

182 FERC ¶ 61,173
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Willie L. Phillips, Acting Chairman;
James P. Danly, Allison Clements,
and Mark C. Christie.

Cameron LNG, LLC

Docket No. CP22-41-000

ORDER AMENDING AUTHORIZATION UNDER
SECTION 3 OF THE NATURAL GAS ACT

(Issued March 16, 2023)

1. On January 18, 2022, and as supplemented on March 18, 2022, Cameron LNG, LLC (Cameron LNG) filed an application for authority under section 3 of the Natural Gas Act (NGA)¹ to amend its authorization to site, construct, and operate certain additional facilities for the liquefaction and export of domestically-produced natural gas at its existing liquefied natural gas (LNG) terminal in Cameron and Calcasieu Parishes, Louisiana (Amended Expansion Project). For the reasons discussed in this order, the Commission grants the requested authorizations, subject to conditions.

I. Background and Proposal

2. Cameron LNG is a Delaware limited liability company, with a primary place of business located in Houston, Texas, and operates an LNG terminal on the west side of the Calcasieu Ship Channel in Cameron and Calcasieu Parishes, Louisiana.² Cameron LNG is a wholly-owned subsidiary of Cameron LNG Holdings LLC, which is directly owned by Sempra LNG Holdings II, LLC (Sempra LNG) and indirectly owned by subsidiaries of Total S.A.; Mitsui & Co., Ltd; and Japan LNG Investment, LLC.³

¹ 15 U.S.C. § 717b.

² Application at 3.

³ *Id.* In 2003, Sempra LNG acquired Hackberry LNG Terminal, L.L.C. from Dynegy Midstream Services, Limited Partnership. Effective May 1, 2003, Sempra LNG changed Hackberry LNG's name to Cameron LNG, LLC. Hackberry LNG Terminal, LLC, Letter, Docket No. CP02-374-000 (filed May 12, 2003).

3. In 2003, the Commission authorized Cameron LNG to site, construct, and operate an LNG terminal to import, store, and deliver LNG to domestic markets.⁴ In 2011, the Commission authorized Cameron LNG to export LNG that had been previously imported and stored at the LNG terminal to foreign markets.⁵ Then, in 2014, the Commission authorized Cameron LNG to site, construct, and operate additional facilities at the LNG terminal in order to liquefy and export up to 772 billion cubic feet (Bcf) of domestically-produced natural gas or the equivalent of 14.95 million metric tons per annum (MTPA) of LNG (Liquefaction Project).⁶ Specifically, the Liquefaction Project facilities consist of a fourth LNG storage tank, three liquefaction trains (Trains 1, 2, and 3), and associated natural gas pre-treatment equipment at the existing LNG terminal. In 2016, the Commission authorized Cameron LNG to site, construct, and operate additional facilities at the LNG terminal in order to liquefy and export an additional 515 Bcf per year of domestically-produced natural gas or the equivalent of 9.97 MTPA of LNG from its existing LNG terminal (Expansion Project).⁷ The Expansion Project facilities consist of a fifth LNG storage tank and two additional liquefaction trains (Trains 4 and 5). Trains 1, 2, and 3 from the Liquefaction Project are currently in service.

4. The proposed Amended Expansion Project includes design enhancements to reduce greenhouse gas (GHG) emissions and increase the overall reliability and capacity of Train 4. Specifically, the Amended Expansion Project includes the following major design changes:

- The addition of a feed gas booster compressor to Train 4 to increase feed gas pressure. The booster compressor will increase feed gas pressure into Train 4 from 675 pounds per square inch (psi) up to 1,000 psi, which will increase the throughput of the process equipment and piping and add to the liquefaction capacity.

⁴ *Hackberry LNG Terminal, L.L.C.*, 101 FERC ¶ 61,294 (2002), *order on reh'g, Cameron LNG, LLC*, 104 FERC ¶ 61,269 (2003). Subsequently, the Commission issued several orders amending Cameron LNG's authorization allowing it to modify and expand the initial LNG terminal. *See Cameron LNG, LLC*, 111 FERC ¶ 61,018 (2005) (order modifying the configuration of the terminal berthing facilities to enable facilities to accommodate larger LNG tankers); *Cameron LNG, LLC*, 115 FERC ¶ 61,229 (2006) (order authorizing certain design modifications in anticipation of further expansions). Cameron LNG's import terminal facilities were placed into service in July 2009.

⁵ *Cameron LNG, LLC*, 134 FERC ¶ 61,049 (2011).

⁶ *Cameron LNG, LLC*, 147 FERC ¶ 61,230 (2014).

⁷ *Cameron LNG, LLC*, 155 FERC ¶ 61,141 (2016) (2016 Order).

- The addition of an inlet gas propane refrigeration package to Train 4. The package will use propane as a refrigerant and consist of an electric centrifugal compressor, a kettle-style evaporator, air-cooled heat exchangers as condensers, a liquid receiver, and a refrigerant expansion valve. These changes would pre-cool the gas prior to entering the pre-treatment facilities, also adding to the liquefaction capacity.
- The replacement of the Train 4 refrigerant compressor gas turbine drives with electric drive motors. The use of electric drive refrigerant compressors in place of the originally proposed gas turbines is designed to reduce GHG emissions from the LNG terminal.
- The addition of tie-ins to allow the option to access carbon capture and sequestration (CCS) facilities that may be developed in the region at some point in the future. These tie-ins would be constructed on the inlet stream of the Train 4 thermal oxidizer, and the thermal oxidizers for Trains 1-3.⁸
- Appurtenant facilities, including other complementary process and equipment changes.⁹

5. Cameron LNG also proposes a partial vacatur of the 2016 Order to exclude the construction and operation of Train 5 and a fifth LNG storage tank.¹⁰ With the removal of Train 5, the overall maximum production capacity of the Expansion Project would be reduced from 9.97 MTPA to 6.75 MTPA, sourced exclusively from Train 4. The resultant total output capacity of the Cameron LNG terminal would be reduced from 24.92 MTPA (in service Trains 