation measures and our condition, construction and operation of the project would not significantly impact aquatic resources and essential fish habitat.[88]

7. Threatened, Endangered, and Other Special Status Species

31. Based on information from the FWS and NMFS, 33 species federally listed under the Endangered Species Act (ESA)[89] as threatened, endangered, or candidate, and critical habitat for three ESA-species may occur in the project area or along the LNG transit route.[90] The final EIS concludes that the project will have no effect on 13 federally listed species, is not likely to adversely affect 17 federally-listed species, is not likely to jeopardize the continued existence of the 3 candidate species, and will have no effect on the critical habitat for the North Atlantic right whale, the loggerhead sea turtle, or the Florida manatee.[91] NMFS issued its concurrence on May 2, 2019.[92] However, FWS has not yet concurred. For that reason, ESA consultation is not yet complete and the final EIS recommends and we require in Environmental Condition No. 16 of this order that Eagle LNG not begin construction until ESA consultation with the FWS is complete.

32. The final EIS also identified 36 mammals protected under the Marine Mammal Protection Act[93] that may occur along the LNG transit routes.[94] To mitigate the risk of

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[87] *Id.* at 4-41.

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

[89] 16 U.S.C. §§ 1531 *et seq.* (2018).

[90] Table 4.7-1 of the Final EIS at 4-54 to 4-61.

[91] *See* Final EIS at 4-61 and 5-9.

[92] Commission staff filed the concurrence in the record on June 6, 2019.

[93] 16 U.S.C. §§ 1361 *et seq.* (2018).

[94] Final EIS at 4-65. Six of the 36 marine mammals are also listed under the ESA, as identified in Table 4.7-1 of the final EIS at 4-54. The remaining marine mammals are identified in Table 4.7.3-1 of the final EIS.

(continued ...)

harm to marine species, Eagle LNG will implement standard protection measures and recommendations by FWS, NMFS, and Florida Fish and Wildlife Conservation Commission and require vessels calling on the facility to comply with the NMFS's *Vessel Strike Avoidance Measures and Reporting for Mariners* guidance[95] and the voluntary North Atlantic right whale mitigation measures.[96] Eagle LNG will also comply with the *Standard Manatee Conditions for In-Water Work*.[97] With the implementation of the mitigation measures proposed by the applicant and required by our environmental conditions, the final EIS concludes that construction and operation of the project would not have significant adverse impacts on protected marine species.[98]

8. Land Use, Recreation, and Visual Resources

33. Construction of the project will affect over 92.2 acres, including 81.1 acres on land and 11.1 acres of open water.[99] The project site is primarily undeveloped and zoned for industrial use.[100] The LNG terminal will permanently affect 70.7 acres of land and 11.1 acres of open water on the St. Johns River.[101] The remaining 10.4 acres would be allowed to revert to the preconstruction conditions.[102]

34. Because the project is within Florida's coastal zone, the Florida Department of Environmental Protection (Florida DEP), the administrator of the state's Coastal Zone Management Program, must concur with Eagle LNG's certification that the project is

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[95] NMFS SOUTHEAST REGION, *VESSEL STRIKE AVOIDANCE MEASURES AND REPORTING FOR MARINERS*, https://sero.nmfs.noaa.gov/protected_resources/section_7/guidance_docs/documents/copy_of_vessel_strike_avoidance_february_2008.pdf.

[96] Final EIS at 4-66 and ES-7.

[97] *Id.* at ES-7.

[98] *Id.* at 4-66.

[99] *See* Table 4.8.1-1 of the final EIS at 4-67.

[100] Final EIS at 4-66.

[101] *See* Table 4.8.1-1 of the final EIS at 4-67.

[102] Final EIS at 4-68.

(continued ...)

consistent with Florida's Coastal Zone Management Program.[103] Therefore, the final EIS recommends and we require in Environmental Condition No. 17 of this order that prior to construction Eagle LNG file a copy of the determination of consistency with the laws and rules of the Florida Coastal Zone Management Program issued by the Florida DEP.

35. The project is within 1.5 miles of two special use areas, the Jacksonville Zoo and Reddie Point Preserve. No direct impacts on either of the facilities are anticipated, but users of these areas may experience increases in traffic and noise during construction and operation of the LNG terminal.[104] Specific to the zoo, the final EIS concludes that impacts on zoo animals associated with construction and operation of project will be temporary and minor because of the distance between the zoo and the LNG terminal site (i.e., 1.1 miles), the existing industrial nature of the area, and the existing visual screening (i.e., forested land) between the sites.[105]

36. Recreational boating and fishing, as well as industrial traffic, is common on the St. Johns River. The final EIS estimates that fewer than five barge deliveries to the LNG terminal would be required during construction.[106] Eagle LNG anticipates between 40 and 100 vessel calls on the facility each year during operation (a maximum of a six-percent increase in existing large vessel traffic). Accordingly, recreational users in the project vicinity may observe a slight increase in barge traffic during construction and LNG carrier traffic during operation,[107] and recreational users may experience delays in recreational vessel transit times.[108]

37. The project would not affect any nationally or stated-designated visual resources or visually sensitive areas, but the project would generally be visible to motorists on State Route 105 from the north and to Reddie Point Reserve and residences from the south and

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[103] *See* 16 U.S.C. § 1456(c)(3)(A) (2018).

[104] Final EIS at 4-71 to 4-72.

[105] *Id.* at 4-71.

[106] *Id.* at 4-70 to 4-71.

[107] *Id.* at 4-70.

[108] *Id.* at 4-71.

(continued ...)

southeast.[109] Permanent changes to the visual character of the area would result from operation of the LNG terminal. The most prominent visual feature of the facilities is the LNG storage tank, which will be 158 feet wide and 130 feet high, and the flare stack, which will be about 50 feet high when no flame is present and about 74 feet when a flame is present.[110] These features, however, will only be partially visible and generally less prominent in the viewshed than other industrial facilities.[111]

38. The final EIS concludes that construction and operation of the project, including marine traffic, would not significantly impact special use areas near the project, recreational use of the St. Johns River, or visual resources in the area.[112]

9. Socioeconomics

39. The project would not have a significant adverse impact on the socioeconomic conditions in the project area.[113] Additionally, the final EIS also considered the racial and economic composition of affected communities and health-related issues that would amplify project effects on minority or low-income populations, and it concluded that the project would not have disproportionately high and adverse environmental and human health impacts on low-income or minority populations in the project vicinity.[114]

40. The final EIS concludes that impacts on roadway transportation from construction of the project will be temporary and not significant, and impacts from operation of the project will be negligible because of the relatively small number of vehicle trips and the implementation of Eagle LNG's mitigation measures.[115] The final EIS also concludes that impacts on marine transit will not be significant during construction of the project because a relatively low number of vessels will be used during construction (fewer than

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[109] *Id.* at 4-73.

[110] *See id.* at 4-73.

[111] *Id.* at 5-10.

[112] *See id.* at 5-9 to 5-10.

[113] *Id.* at 5-10 to 5-11.

[114] *Id.* at 4-74.

[115] *Id.* at 5-11.

(continued ...)

five barge deliveries) compared to existing vessel traffic on the St. Johns River, and construction vessels will be operating outside the navigation channel. In addition, 40 to 100 LNG carriers will call on the facility annually.[116] The size of the LNG carriers will be similar to vessels already present on the St. Johns River.[117]

41. The final EIS concludes that the project would not have a significant adverse effect on the socioeconomic conditions of the project area.[118]

10. Cultural Resources

42. Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effect of any proposed undertaking on properties listed or eligible for listing in the National Register of Historic Places.[119] Eagle LNG completed a records review, a cultural resources assessment survey, and an underwater cultural resources survey of the proposed LNG facility. Eagle LNG identified three archaeological sites (two multi-component and one historic), one archaeological occurrence, one architectural structure, and one resource group (homestead).[120] On April 14, 2015, the Florida State Historic Preservation Office (SHPO) concurred that the resources are not eligible for listing in the National Register of Historic Places.[121]

43. Eagle LNG identified four potentially significant submerged cultural resource features. One feature will be avoided, two features were determined to be non-cultural, and one feature was determined to be a modern anchor. On June 16, 2015, the SHPO concurred and requested that Eagle LNG establish 50 to 150-foot buffer zones around

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[116] *Id.* at 4-81.

[117] *Id.* at 5-11. The U.S. Coast Guard reviewed the suitability of the St. Johns River, and issued a Letter of Recommendation (LOR) and LOR Analysis on February 7, 2018, stating that the St. Johns River should be considered suitable for the type and frequency of the LNG marine traffic associated with the project. *See* Memo dated March 11, 2018 from Karla Bathrick.

[118] Final EIS at 5-11.

[119] 54 U.S.C.A. § 306108 (West 2019).

[120] Final EIS at 4-85 to 4-86.

[121] *See* Application, Appendix 4.A, at 13.

(continued ...)

specific cultural resource features.[122] We concur with the SHPO's recommendation. Eagle LNG commits to comply with the SHPO's buffer recommendations and avoid the submerged features.[123]

44. Therefore, the final EIS concludes that the project will not impact cultural resources.[124] Compliance with section 106 of the National Historic Preservation Act is complete.

11. Air Quality and Noise

a. Air Quality

45. The construction emissions would result in temporary impacts on air quality associated with emissions generated from construction equipment and fugitive dust.[125] Based on the estimated construction emissions and proposed mitigation measures, there may be localized minor to moderate elevated levels of fugitive dust and tailpipe emissions near the construction area.[126] The final EIS concludes, however, that construction emissions will not have a significant effect on air quality in the area.[127]

46. Emissions will be below the major source thresholds for the Clean Air Act's permitting programs for New Source Review.[128] Further, the project will be considered an area (minor) source of hazardous air pollutants under the National Emission Standards for Hazardous Air Pollutants.[129] Consequently, Eagle LNG will be required to operate its

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[122] *See* Eagle LNG's May 2, 2017 Data Response No. 1 and Attachment 1. *See* Final EIS at 4-86.

[123] Final EIS at 5-12.

[124] *See id.* at 5-11 to 5-12.

[125] *See id.* at 4-96, 4-98, and Table 4.11.1-3.

[126] Final EIS at 4-98.

[127] *Id.* at 4-100.

[128] *See id.* at 4-92 to 4-93, 4-99.

[129] *See id.* at 4-94, 4-99.

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facilities in compliance with operating standards under 40 C.F.R. Part 63, Subpart ZZZZ.[130] Moreover, operational air quality modeling of criteria pollutants for the project, including emissions from LNG carriers and tug boats moored in the berthing area, demonstrates that the operational impacts would be below the National Ambient Air Quality Standards.[131] Because Duval County is an ozone maintenance area, project emissions, including emissions associated with vehicular traffic and LNG carrier/tug boat, are subject to review under the General Conformity rule. As presented in table 4.11.1-2, the project emissions would be less than General Conformity applicability thresholds; therefore, the project would not require a General Conformity determination.[132] Finally, based on operational emissions estimates, the project would qualify as a major stationary source of air emissions under Title V of the Clean Air Act.[133] As a result, Eagle LNG will be required to obtain a Title V permit from the Florida DEP following construction.[134] Therefore, based on these mitigation measures and others identified in the EIS, the final EIS concludes that operation of the project would not result in significant impacts on local or regional air quality.[135]

b. Noise

47. Noise level increases during construction will be temporary. Pile driving will be the most prevalent noise-generating activity during construction of the LNG terminal. Noise from internal combustion engines associated with general construction equipment and dredging will also produce perceptible noise in the vicinity of the project. Sound levels attributable to construction, in particular pile-driving activities, will exceed the Commission's noise criteria (day-night sound level of 55 decibels on the A-weighted scale (dBA)) at two of five noise-sensitive areas. These elevated noise levels will be restricted to daytime hours for about 100 days. As discussed in the Aquatic Resources section above, the final EIS recommends, and we require in Environmental Condition No. 15, that Eagle LNG develop and file an Underwater Noise Mitigation Plan to define the measures it will implement to achieve its proposed underwater noise reduction. The

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[130] *See id.* at 4-93.

[131] Table 4.11.1-5 of the final EIS at 4-99.

[132] Table 4.11.1-2 of the final EIS at 4-94.

[133] Final EIS at 4-94; Table 4.11.1-5 of the final EIS at 4-99.

[134] *See* Final EIS at 4-94 and 4-95.

[135] *Id.* at 4-100.

(continued ...)

final EIS also recommends, and we require in Environmental Condition No. 18, that Eagle LNG file weekly noise data with the Secretary following the start of pile-driving activities to identify noise impacts on the nearest noise sensitive areas (NSA).[136] Further, if noise exceeds 10 dBA over the L_{eq} ambient levels, the final EIS recommends and we require in Environmental Condition No. 18 that Eagle LNG cease pile-driving activities, implement noise mitigation measures, and request written notification from the Director of the Office of Energy Projects that pile driving may resume.[137] Based on the foregoing the final EIS concludes that noise impacts would not be significant during construction of the LNG terminal.[138]

48. Operation of the LNG terminal will produce noise on a continuous basis but is estimated to be lower than the Commission's sound-level requirement of 55 dBA at the nearby NSAs. To ensure that the noise levels during operation of the facility meet the Commission-sound criterion, the final EIS recommends, and we require in Environmental Condition No. 19 of this order, that Eagle LNG file a full power-load noise survey after each liquefaction train is placed into service and modify or install additional noise controls if the levels are exceeded. Further, the final EIS recommends, and we require in Environmental Condition No. 20 of this order, that Eagle LNG file a full load condition noise survey after the entire LNG terminal is placed into service and install additional noise controls if a day-night noise level of 55 dBA at the nearby NSAs are exceeded.

49. The final EIS concludes that noise caused by the construction and operation of the project would result in minor impacts on residents and the surrounding communities based on analyses conducted and with the implementation of the proposed mitigation measures and the environmental conditions included in the appendix of this order.[139]

12. Greenhouse Gas Emissions

50. With respect to impacts from greenhouse gases (GHG), the final EIS discusses the GHG emissions from construction and operation of the Jacksonville Project, the climate

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[136] *Id.* at 4-106.

[137] *Id.*

[138] *Id.* at 5-13.

[139] *Id.*

(continued ...)

change impacts in the region,[140] and the regulatory structure for GHGs under the Clean Air Act.[141]

51. The final EIS estimated that operations of the Jacksonville Project LNG terminal, including associated vessel emissions, may result in GHG emissions of up to 112,265 metric tons per year (or 0.11 million metric tons) of carbon dioxide equivalent (CO_2e).[142] To provide context to the direct and indirect[143] GHG estimate, according to the national net CO_2e emissions estimate in the EPA's *Inventory of U.S. Greenhouse Gas Emissions and Sinks* (EPA, 2019), 5.743 billion metric tons of CO_2e were emitted at the national level in 2017 (inclusive of CO_2e sources and sinks). The operational emissions of the LNG terminal could potentially increase CO_2e emissions based on the 2017 levels by 0.002 percent at the national level.[144] Currently, there are no national targets to use as benchmarks for comparison.[145] The State of Florida has adopted a state-wide goal of reducing CO_2e emissions to 1990 levels by 2025 (i.e., a GHG inventory of 248.8 million metric tons)[146] and an 80 percent reduction of 1990 levels by 2050 (i.e., a GHG inventory of 49.8 million metric tons).[147] In 2016, Florida's GHG inventory was 230.1 million

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[140] *Id.* at 4-194.

[141] *Id.* at 4-93.

[142] Table 4.11.1-4 of the final EIS at 4-98.

[143] Indirect GHG emissions are from vessel traffic associated with the project.

[144] EPA, *INVENTORY OF U.S. GREENHOUSE GAS EMISSIONS AND SINKS*, Docket No. 430-R-19-001, at ES-8 (2019), https://www.epa.gov/sites/production/files/2019-04/documents/us-ghg-inventory-2019-main-text.pdf.

[145] 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.

[146] Final EIS at 4-196.

[147] *See* Exec. Order No. 07-127, Immediate Actions to Reduce Greenhouse Gas Emissions within Florida (July 13, 2007); Exec. Order No. 07-128, Florida Governor's Action Team on Energy and Climate Change (July 13, 2007).

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metric tons.[148] GHG emission levels in Florida reached a low in 2013 but has since increased. In order to meet the 2025 GHG emissions goal, Florida would need to reduce its emissions by another 18.7 million metric tons (i.e., the difference between Florida's goal of 248.8 million metric tons of GHG emissions in 2025 and Florida's 2016 GHG inventory of 230.1 million metric tons). The project's annual GHG emissions would represent about 0.6 percent of this differential. Similarly, should the project be operational as currently designed in 2050, the project's annual GHG emissions would represent 0.05 percent of the Florida GHG inventory goal.[149] To our knowledge, Florida has not published a plan or limit for emissions for specific industrial uses, such as the LNG export facilities. Nor has Florida filed comments opposing the project or stating that the emissions from the project would adversely affect its GHG target.

52. The final EIS included a qualitative discussion that addressed various effects of climate change.[150] The final EIS acknowledges that the quantified GHG emissions from the construction and operation of the project will contribute incrementally to climate change.[151] Further, the Commission has previously concluded it could not determine a project's incremental physical impacts on the environment caused by GHG emissions.[152] The Commission has also previously concluded it could not determine whether a project's contribution to climate change would be significant.[153]

13. Safety and Reliability

53. 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 reviewed potential external impacts

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[148] U.S. ENERGY INFORMATION ADMINISTRATION, FLORIDA STATE CARBON DIOXIDE EMISSIONS DATA (data for 2016), https://www.eia.gov/environment/emissions/state/ (release date Oct. 31, 2018).

[149] Final EIS at 4-196.

[150] *Id.* at 4-194 to 4-196.

[151] *Id.* at 4-195 to 4-196.

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

[153] *Id.*

(continued ...)

associated with the project based on the project site location; conducted a technical review of the engineering design; and recommended a number of mitigation measures to be implemented prior to initial site preparation, prior to construction of final design, prior to commissioning, prior to introduction of hazardous fluids, prior to commencement of service, and throughout life of the facility. Based on this analysis, and with the incorporation of the recommended mitigation measures and oversight, Commission staff concluded that, with the incorporation of its recommendations, adopted as environmental conditions to this order, Eagle LNG's Front End Engineering Design would include acceptable layers of protection or safeguards to reduce the risk of a potentially hazardous scenario from developing into an event that could impact the off-site public.[154]

54. In addition, the Coast Guard reviewed the waterfront portions of the proposed project and the associated LNG carrier traffic with regard to navigation safety and maritime security.[155] As noted above,[156] the U.S. Coast Guard issued a Letter of Recommendation to the Commission, indicating that the St. Johns River would be considered suitable for accommodating the type and frequency of LNG marine traffic associated with the project. If the LNG terminal is authorized and constructed, the facility would be subject to the U.S. Coast Guard's inspection and enforcement program to ensure compliance with the requirements of 33 C.F.R. §§ 105 and 127.

55. Further, as noted above,[157] 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, subject to Eagle LNG submitting acceptable final design safety measures with PHMSA demonstrating compliance 49 C.F.R. § 193.2051[158] and NFPA 59A, section 2.1.1(d).[159] PHMSA's LOD summarizes its evaluation of the hazard modeling results and endpoints used to establish

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[154] Final EIS at 4-173.

[155] 33 C.F.R. §§ 105, 127 (2018).

[156] *See supra* note 118.

[157] *See supra* P 9.

[158] Requiring the siting of an LNG facility to comply with 49 C.F.R. Part 193 and NFPA 59A (2001), *Standard for the Production, Storage, and Handling of Liquefied Natural Gas (LNG)*.

[159] PHMSA's March 13, 2019 Letter of Determination at 4.

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exclusion zones, as well as its review of Eagle LNG's evaluation of potential incidents and safety measures that could have a bearing on the safety of plant personnel and the surrounding public. The evaluation shows that hazardous releases from the inlet gas metering, liquefaction, condensate trucking, and refrigeration storage facilities would extend beyond the LNG terminal's northern boundary and onto State Road 105 (Zoo Parkway).[160] Eagle LNG must provide an evaluation of the final design safety measures, which includes additional safety measures to address these hazardous releases, to PHMSA in order to confirm compliance with federal safety standards. Because of the conditional LOD, we will require in Environmental Condition No. 23 that Eagle LNG provide documentation of consultation with the PHMSA that the final design safety features complies with 49 C.F.R. § 193.2051 and NFPA 59A, section 2.1.1(d).

14. Cumulative Impacts

56. The final EIS considers the cumulative impacts of the Jacksonville Project with other projects or activities within the geographic and temporal scope as the Jacksonville project's impacts. The types of other projects evaluated in the final EIS that could potentially contribute to cumulative impacts on a range of environmental resources include industrial (dredging); energy; transportation; residential, recreational, and commercial development. The final EIS concludes that, for resources where a level of impact could be ascertained, the project's contribution to cumulative impacts on resources affected by the project would not be significant, and that the potential cumulative impacts of the project and the other projects considered would be minor.[161]

15. Alternatives

57. The final EIS evaluates several alternatives to the proposed project, including the No-Action Alternative, system alternatives, and LNG terminal site alternative.[162] The final EIS concludes that the alternatives proposed do not offer a significant environmental advantage and the proposed project, as modified by Commission staff's recommended measures, is the preferred alternative.[163]

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[160] PHMSA's March 13, 2019 Letter of Determination at 3.

[161] Final EIS at 4-196.

[162] *Id.* at 3-1 to 3-11.

[163] *Id.* at 3-11.

(continued ...)

16. Comments Received After Issuance of the Final EIS

a. The EPA

58. The EPA recommends that the Commission require, as an environmental condition, that Eagle LNG implement construction practices outlined in the "Clean Diesel" program[164] and the Natural Gas STAR Program[165] to help minimize GHG emissions.[166]

59. The final EIS addressed EPA's comment stating, "Eagle has stated it would comply with all state emissions requirements during construction and would continue to evaluate implementing the construction practices outline in the 'Clean Diesel' initiative and the Natural Gas STAR methane emission reductions, but did not commit to implementing these programs."[167] We encourage applicants to avoid, minimize, or mitigate the environmental impacts of their projects to the extent practicable. However, we are not persuaded that we should require Eagle LNG to participate in either voluntary program. The EPA, the agency with the expertise and authority to regulate emissions, has not provided sufficient explanation for why the Commission should require such participation and in fact has made such participation voluntary.

60. The EPA also questions the final EIS's determination that the direct project impacts on environmental justice (EJ) communities (i.e., minority and low-income populations) would be the same as the impacts on non-EJ communities.[168] The EPA argues that although the direct impacts on these different communities may be identical,

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[164] The Energy Policy Act of 2005 authorized the EPA to appropriate funds for projects that use diesel emission reduction technologies and state clean diesel programs. *See* 42 U.S.C. §§ 15801, 16131-16134, 16137 (2012).

[165] The voluntary Natural Gas STAR Program provides a framework for oil and gas companies to implement methane-reducing technologies and practices, and document their voluntary emission reduction activities. *See* EPA, Natural Gas STAR Program, https://www.epa.gov/natural-gas-star-program/natural-gas-star-program (last visited June 19, 2019). Eagle LNG is not a partner in the program.

[166] EPA's April 24, 2019 Comment on the final EIS at 2.

[167] Final EIS at K-12.

[168] EPA's April 24, 2019 Comment on the final EIS at 2.

(continued ...)

the EJ community could experience a disproportionate impact or more amplified impact because the EJ community could suffer a greater cumulative impact, have unique cultural practices, or have special economic or social conditions that influence human health. The EPA relies on this reasoning to support its previous request for a map to visualize the proportion of EJ communities within a two-mile radius of the project. The EPA recommends a resource, *Promising Practices for EJ Methodologies in NEPA Reviews*, to assist with our analysis in future proceedings.[169]

61. Executive Order 12,898 encourages independent agencies to identify and address, as part of their NEPA review, "disproportionately high and adverse human health or environmental effects" of their actions on minority and low-income populations.[170] EPA's guidance recommends the following three steps to identify and address impacts on minority and low-income communities: (1) determine the existence of minority and low-income populations, (2) determine if resource impacts are high and adverse, and (3) determine if the impacts fall disproportionately on minority and low-income populations.[171] To determine the existence of a minority population, we sought to identify a minority population of the affected area that exceeds 50 percent or a minority population whose percentage of the affected area is meaningfully greater than the

[169] FEDERAL INTERAGENCY WORKING GROUP ON ENVIRONMENTAL JUSTICE, *PROMISING PRACTICES FOR EJ METHODOLOGIES IN NEPA REVIEWS,* March 2016, https://www.epa.gov/sites/production/files/2016-08/documents/nepa_promising_practices_document_2016.pdf.

[170] Exec. Order No. 12,898, §§ 1-101, 6-604, 59 Fed. Reg. 7629 (1994); Memorandum from President William Clinton on Executive Order on Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations to the Heads of All Departments and Agencies (Feb. 11, 1994), at 1, https://www.epa.gov/sites/production/files/2015-02/documents/clinton_memo_12898.pdf.

[171] *See* EPA, *FINAL GUIDANCE FOR INCORPORATING ENVIRONMENTAL JUSTICE CONCERNS IN EPA'S NEPA COMPLIANCE ANALYSIS*, at §§ 3.2.1-3.2.2 (1998), https://www.epa.gov/sites/ production/files/2015-02/documents/ej_guidance_nepa_epa0498.pdf.

minority population in the general population or other appropriate unit of geographic analysis.[172] To determine low-income populations, we used the U.S. Bureau of the Census's data.

62. The final EIS adequately analyzes the project's impacts on minority and low-income communities. The final EIS studies eleven census block groups intersected by a 2-mile radius around the project site, all of them located in Duval County.[173] The final EIS identifies five census block groups that have a higher proportion of minority population than the state of Florida.[174] Two of the five census block groups also have a higher poverty proportion of the population.[175] The census block group where the project is located (Block 1, Census Tract 102.02) is not considered a low-income or minority community and would likely bear most of the impacts.[176] And as discussed above, no resources are expected to experience significant impacts as a result of project construction and operation. As distance from the project site increases, we anticipate that the identified low-income and minority communities, the nearest of which is about 1.2 miles from the project and located farther from the project than Block 1, Census Tract 102.02, would experience reduced environmental and health impacts from the project. Therefore, the final EIS concludes that the project would not have a disproportionately high and adverse impact on minority or low-income communities.[177]

63. Lastly, the EPA repeats its request that the Commission produce hard copies or compressed discs of the draft EIS and final EIS prepared for the project for its review and

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[172] *Council On Environmental Quality, Environmental Justice: Guidance Under The National Environmental Policy Act*, A 24-25 (1997), https://www.epa.gov/sites/ production/files/2015-02/documents/ ej_guidance_nepa_ceq1297.pdf.

[173] *See* Tables 4.9.8-1, 4.9.8-2, and 4.9.8-3 of the final EIS at 4-83 to 4-84. In lieu of using a map, the final EIS displays the minority and low-income populations within the affected environment in tables that identified minority and low-income populations. *See also* FEDERAL INTERAGENCY WORKING GROUP ON ENVIRONMENTAL JUSTICE, *supra* note 170, at 21-28 (recommending the use of tables to display EJ communities).

[174] *See* Table 4.9.8-2 of the final EIS at 4-84.

[175] *See* Table 4.9.8-3 of the final EIS at 4-84.

[176] Final EIS at 4-85.

[177] *Id.*

(continued ...)

records retention.[178] It states that it is required to retain EIS's and relevant project administrative records for 20 years.

64. We acknowledge EPA's responsibilities in reviewing EIS's. However, EIS's can be downloaded from the Commission's public eLibrary system, after which they can be reproduced in either paper or digital forms. We believe this appropriately balances stakeholder access to the Commission's NEPA documents and Commission resources.

b. Eagle LNG

65. Eagle LNG requests clarification or modification of several staff-recommended environmental conditions in the final EIS.

66. Regarding recommended Environmental Condition No. 18, Eagle LNG requests that it be permitted to calculate, using a mathematical model, rather than measure the noise impacts due to pile driving activities at the project site.[179] Eagle LNG explains that such a modification would permit Eagle LNG to isolate the pile driving noise from the ambient noise.

67. We reject Eagle LNG's request. We find that monitoring is a better method to ensure that residences and other NSAs are properly protected from high-noise levels caused by pile-driving activities. Although there is utility in calculated data, it should be considered another data point to ensure that local, non-pile-driving noise is not included in the noise level measurements. If Eagle LNG includes calculated data, we would consider these calculated noise levels when determining whether measured monitored noise levels exceed the noise criterion, but the calculated data would not supplant the required measured data.

68. Recommended Environmental Condition No. 32 requires Eagle LNG to file, prior to construction of the final design, information/revisions pertaining to Eagle LNG's previously-filed data responses. Eagle LNG requests that the order exclude its data response numbers 7 and 43 to Commission staff's March 5, 2019 engineering data request from the environmental condition because their responses do not specify features that would be included or considered in the final design.[180]

69. Recommended Environmental Condition No. 32 mistakenly referenced data response number 7. The correct reference should have been data response number 6.

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[178] EPA's April 24, 2019 Comment on the final EIS at 1.

[179] Eagle LNG's May 10, 2019 Comment on the final EIS at 1.

[180] *Id.*

Therefore, the environmental condition, as revised as Environmental Condition No. 33 in the appendix to this order, requires Eagle LNG to file information/revisions pertaining to Eagle LNG's data response number 6 of its response to the March 5, 2019 data request. We deny Eagle LNG's request to remove data response number 43 from the environmental condition because data response number 43 pertains to the project's firewater system, including isolation valves, which would be included or considered in the final design.

70. Eagle LNG requests that recommended Environmental Condition No. 38, requiring Eagle LNG to file "a list of all codes and standards and the final specification document number where they are referenced" be clarified.[181] Eagle LNG contends that developing and filing a list of all codes, standards, and project documents would be impractical for a large project such as the Jacksonville Project and proposes that the condition be revised as follows:

> Prior to construction of final design, Eagle LNG shall file a list of all codes and standards, required by regulation and those recommended and generally accepted as good engineering practice, that will be considered for the final design. In addition, Eagle LNG shall file equipment specifications and data sheets referencing the specific codes and standards applicable to the equipment covered in the specifications.[182]

71. We deny Eagle LNG's requested revision to recommended Environmental Condition No. 38, which we adopt as Environmental Condition No. 39 in the appendix to this order. In order to ensure the final design specifications includes all applicable codes and standards, Eagle LNG should provide a list of all applicable codes and standards that also includes a reference to the corresponding final design specification(s).

72. Eagle LNG requests clarification on the analytical methods that would satisfy the requirement of recommended Environmental Condition No. 64 that Eagle LNG demonstrate that hazardous fluids, piping, and piping nipples 2 inches or less in diameter are designed to withstand external loads.[183]

73. We do not prescribe or endorse specific analytical methods that would satisfy this condition. However, we note that previous information filed in response to the same condition in other projects have included pipe stress analysis using proprietary and

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[181] Eagle LNG's May 10, 2019 Comment on the final EIS at 2.

[182] *Id.*

[183] *Id.* at 3.

commercial software and/or more simplistic calculations and analyses. We will review information filed in response to this condition on a case-by-case basis. We adopt this condition as Environmental Condition No. 65 in the appendix of this order.

74. Recommended Environmental Condition No. 72 requires Eagle LNG to file a projectile analysis that demonstrates whether that the LNG storage tank will withstand projectiles from explosions and high winds, or demonstrate whether protective measures are in place to ensure the structural integrity of the LNG storage tank. If the analysis demonstrates that the tank will be perforated, Eagle LNG would be required to file an analysis indicating the containment dikes will sufficiently contain an LNG spill. In response to the draft EIS, Eagle LNG commented that the projectile analysis could be performed using the acceptance criteria in American Concrete Institute (ACI) 376.[184] The final EIS, however, rejected Eagle LNG's comment because Commission staff found that the criteria in Comité Euro-International du Béton (CEB) 187 generally provide more conservative results.[185] Eagle LNG questions the final EIS's conclusion because the final EIS did not provide a quantitative comparison of the two acceptance criteria.[186] For that reason, Eagle LNG requests the condition include a provision that would permit it to perform the analysis using the acceptance criteria in either ACI 376 or CEB 187.[187]

75. We decline to revise recommended Environmental Condition No. 72 to specify a method to perform the projectile analysis of the LNG storage tank. Many equations and sophisticated analyses or methods (e.g., finite element analysis) are available to evaluate the penetration and perforation depths of projectiles. However, not all methods include an acceptance criteria. For example, Eagle LNG's preferred method, ACI 376, lacks an acceptance criteria for projectiles. Therefore, we retain recommended Environmental Condition No. 72, which we adopt as Environmental Condition No. 73, to require Eagle LNG to identify the method used for its analysis to determine penetration and perforation depths and the characteristics and speed of the projectile. We will review Eagle LNG's projectile impact analysis to determine whether its selected method or equation is suitable and its assumptions and inputs are correct in order to ensure public safety.

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[184] Final EIS at 4-146.

[185] *Id.*

[186] Eagle LNG's May 10, 2019 Comment on the final EIS at 3.

[187] *Id.* at 4.

(continued ...)

76. However, we revise recommended Environmental Condition No. 72 because the recommended condition in the final EIS mistakenly requires Eagle LNG to file an analysis showing the project's containment dikes would sufficiently contain an LNG spill in the event of a tank perforation caused by a projectile. The use of dikes to contain LNG spills is reflective of a single-containment tank configuration, which is not Eagle LNG's proposal. Eagle LNG has proposed a full-containment tank configuration. With a full-containment tank configuration the tank is required to withstand without loss of structural or functional integrity wind-borne projectiles per PHMSA regulations.[188] In addition, because projectiles from explosions may be a more severe loading, we require full-containment tanks withstand those projectiles. Therefore, we revise recommended Environmental Condition No. 72, adopted as Environmental Condition No. 73 in the appendix of this order, to ensure the outer containment wall is demonstrated to withstand projectiles from both explosions and high winds.

77. Recommended Environmental Condition No. 83 requires Eagle LNG to evaluate the design of the terminal alarm system and external notification system to ensure the location of the terminal alarms and other fire and evacuation alarm notification devices will provide adequate warning at the terminal and external off-site areas in the event of an emergency. Eagle LNG requests that the order remove external notification system from the condition because its draft Emergency Response Plan describes the protocols for external notifications and the responsibilities of terminal personnel in response to specific emergency situations.[189] Eagle LNG also requests that the Commission identify the criteria (code or specification) that would be used to evaluate the adequacy of the terminal alarm system and external notification system.[190]

78. We reject Eagle LNG's requested changes to recommended Environmental Condition No. 83 because both terminal and external notification systems must be present to alert personnel and public to a potential hazard. For example, Coast Guard regulations require warning alarms (i.e., light and siren) in a marine transfer area be free of obstructions for a distance of 1 mile in all directions.[191] In addition, NFPA 72, *National Fire Alarm and Signaling Code*, contains requirements and recommendations regarding the application, installation, location, performance, inspection, testing, and maintenance of fire alarm systems, public emergency alarm reporting systems, and emergency

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[188] 49 C.F.R. § 193.2067(a) (2018).

[189] Eagle LNG's May 10, 2019 Comment on the final EIS at 4.

[190] *Id.*

[191] *See* 33 C.F.R. § 127.207 (2018).

communication systems. Therefore, we adopt the condition as Environmental Condition No. 84 in the appendix to this order.

79. Finally, Eagle LNG requests that recommended Environmental Condition No. 115 be revised as follows:

> Prior to commissioning, Eagle LNG shall equip the LNG storage tank and adjacent piping and supports with permanent settlement *monuments* [*replaced "monitors" with the word "monuments"*] to allow personnel to *monitor* [*replaced word "observe" with the word "monitor"*] 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.[192]

80. We do not accept Eagle LNG's requested replacement of the word "monitors" with "monuments" in recommended Environmental Condition No. 115. Permanent settlement "monuments" typically refer to geospatial control points or survey targets, which would not allow for near real-time settlement detection. However, we grant Eagle LNG's request to replace the word "observe" with "monitor." In addition to this revision, we revise the condition, which we adopt as Environmental Condition No. 115, to clarify that Eagle LNG must equip the LNG storage tank with both seismic and settlement monitors. Seismic monitors are necessary to satisfy the requirements of Environmental Condition No. 114, which requires Eagle LNG to demonstrate compliance with ACI 376 and other referenced standards that require seismic monitors.

17. Environmental Analysis Conclusion

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

[192] Eagle LNG's May 10, 2019 Comment on the final EIS at 4-5.

mitigation of unforeseen adverse environmental impacts resulting from project construction and operation.

82. We agree with the conclusions presented in the final EIS and find that the project, 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 Jacksonville Project is not inconsistent with the public interest.

83. 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 jurisdictional companies 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.[193]

84. At a hearing held on September 19, 2019, the Commission on its own motion received and made a 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) Eagle LNG is authorized under section 3 of the NGA to site, construct, and operate the proposed project located in Jacksonville, Florida, as described and conditioned herein, and as fully described in Eagle LNG's application and supplements, including any commitments made therein, and subject to the environmental conditions contained in the appendix of this order.

(B) Eagle LNG's proposed project shall be constructed and made available for service within five years of the date of this order.

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[193] *See* 15 U.S.C. § 717r(d) (2018) (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).

(C) Eagle LNG 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 Eagle LNG. Eagle LNG shall file written confirmation of such notification with the Secretary of the Commission within 24 hours.

By the Commission. Commissioner Glick is dissenting with a separate statement attached.

(S E A L)

Kimberly D. Bose,
Secretary.

Appendix

Environmental Conditions

As recommended in the final environmental impact statement (EIS) and otherwise amended herein, this authorization includes the following conditions.

1. Eagle LNG Partners Jacksonville, LLC (Eagle LNG) shall follow the construction procedures and mitigation measures described in its application and supplements (including responses to staff data requests) and as identified in the EIS, unless modified by the order. Eagle LNG 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. 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. **Prior to any construction,** Eagle LNG shall file an affirmative statement with the Secretary, certified by a senior company official, that all company personnel, environmental inspectors (EI), and contractor personnel will be informed of the 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.

4. The authorized facility locations shall be as shown in the EIS, as supplemented by filed maps. **As soon as they are available, and before the start of construction,** Eagle LNG shall file with the Secretary any revised detailed survey maps at a scale not smaller than 1:6,000. All requests for modifications of environmental conditions of the order or site-specific clearances must be written and must reference locations designated on these maps.

5. Eagle LNG shall file with the Secretary detailed maps and aerial photographs at a scale not smaller than 1:6,000 identifying all facility relocations, staging areas, pipe storage yards, new access roads, and other areas that would be used or disturbed and have not been previously identified in filings with the Secretary. Approval for each of these areas must be explicitly requested in writing. For each area, the request must include a description of the existing land use/cover type, documentation of landowner approval, whether any cultural resources or federally listed threatened or endangered species would be affected, and whether any other environmentally sensitive areas are within or abutting the area. All areas shall be clearly identified on the maps/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 facility location changes resulting from:

   a. implementation of cultural resources mitigation measures;

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

   c. recommendations by state regulatory authorities; and

   d. agreements with individual landowners that affect other landowners or could affect sensitive environmental areas.

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

   a. how Eagle LNG will implement the construction procedures and mitigation measures described in its application and supplements (including responses to staff data requests), identified in the EIS, and required by the order;

b. how Eagle LNG 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 on-site construction and inspection personnel;

c. the number of EIs assigned to the facility, and how Eagle LNG 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 Eagle LNG will give to all personnel involved in construction and restoration (initial and refresher training as the project progresses and personnel change), with the opportunity for OEP staff to participate in the training session(s);

f. the company personnel (if known) and specific portion of Eagle LNG's organization having responsibility for compliance;

g. the procedures (including use of contract penalties) Eagle LNG 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.

7. Eagle LNG shall employ at least one EI for the LNG terminal. The EI shall be:

a. responsible for monitoring and ensuring compliance with all mitigation measures required by the order and other grants, permits, certificates, or other authorizing documents;

b. responsible for evaluating the construction contractor's implementation of the environmental mitigation measures required in the contract (see condition 6 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 Commission's authorization, as well as any environmental conditions/permit requirements imposed by other federal, state, or local agencies; and

f. responsible for maintaining status reports.

8. Beginning with the filing of its Implementation Plan, Eagle LNG shall file updated status reports with the Secretary on a **monthly** basis until all construction and restoration activities are complete. Problems of a significant magnitude shall be reported to FERC **within 24 hours**. On request, these status reports will also be provided to other federal and state agencies with permitting responsibilities. Status reports shall include:

a. an update on Eagle LNG's efforts to obtain the necessary federal authorizations;

b. project schedule including the current construction status, work planned for the following reporting period, and any schedule changes for stream crossings or work in other environmentally sensitive areas;

c. a listing of all problems encountered, contractor nonconformance/deficiency logs, and each instance of noncompliance observed by the EI(s) 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 that may relate to compliance with the requirements of the order, and the measures taken to satisfy their concerns; and

g. copies of any correspondence received by Eagle LNG from other federal, state, or local permitting agencies concerning instances of noncompliance, and Eagle LNG's response.

9. Eagle LNG must receive written authorization from the Director of OEP **before commencing construction of any project facilities**. To obtain such authorization, Eagle LNG must file with the Secretary documentation that each

has received all applicable authorizations required under federal law (or evidence of waiver thereof).

10. Eagle LNG must receive written authorization from the Director of OEP **prior to introducing hazardous fluids into the LNG terminal facilities**. Instrumentation and controls, hazard detection, hazard control, and security components/systems necessary for the safe introduction of such fluids shall be installed and functional.

11. Eagle LNG must receive written authorization from the Director of OEP **before placing the LNG terminal facilities into service**. Such authorization will only be granted following a determination that the facilities have been constructed in accordance with the FERC approval, can be expected to operate safely as designed, and the rehabilitation and restoration of the areas affected by the terminal are proceeding satisfactorily.

12. **Within 30 days of placing the authorized facilities in service**, Eagle LNG shall file an affirmative statement with the Secretary, certified by a senior company official:

    a. that the facilities have been constructed in compliance with all applicable conditions, and that continuing activities will be consistent with all applicable conditions; or

    b. identifying which of the conditions in the order Eagle LNG has complied with or will comply with. This statement shall also identify any areas affected by the project where compliance measures were not properly implemented, if not previously identified in filed status reports, and the reason for noncompliance.

13. **Prior to construction**, Eagle LNG shall file with the Secretary, for review and written approval by the Director of OEP, a copy of its Unanticipated Discovery of Contaminated Soils Plan.

14. **Prior to conducting site clearing activities between March and August,** Eagle LNG shall file with the Secretary, for review and written approval by the Director of OEP, mitigation measures to minimize impacts on colonial rookeries developed in consultation with the U.S. Fish and Wildlife Service (FWS) and include in the filing documentation of FWS comments on these measures.

15. **Prior to construction**, Eagle LNG shall file with the Secretary, for review and written approval by the Director of OEP, an Underwater Noise Mitigation Plan that identifies the specific mitigation measures Eagle LNG will implement to achieve its proposed reduction of 12 decibels (dB) (re: 1 micropascal) associated with pre-stressed concrete impact pile driving and its proposed reduction of 25 dB

(re: 1 micropascal) associated with steel impact pile driving. The Underwater Noise Mitigation Plan shall also include an underwater noise monitoring plan to ensure that sound levels associated with pre-stressed concrete and steel impact pile driving achieve target noise levels, as well as additional mitigation that Eagle LNG will implement in the event that target noise levels are not achieved.

16. Eagle LNG shall **not begin construction** activities **until**:

    a. FERC staff completes Endangered Species Act section 7 consultation with the FWS; and

    b. Eagle LNG has received written notification from the Director of OEP that construction may begin.

17. **Prior to construction**, Eagle LNG shall file with the Secretary a copy of the determination of consistency with the laws and rules of the Florida Coastal Zone Management Program issued by the Florida Department of Environmental Protection.

18. Eagle LNG shall monitor sound levels during pile-driving activities, and file **weekly** noise data with the Secretary that identify the noise impact on the nearest noise sensitive areas (NSA). If any measured noise impacts due to pile driving (the maximum A-weighted sound level over a particular time interval) at the nearest NSAs are greater than 10 decibels on the A-weighted scale (dBA) over the equivalent ambient sound levels, Eagle LNG 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.

19. Eagle LNG 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 exceeds a day-night sound level (L_{dn}) of 55 dBA at the nearest NSA, **within 60 days** Eagle LNG shall modify operation of the LNG terminal facilities or install additional noise controls until a noise level below an L_{dn} of 55 dBA at the NSA is achieved. Eagle LNG shall confirm compliance with the above requirement by filing a second noise survey with the Secretary **no later than 60 days** after it installs the additional noise controls.

20. Eagle LNG shall file a noise survey with the Secretary **no later than 60 days** after placing the entire LNG terminal into service. If a full-power load noise survey is not possible, Eagle LNG shall provide an interim survey at the maximum possible horsepower load **within 60 days** of placing the LNG terminal into service and

provide the full-power load survey **within 6 months**. If the noise attributable to the operation of the equipment at the LNG terminal exceeds an L_{dn} of 55 dBA at the nearest NSA under interim or full horsepower load conditions, Eagle LNG shall file a report on what changes are needed and shall install the additional noise controls to meet the level **within 1 year** of the in-service date. Eagle LNG 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.

21. **Prior to initial site preparation**, Eagle LNG shall file with the Secretary a site-specific analysis stamped and sealed by a professional engineer-of-record, registered in the state of Florida, to verify the underlying rock is competent to support the final design of foundations, including identifying the location, orientation, and inclination of any local faults or geological discontinuities in order to better characterize the risk of regional subsidence or surficial deformation.

22. **Prior to initial site preparation**, Eagle LNG shall file with the Secretary documentation demonstrating it has received a determination of no hazard (with or without conditions) by U.S. Department of Transportation Federal Aviation Administration for all temporary construction equipment that exceed the height requirements in 14 CFR 77.9.

23. **Prior to initial site preparation**, Eagle LNG shall file with the Secretary documentation of consultation with the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration that the final design safety features demonstrates compliance with 49 CFR 193.2051 and NFPA 59A 2.1.1(d).

24. **Prior to construction of final design**, Eagle LNG shall file with the Secretary the following information, stamped and sealed by the professional engineer-of-record, registered in the state of Florida:

    a. geotechnical investigation and tests that verify subsurface conditions as well as an analysis that confirms Eagle LNG's proposed ground improvement and includes any resulting foundation recommendations;

    b. site preparation drawings and specifications;

    c. LNG storage tank foundation design drawings and calculations;

    d. LNG terminal structures and foundation design drawings and calculations (including prefabricated and field constructed structures);

    e. seismic specifications for procured equipment; and

f. quality control procedures to be used for civil/structural design and construction.

In addition, Eagle LNG shall file, **in its Implementation Plan**, the schedule for producing this information.

25. **Prior to commencement of service**, Eagle LNG shall file with the Secretary a plan, stamped and sealed by a professional engineer-of-record, registered in the state of Florida, for continuous monitoring of surface and subsurface conditions to detect early signs of sinkhole formation throughout the life of the LNG terminal, as well as a response plan in the event of a sinkhole formation.

Conditions 26 through 127 shall apply to the LNG terminal facilities. Information pertaining to the following 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 CFR 388.113. *See Critical Electric Infrastructure Security and Amending Critical Energy Infrastructure Information*, Order No. 833, 157 FERC ¶ 61,123 (2016). Information pertaining to items such as offsite emergency response, procedures for public notification and evacuation, and construction and operating reporting requirements will be subject to public disclosure. All information shall be filed **a minimum of 30 days before approval** to proceed is requested.

26. **Prior to initial site preparation**, Eagle LNG shall file an overall project schedule, which includes the proposed stages of the commissioning plan.

27. **Prior to initial site preparation**, Eagle LNG shall file quality assurance and quality control procedures for construction activities.

28. **Prior to initial site preparation**, Eagle LNG shall file procedures for controlling access during construction.

29. **Prior to initial site preparation**, Eagle LNG shall file an analysis demonstrating that the anticipated traffic loads on buried pipelines and utilities at temporary and permanent crossings will be adequately distributed during construction and operation of the project. The analysis must consider anticipated traffic loads along the facility entrance/exit roads during construction and operation to determine whether provisions are needed to dissipate the loads on the Peoples Gas natural gas pipeline. If provisions are required, the analysis must demonstrate the effectiveness of such provisions. The analysis shall be based on American Petroleum Institute (API) RP 1102 or other approved methodology.

30. **Prior to initial site preparation**, Eagle LNG shall develop an Emergency Response Plan (ERP) (including evacuation) and coordinate procedures with the U.S. 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.

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

31. **Prior to initial site preparation**, Eagle LNG 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. Eagle LNG 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**.

32. **Prior to construction of final design**, Eagle LNG shall file change logs that list and explain any changes made from the Front End Engineering Design (FEED) provided in Eagle LNG'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.

33. **Prior to construction of final design**, Eagle LNG shall file information/revisions pertaining to Eagle LNG's response numbers 2, 18, 46, 50, 63, 68, 69, and 71 of its October 17, 2017 filing, response numbers 1-6, 8-18, 23, 25, 27, 28, 30, 32, 36-

39, 41-45, and 48 to the March 5, 2019 engineering information request, and response number 1 to the March 20, 2019 engineering information request of its March 25, 2019 filing which indicated features to be included or considered in the final design.

34. **Prior to construction of final design**, Eagle LNG shall file a plot plan of the final design showing all major equipment, structures, buildings, and impoundment systems.

35. **Prior to construction of final design**, Eagle LNG shall file three-dimensional plant drawings to confirm plant layout for maintenance, access, egress, and congestion. In addition, the access/egress roads shall demonstrate that road widths and turnarounds are adequate to handle fire apparatus and will meet good engineering practices such as National Fire Protection Association (NFPA) 307 and the International Fire Code (Appendix D).

36. **Prior to construction of final design**, Eagle LNG shall file drawings of the storage tank piping support structure and support of horizontal piping at grade including pump columns, relief valves, pipe penetrations, instrumentation, and appurtenances.

37. **Prior to construction of final design**, Eagle LNG shall file complete drawings of the proposed LNG tank design and installation.

38. **Prior to construction of final design**, Eagle LNG 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 including vacuum jacketed 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).

39. **Prior to construction of final design**, Eagle LNG shall file a list of all codes and standards and the final specification document number where they are referenced.

40. **Prior to construction of final design**, Eagle LNG shall file up-to-date process flow diagrams (PFDs) and one complete set of piping and instrument diagrams (P&IDs) that incorporates the various vendors. 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.

41. **Prior to construction of final design**, Eagle LNG shall file P&IDs, specifications, and procedures that clearly show and specify the tie-in details required to safely connect subsequently constructed facilities with the operational facilities.

42. **Prior to construction of final design**, Eagle LNG shall file a car seal philosophy and a list of all car-sealed and locked valves consistent with the P&IDs.

43. **Prior to construction of final design**, Eagle LNG shall file information that demonstrates the Engineering, Procurement, and Construction (EPC) contractor has verified the Hazard Identification (HAZID) study recommendations have been addressed.

44. **Prior to construction of final design**, Eagle LNG shall file a hazard and operability review prior to issuing the P&IDs for construction. A copy of the review, a list of the recommendations, and actions taken on the recommendations shall be filed.

45. **Prior to construction of final design**, Eagle LNG shall specify that all drains from high-pressure hazardous fluid systems will be equipped with double isolation and bleed valves.

46. **Prior to construction of final design**, Eagle LNG shall specify positive isolation (e.g., double isolation and bleed, valve and blind) on high-pressure systems requiring class 600 flanges and higher.

47. **Prior to construction of final design**, Eagle LNG shall provide double isolation and bleed for drain lines ¾”-GH-111444, ¾”-LNG-111011, and ¾”-LNG-111014 at the source.

48. **Prior to construction of final design**, Eagle LNG shall include isolation valves on the discharge lines from the LNG tank pump columns.

49. **Prior to construction of final design**, Eagle LNG shall file plans and procedures that address how the facility would handle ship loading operations in the event a marine transfer arm (i.e., liquid/vapor) experiences a liquid or vapor release or is out of service.

50. **Prior to construction of final design**, Eagle LNG shall include both absolute and barometric pressure transmitters in the LNG storage tank design.

51. **Prior to construction of final design**, Eagle LNG shall include a vacuum breaker gas or pad gas system in addition to LNG storage tank vacuum relief system to mitigate the risk of failures caused by vacuum conditions.

52. **Prior to construction of final design**, Eagle LNG shall provide an insulated flange connection at the battery limit connection between the feed gas pipeline and the facility shown on P&ID 15510-PI-100-001.

53. **Prior to construction of final design**, Eagle LNG shall include a check valve or other means in the feed gas piping, 10”-PG-1104, to the absorber to prevent backflow.

54. **Prior to construction of final design**, Eagle LNG shall specify construction material of line 2”-GH-111444-6AA that is suitable for cryogenic service.

55. **Prior to construction of final design**, Eagle LNG shall include temperature transmitters connected to the Distributed Control System (DCS) on the thermowells located on the inlet and outlet piping for the molecular sieve dehydrators.

56. **Prior to construction of final design**, Eagle LNG shall verify that the displacement of vapor through the LNG in-tank pump minimum flow valves during startup will exceed the minimum flow rate required for stable pump operation.

57. **Prior to construction of final design**, Eagle LNG shall clearly specify the responsibilities of the LNG tank contractor and the EPC contractor for the piping associated with the LNG storage tank and piping associated with the LNG pumps located within the tertiary containment.

58. **Prior to construction of final design**, Eagle LNG shall file the final design of the vacuum jacketed piping that demonstrates how the outer jacket design accounts for the mechanical forces from a release at maximum pressures and thermal stresses and shock from sudden cryogenic temperatures of an LNG release.

59. **Prior to construction of final design**, Eagle LNG shall file the final design of the vacuum jacketed inner pipe emergency shutdown and isolation valves, pressure relief valves and discharge, drains, vacuum ports, and instrumentation.

60. **Prior to construction of final design**, Eagle LNG shall file the final design of the leak detection and monitoring system of the vacuum jacketed inner pipe including alarm set points and shutdown capabilities.

61. **Prior to construction of final design**, Eagle LNG shall file the safe operating limits (upper and lower), alarm and shutdown set points for all instrumentation (e.g., temperature, pressures, flows, and compositions).

62. **Prior to construction of final design**, Eagle LNG shall file cause-and-effect matrices for the process instrumentation, fire and gas detection system, and emergency shutdown system. The cause-and-effect matrices shall include alarms and shutdown functions, details of the voting and shutdown logic, and set points.

63. **Prior to construction of final design**, Eagle LNG shall file an evaluation of 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).

64. **Prior to construction of final design**, Eagle LNG shall file an evaluation of dynamic pressure surge effects from valve opening and closure times and pump startup and shutdown operations.

65. **Prior to construction of final design**, Eagle LNG shall demonstrate that, for hazardous fluids, piping and piping nipples 2 inches or less in diameter are designed to withstand external loads, including vibrational loads in the vicinity of rotating equipment and operator live loads in areas accessible by operators.

66. **Prior to construction of final design**, Eagle LNG shall file electrical area classification drawings.

67. **Prior to construction of final design**, Eagle LNG shall file drawings and details of how process seals or isolations installed at the interface between a flammable fluid system and an electrical conduit or wiring system meet the requirements of NFPA 59A (2001).

68. **Prior to construction of final design**, Eagle LNG shall file details of an air gap or vent installed downstream of process seals or isolations installed at the interface between a flammable fluid system and an electrical conduit or wiring system. Each air gap shall vent to a safe location and be equipped with a leak detection device that shall continuously monitor for the presence of a flammable fluid, alarm the hazardous condition, and shut down the appropriate systems.

69. **Prior to construction of final design**, Eagle LNG shall specify that piping and equipment that may be cooled with liquid nitrogen will be designed for liquid nitrogen temperatures, with regard to allowable movement and stresses.

70. **Prior to construction of final design**, Eagle LNG shall include the capability of calculating the total LNG tank fill flow from each liquefaction train in the DCS, or directly measure the LNG tank fill flow, as well as include an associated high-flow alarm.

71. **Prior to construction of final design**, Eagle LNG shall file the structural analysis of the LNG storage tank and outer containment demonstrating they are designed to withstand all loads and combinations.

72. **Prior to construction of final design**, Eagle LNG 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.

73. **Prior to construction of final design**, Eagle LNG shall file a projectile analysis to demonstrate that the outer concrete impoundment wall of a full containment LNG storage tank can withstand projectiles from explosions and high winds. The analysis should detail the projectile speeds and characteristics and method used to determine penetration or perforation depths.

74. **Prior to construction of final design**, Eagle LNG shall specify the minimum distance required for valve maintenance, between the LNG loading header and the first valve in the discharge piping to the loading arm.

75. **Prior to construction of final design**, Eagle LNG shall file the sizing basis and capacity for the final design of the flares and/or vent stacks as well as the pressure and vacuum relief valves for major process equipment, vessels, and storage tanks.

76. **Prior to construction of final design**, Eagle LNG shall provide the following information related to flare L-405: final design details (e.g., purge, pilots); whether

the flare will meet API 537 or equivalent; and a quantitative analysis which demonstrates that the redundancy built into the flare pilot design is sufficient to ensure that an operational pilot will be available or alternatively provide a vapor dispersion analysis of the unlit flare demonstrating flammable vapors will not reach any ignition sources, equipment, buildings, or grade.

77. **Prior to construction of final design**, Eagle LNG shall file detailed cooldown plans showing the piping and valve alignment, and instruments used to monitor the initial cooldown and filling of the LNG storage tank.

78. **Prior to construction of final design**, Eagle LNG shall file detailed calculations for the flow rate of the jockey pumps accounting for flow rate losses due to leaks or other losses to ensure that system losses do not exceed the specified design flow rate of the jockey firewater pumps.

79. **Prior to construction of final design**, Eagle LNG shall file a design that includes pressure relieving protection for flammable liquid piping segments (i.e., refrigerants, liquid hydrocarbons, condensate products) that can be isolated by valves.

80. **Prior to construction of final design**, Eagle LNG shall specify that all emergency shutdown valves are to be equipped with open and closed position switches connected to the DCS/SIS.

81. **Prior to construction of final design**, Eagle LNG shall file a drawing showing the location of the emergency shutdown buttons. Emergency shutdown buttons shall be easily accessible, conspicuously labeled, and located in an area which will be accessible during an emergency.

82. **Prior to construction of final design,** Eagle LNG shall file specifications and drawings of the vehicle barriers at each facility entrance for access control and internal road vehicle protections, such as guard rails, barriers, and bollards to protect transfer piping, pumps, and compressors, etc., to ensure that they are located away from roadway or protected from inadvertent damage from vehicles.

83. **Prior to construction of final design**, Eagle LNG shall file security fence, camera, intrusion detection, and lighting drawings of the final design. The security fence drawings shall surround the entire LNG plant with a setback that does not allow for the fence to be overcome. The security camera drawings shall show the location, areas covered, and features of the camera (fixed, tilt/pan/zoom, motion detection alerts, low light, mounting height, etc.) to verify camera coverage of the entire perimeter and atop the LNG storage tank with redundancies for cameras interior to the facility to enable rapid monitoring of the LNG plant. The intrusion detection drawings shall show or note the location of the intrusion detection to verify it covers the entire perimeter of the LNG

plant. The lighting drawings shall show the location, elevation, type of light fixture, and lux levels of the lighting system and cover the entire perimeter of the LNG plant and at mooring points.

84. **Prior to construction of final design**, Eagle LNG 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.

85. **Prior to construction of final design**, Eagle LNG shall file an updated fire protection evaluation of the proposed facilities. A copy of the evaluation, a list of recommendations and supporting justifications, and actions taken on the recommendations shall be filed. The evaluation shall specify the warehouse sprinkler system using extra hazard group 2 design densities or justify an alternative design. The evaluation shall also include a hazard detection study to evaluate the effectiveness of the flammable and gas detection system 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 that could extend off site 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, and different wind speeds and directions. The justification for firewater shall provide calculations for all firewater demands including firewater coverage on the LNG storage tank, north of HV Substation A-701, and adjacent fire zones if they could result in cascading damage based on design densities, surface area, and throw distance and specifications for the corresponding hydrant and monitors needed to reach and cool equipment.

86. **Prior to construction of final design**, Eagle LNG shall file spill containment system drawings with dimensions and slopes of curbing, trenches, impoundments, and capacity calculations considering any foundations and equipment within impoundments, as well as the sizing and design of the down-comer that 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 spill containment will not significantly reduce the flammable vapor dispersion or radiant heat consequences of a spill.

87. **Prior to construction of final design**, Eagle LNG shall file an evaluation that demonstrates an LNG spill will not be directed to the LNG tank impoundment sump (S-814) or how LNG will be prevented from being discharged from S-814.

88. **Prior to construction of the final design**, Eagle LNG shall file a critical equipment and building siting assessment to ensure plant buildings that are occupied or critical to the safety of the LNG plant are adequately protected from potential hazards involving fires and vapor cloud explosions. The evaluation shall assess the potential relocation of the firewater pumps, firewater tank, control building, and other buildings such that they do not present an ignition source to a release of flammable vapors and that they are not impacted by explosions, pool fires, and jet fires or provide analyses demonstrating they would be adequately protected from such events. The evaluation shall compare against minimum spacing requirements for buildings relative to equipment containing hazardous fluids, distances used in electrical area classification for ignition sources as well as radiant heat distances from pool and jet fires.

89. **Prior to construction of final design**, Eagle LNG shall file an analysis of the localized hazards to operators from a potential liquid nitrogen release and shall also provide spill containment and low oxygen detectors to mitigate liquid nitrogen releases.

90. **Prior to construction of final design**, Eagle LNG shall file an analysis of the localized hazards from a potential hydrogen sulfide release and shall also provide toxic detectors to mitigate hydrogen sulfide releases from the acid gas piping system and potential release points (i.e., vents, relief valves, vent stacks, and thermal oxidizer stack).

91. **Prior to construction of final design**, Eagle LNG shall file detailed calculations to confirm that the final firewater volumes will be accounted for when evaluating the capacity of the impoundment system during a spill and fire scenario.

92. **Prior to construction of final design**, Eagle LNG shall file complete drawings and a list of the hazard detection equipment. The drawings shall clearly show the location and elevation of all detection equipment. The list shall include the instrument tag number, type and location, alarm indication locations, and shutdown functions of the hazard detection equipment.

93. **Prior to construction of final design**, Eagle LNG shall file a list of alarm and shutdown set points for all hazard detectors that account for the calibration gas of the hazard detectors when determining the lower flammable limit set points for methane, propane, ethylene, n-butane, and condensate.

94. **Prior to construction of final design**, Eagle LNG shall file a list of alarm and shutdown set points for all hazard detectors that account for the calibration gas of hazard detectors when determining the set points for toxic components such as condensate, heavy hydrocarbon liquids, and hydrogen sulfide.

95. **Prior to construction of final design**, Eagle LNG shall file an evaluation of the voting logic and voting degradation for hazard detectors.

96. **Prior to construction of final design**, Eagle LNG 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 shutdown any combustion or heating ventilation and air conditioning equipment whose continued operation could add to or sustain an emergency.

97. **Prior to construction of final design**, Eagle LNG shall file a design that includes hazard detection suitable to detect high temperatures and smoldering combustion products in electrical buildings and control room buildings.

98. **Prior to construction of final design**, Eagle LNG shall file facility plan drawings and a list of the fixed and wheeled dry-chemical, hand-held fire extinguishers, and other hazard control equipment. Plan drawings shall clearly show the location and elevation by tag number of all fixed dry-chemical systems in accordance with NFPA 17, and wheeled and hand-held extinguisher locations are along normal paths of access and egress and in compliance with NFPA 10 travel distances. 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.

99. **Prior to construction of final design**, Eagle LNG shall file facility plan drawings showing the proposed location of the firewater and any foam systems. Plan drawings shall clearly show the location of firewater and foam piping, post indicator valves, and the location and area covered by, each monitor, hydrant, hose, water curtain, deluge system, foam system, water-mist system, and sprinkler. In addition, firewater coverage shall include the coverage of the entire marine transfer line, LNG storage tank, and HV Substation A-701 by hydrants or monitors and automatic or remotely operated monitors or fixed systems in areas inaccessible or difficult to access in the event of an emergency. The coverage circles shall take into account obstructions to the firewater coverage and shall reflect the firewater needed to reach and cool exposed surfaces potentially subjected to damaging radiant heats from a fire. The drawings shall also include P&IDs of the firewater and foam systems.

100. **Prior to construction of final design**, Eagle LNG shall include or demonstrate the firewater storage volume for its facilities has minimum reserved capacity for its most demanding firewater scenario plus 1,000 gallons per minute for no less

than 2 hours. The firewater storage shall also demonstrate compliance with NFPA 22 or equivalent.

101. **Prior to construction of final design**, Eagle LNG shall specify that the firewater flow test meter is equipped with a transmitter and that a pressure transmitter is installed upstream of the flow transmitter. The flow transmitter and pressure transmitter shall be connected to the DCS and recorded.

102. **Prior to construction of final design**, Eagle LNG shall file drawings and specifications for the structural passive protection systems to protect equipment and supports from cryogenic releases.

103. **Prior to construction of final design**, Eagle LNG shall file calculations or test results for the structural passive protection systems to protect equipment and supports from cryogenic releases.

104. **Prior to construction of final design**, Eagle LNG shall file drawings and specifications for the structural passive protection systems to protect equipment and supports from pool and jet fires.

105. **Prior to construction of final design**, Eagle LNG 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/ft^2-hr) zone from pool or jet fires that could cause failure of the component. Trucks at the truck loading/unloading areas shall be included in the analysis. A combination of passive and active protection 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 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.

106. **Prior to construction of final design**, Eagle LNG shall file an evaluation and associated specifications and drawings of how cascading damage of transformers (e.g., fire walls or spacing) will be prevented in accordance with NFPA 850 or equivalent.

107. **Prior to commissioning**, Eagle LNG shall file a detailed schedule for commissioning through equipment startup. The schedule shall include milestones for all procedures and tests to be completed prior to introduction of hazardous fluids and during commissioning and startup. Eagle LNG 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.

108. **Prior to commissioning**, Eagle LNG shall file detailed plans and procedures for: testing the integrity of on-site mechanical installation; functional tests; introduction of hazardous fluids; operational tests; and placing the equipment into service.

109. **Prior to commissioning**, Eagle LNG shall file a plan for clean-out, dry-out, purging, and tightness testing. This plan shall address the requirements of the American Gas Association's Purging Principles and Practice, and shall provide justification if not using an inert or non-flammable gas for clean-out, dry-out, purging, and tightness testing.

110. **Prior to commissioning**, Eagle LNG shall file the procedures for pressure/leak tests which address the requirements of American Society of Mechanical Engineers (ASME) Code VIII and ASME Code B31.3. The procedures shall include a line list of pneumatic and hydrostatic test pressures.

111. **Prior to commissioning**, Eagle LNG shall file the operation and maintenance procedures and manuals, as well as safety procedures, hot work procedures and permits, abnormal operating conditions reporting procedures, simultaneous operations procedures, and management of change procedures and forms.

112. **Prior to commissioning**, Eagle LNG shall tag all equipment, instrumentation, and valves in the field, including drain valves, vent valves, main valves, and car-sealed or locked valves.

113. **Prior to commissioning**, Eagle LNG shall file a plan to maintain a detailed training log to demonstrate that operating staff has completed the required training.

114. **Prior to commissioning**, Eagle LNG shall file settlement results from the hydrostatic tests of the LNG storage container as well as a routine monitoring program to ensure settlements are as expected and do not exceed applicable criteria in API 620, 625, 653, and ACI 376. The program shall specify what actions will be taken after seismic events.

115. **Prior to commissioning**, Eagle LNG shall equip the LNG storage tank and adjacent piping and supports with permanent seismic and settlement monitors to allow personnel to monitor 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.

116. **Prior to introduction of hazardous fluids**, Eagle LNG shall develop and implement an alarm management program to reduce alarm complacency and maximize the effectiveness of operator response to alarms.

117. **Prior to introduction of hazardous fluids**, Eagle LNG shall complete and document all pertinent tests (Factory Acceptance Tests, Site Acceptance Tests, Site Integration Tests) associated with the DCS and SIS that demonstrate full functionality and operability of the system.

118. **Prior to introduction of hazardous fluids**, Eagle LNG shall complete and document a firewater pump acceptance test and firewater monitor and hydrant coverage test. The actual coverage area from each monitor and hydrant shall be shown on facility plot plan(s).

119. **Prior to introduction of hazardous fluids**, Eagle LNG shall complete and document foam system and sprinkler system acceptance tests.

120. **Prior to introduction of hazardous fluids**, Eagle LNG shall complete and document clean agent acceptance tests.

121. **Prior to introduction of hazardous fluids**, Eagle LNG shall complete and document a pre-startup safety review to ensure that installed equipment meets the design and operating intent of the facility. The pre-startup safety review shall include any changes since the last hazard review, operating procedures, and operator training. A copy of the review with a list of recommendations, and actions taken on each recommendation, shall be filed.

122. Eagle LNG shall file a request for written authorization from the Director of OEP **prior to unloading or loading the first LNG commissioning cargo**. After production of first LNG, Eagle LNG shall file **weekly** reports on the commissioning of the proposed systems that detail the progress toward demonstrating the facilities can safely and reliably operate at or near the design production rate. The reports shall include a summary of activities, problems encountered, and remedial actions taken. The weekly reports shall also include the latest commissioning schedule, including projected and actual LNG production by each liquefaction 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**.

123. **Prior to commencement of service**, Eagle LNG shall label piping with fluid service and direction of flow in the field, in addition to the pipe labeling requirements of NFPA 59A (2001).

124. **Prior to commencement of service**, Eagle LNG shall file plans for any preventative and predictive maintenance program that performs periodic or continuous equipment condition monitoring.

125. **Prior to commencement of service**, Eagle LNG shall develop procedures for off-site contractors' responsibilities, restrictions, and limitations and for supervision of these contractors by Eagle LNG staff.

126. **Prior to commencement of service**, Eagle LNG shall notify the Commission staff of any proposed revisions to the security plan and physical security of the plant.

127. **Prior to commencement of service**, Eagle LNG shall file a request for written authorization from the Director of OEP. Such authorization will only be granted following a determination by the U.S. Coast Guard, under its authorities under the Ports and Waterways Safety Act, the Magnuson Act of 1950, 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 Eagle LNG or other appropriate parties.

In addition, conditions 128 through 131 shall apply **throughout the life of the LNG terminal facilities**:

128. The facility shall be subject to regular Commission staff technical reviews and site inspections on at least an **annual** basis or more frequently as circumstances indicate. Prior to each Commission staff technical review and site inspection, Eagle LNG shall respond to a specific data request including information relating to possible design and operating conditions that may have been imposed by other agencies or organizations. Up-to-date detailed P&IDs reflecting facility modifications and provision of other pertinent information not included in the semi-annual reports described below, including facility events that have taken place since the previously submitted semi-annual report, shall be submitted.

129. **Semi-annual** operational reports shall be filed with the Secretary to identify changes in facility design and operating conditions; abnormal operating experiences; activities (e.g., ship arrivals, quantity and composition of imported and exported LNG, liquefied and vaporized quantities, boil off/flash gas); and plant modifications, including future plans and progress thereof. Abnormalities shall include, but not be limited to, unloading/loading/shipping problems, potential hazardous conditions from off-site vessels, storage tank stratification or rollover, geysering, storage tank pressure excursions, cold spots on the storage tank, storage tank vibrations and/or vibrations in associated cryogenic piping, storage tank settlement, significant equipment or instrumentation malfunctions or failures, non-scheduled maintenance or repair (and reasons therefore), relative movement of storage tank inner vessels, hazardous fluids releases, fires involving hazardous

fluids and/or from other sources, negative pressure (vacuum) within a storage tank, and higher than predicted boil off rates. Adverse weather conditions and the effect on the facility also shall be reported. Reports shall be submitted **within 45 days after each period ending June 30 and December 31**. In addition to the above items, a section entitled "Significant Plant Modifications Proposed for the Next 12 Months (dates)" shall be included in the semi-annual operational reports. Such information will provide the Commission staff with early notice of anticipated future construction/maintenance at the LNG facilities.

130. 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.

131. Significant non-scheduled events, including safety-related incidents (e.g., LNG, condensate, refrigerant, heavier hydrocarbons, or natural gas releases; fires; explosions; mechanical failures; unusual over pressurization; and major injuries) and security-related incidents (e.g., attempts to enter site, suspicious activities) shall be reported to Commission 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 Commission staff **within 24 hours**. This notification practice shall be incorporated into the liquefaction 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 a 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 facilities) plus the build-up allowed for operation of pressure-limiting or control devices;

i. a leak in a 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 a facility that contains or processes hazardous fluids;

l. safety-related incidents from hazardous fluids transportation occurring at or en route to and from the 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 terminal'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 liquefaction facility to cease operations. Following the initial company notification, Commission staff will determine the need for a separate follow-up report or follow up in the upcoming semi-annual operational report. All company follow-up reports shall include investigation results and recommendations to minimize a reoccurrence of the incident.

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Eagle LNG Partners Jacksonville LLC Docket No. CP17-41-000

(Issued September 19, 2019)

GLICK, Commissioner, *dissenting*:

1. I dissent from today's order because it violates both the Natural Gas Act[1] (NGA) and the National Environmental Policy Act[2] (NEPA). The Commission is again refusing to consider the consequences its actions have for climate change. Neither the NGA nor NEPA permit the Commission to assume away the climate change implications of constructing and operating this liquefied natural gas (LNG) facility. Yet that is the unmistakable result of today's order.

2. In authorizing Eagle LNG Partners Jacksonville LLC (Eagle LNG Partners) to site, construct, and operate the proposed LNG export terminal (the Project) pursuant to NGA section 3, the Commission treats greenhouse gas (GHG) emissions differently than all other environmental impacts. By refusing to assess whether the impact of the Project's GHG emissions would be significant, the Commission neglects its obligation to actually assess the Project's environmental impacts. This systematic failure to consider the Project's impact on GHG emissions and climate change is what allows the Commission to misleadingly state that "long-term and permanent impacts from . . . the facilities will be reduced to less than significant levels"[3] and, as a result, conclude that the Project satisfies the NGA's section 3 public interest standard.[4] Claiming that a project 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.

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

3. The NGA's regulation of LNG import and export facilities "implicate[s] a tangled web of regulatory processes" split between the U.S. Department of Energy (DOE) and

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[1] 15 U.S.C. § 717b (2018).

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

[3] *Eagle LNG Partners Jacksonville LLC*, 168 FERC ¶ 61,181, at PP 8, 82 (2019) (Certificate Order); *see also* Final Environmental Impact Statement at ES-11 (Final EIS).

[4] Certificate Order, 168 FERC ¶ 61,181 at P 11.

(continued ...)

the Commission.[5] The NGA establishes a general presumption favoring the import and export of LNG unless there is an affirmative finding that the import or export "will not be consistent with the public interest."[6] Section 3 of the NGA, which governs LNG imports and exports, provides for two independent public interest determinations: One regarding the import or export of LNG itself and one regarding the facilities used for that import or export. DOE determines whether the import or export of LNG is consistent with the public interest, with transactions among free trade countries legislatively deemed to be "consistent with the public interest."[7] The Commission evaluates whether "an application for the siting, construction, expansion, or operation of an LNG terminal" is consistent with the public interest.[8] Pursuant to that authority, the Commission must approve a proposed LNG facility unless the record shows that the facility would be inconsistent with the public interest.[9]

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

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

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

[8] 15 U.S.C. § 717b(e). In 1977, Congress transferred the regulatory functions of NGA section 3 to DOE. DOE, however, subsequently delegated to the Commission authority to approve or deny an application for the siting, construction, expansion, or operation of an LNG terminal, while retaining the authority to determine whether the import or export of LNG to non-free trade countries is in the public interest. *See EarthReports, Inc.*, 828 F.3d at 952-53.

[9] *See Freeport*, 827 F.3d at 40-41.

(continued ...)

4. As part of that determination, the Commission must examine a proposed LNG facility's impact on the environment and public safety. A facility's impact on climate change must be part of a public interest determination under the NGA.[10] The Commission contends that it need not consider whether the Project's contribution to climate change is significant because it lacks a means to do so—or at least so it claims.[11] But the shocking 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 will have not have a significant environmental impact, including on climate change.[12] 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 change while, out of the other side of its mouth, assuring us that all environmental impacts are insignificant. That is ludicrous, unreasoned, and an abdication of our responsibility to give climate change the "hard look" that the law demands.

5. The implications of the Commission's approach to evaluating the impacts of GHG emissions extend beyond any single proceeding under the NGA. Taking the Commission's approach to its logical conclusion, the volume of GHG emissions caused by a project does not play a meaningful role in the Commission's public interest determination, no matter how many times the Commission assures us that it does. Using the approach in today's order, it appears the Commission will always conclude that a project will not have any significant environmental impact irrespective of the project's actual GHG emissions or those emissions' impact on climate change. So long as that is the case, a project's impact on climate change cannot 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

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

[11] Certificate Order, 168 FERC ¶ 61,181 at P 52; *see also* Final EIS at 4-196 (explaining that "there is no universally accepted methodology to attribute discrete, quantifiable, physical effects on the environment to the project's incremental contribution to GHGs"). As discussed below, that simply is not the case. *See infra* PP 9-11.

[12] Certificate Order, 168 FERC ¶ 61,181 at PP 8, 82; Final EIS at 5-1 ("If the Project is constructed and operated in accordance with the mitigating measures discussed in this EIS, and our recommendations, adverse environmental impacts would be reduced to less than significant levels.").

(continued ...)

contrary to law, arbitrary and capricious, and not the product of reasoned decisionmaking.

II. The Commission Fails to Satisfy Its Obligations under NEPA

6. In order to evaluate the environmental consequences of the Project under NEPA, the Commission must consider the harm caused by the Project's GHG emissions and "evaluate the 'incremental impact' that these emissions will have on climate change or the environment more generally."[13] The EIS states that the Project will directly emit 112,000 tons of GHGs annually.[14] Although that quantification of the Project's GHG emissions is a necessary step toward meeting the Commission's NEPA obligations, listing the volume of emissions alone is insufficient.[15]

7. As an initial matter, identifying the consequences that those emissions will have for climate change is essential if NEPA is to play the disclosure and good government roles for which it was designed. The Supreme Court has explained that NEPA's purpose is to "ensure[] that the agency, in reaching its decision, will have available, and will carefully consider, detailed information concerning significant environmental impacts" and to "guarantee[] that the relevant information will be made available to the larger audience that may also play a role in both the decisionmaking process and the implementation of that decision."[16] It is hard to see how hiding the ball on a project's climate impacts is consistent with either of those purposes.

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[13] *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").

[14] Final EIS at 4-98 & Table 4.11-4.

[15] *See Ctr. for Biological Diversity*, 538 F.3d at 1216 ("While the [environmental document] quantifies the expected amount of CO_2 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.").

[16] *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)).

(continued ...)

8. The Commission argues that it cannot determine whether the Project's contribution to climate change is significant, relying on the premise that there is no "universally accepted methodology" to estimate a project's impact on climate change.[17] The argument that there is no unanimously agreed upon methodology for evaluating the significance of GHG emissions cannot excuse the Commission from assessing the Project's environmental impacts under NEPA.

9. Moreover, the argument that there is no universally accepted methodology for evaluating the significance of GHG emissions is a red herring. The lack of any single methodology does not prevent the Commission from adopting *a* methodology, even if others are available. The Commission has several tools to assess the harm from the Project's contribution to climate change. By measuring the long-term damage done by a ton of carbon dioxide, the Social Cost of Carbon links GHG emissions to the harm caused by the actual environmental effects of 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 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.[18]

10. Regardless of tools or methodologies available, the Commission can use its judgment and discretion to consider all factors and determine, quantitatively or qualitatively, whether the Project's GHG emissions have a significant impact on climate change. After all, that is precisely what the Commission does in other aspects of its environmental review. For example, the EIS considers the impact of Project construction on local traffic near regional facilities such as the Jacksonville Zoo. After considering the number of trips by construction vehicles, and mitigating measures proposed by Eagle LNG Partners, the Final EIS concludes that the Project would have a negligible impact on roadway transportation.[19] Although the Final EIS provides no "universally accepted methodology" available to the Commission to evaluate the significance of this impact,[20]

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[17] Final EIS at 4-196.

[18] *See, e.g.*, *Fla. Se. Connection, LLC*, 164 FERC ¶ 61,099 (2018) (Glick, Comm'r, dissenting at 9-12).

[19] Final EIS at ES-8, 4-80 – 4-81.

[20] As compared to the Commission's requirement for a universally accepted methodology to determine the significance of the Project's GHG emissions. Final EIS at 4-196.

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the Commission instead uses its judgment to determine that the Project's impact would be negligible. The Commission's refusal to exercise similar discretion and judgment when it comes to evaluating the impacts of GHG emissions is arbitrary and capricious and willfully ignorant.

11. The Commission's failure 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."[21] NEPA "'merely prohibits uninformed—rather than unwise—agency action.'"[22] Taking the matter seriously—and rigorously examining a project's impacts on climate change—does not necessarily prevent any of my colleagues from ultimately concluding that a project meets the public interest standard, even if its consequences for climate change are significant. Indeed, a thorough investigation of a project's contribution to climate change would also help infrastructure developers by reducing their legal risk in the appeals that will inevitably follow. At the end of the day, no one benefits from the Commission's refusal to consider a project's impact on climate change.

12. Finally, even if the Commission were to determine that the Project's GHG emissions are significant, that would not be the end of the inquiry nor would it mean that the project would be necessarily inconsistent with the public interest. Instead, the Commission could require mitigation—as the Commission often does with regard to other environmental impacts. The Supreme Court has held that an EIS must "contain a detailed discussion of possible mitigation measures" to address adverse environmental impacts.[23] The Court explained that, "[w]ithout such a discussion, neither the agency nor other interested groups and individuals can properly evaluate the severity of the adverse effects" of a project, meaning 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.[24]

13. Consistent with this obligation, the Final EIS discusses mitigation measures to ensure that the Project's adverse environmental impacts, except for GHG emissions, are

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

[22] *Id.* (quoting *Robertson*, 490 U.S. at 351).

[23] *Robertson*, 490 U.S. at 351.

[24] *Id.* at 352; *see also* 40 C.F.R. §§ 1508.20 (defining mitigation), 1508.25 (including in the scope of an environmental impact statement mitigation measures) (2019).

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reduced to less than significant levels.[25] In fact, the conclusion of no significant impact, relied upon by the Commission in authorizing the Project, is contingent on the implementation of these mitigation measures, both proposed by Eagle LNG Partners and recommended by the Commission. For example, in finding that the Project's impacts on wetlands are not anticipated to be significant, the Commission relies on compensatory mitigation including the purchase of mitigation credits.[26] The Commission not only has the obligation to discuss mitigation of adverse environmental impacts under NEPA, but also had broad authority to condition certificates under section 3 of the NGA.[27] By refusing to assess significance, however, the Commission short circuits any discussion of mitigation measures for the Project's GHG emissions, eliminating a potential pathway for us to achieve consensus on whether the Project is consistent with the public interest.

For these reasons, I respectfully dissent.

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Richard Glick
Commissioner

[25] Certificate Order, 168 FERC ¶ 61,181 at PP 16, 17, 21, 22, 26, 30 (finding that the adverse environmental effects on geology, soils, wetlands, vegetation, wildlife, aquatic resources, and air quality, among other things, will not be significant either on their own or following the required mitigation measures).

[26] Final EIS at 4-27.

[27] 15 U.S.C. §§ 717b(e)(3)(A), 717f(e); Certificate Order, 168 FERC ¶ 61,181 at P 81 ("[T]he 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 orders, as well as the avoidance or mitigation of unforeseen adverse environmental impacts results from project construction and operation.").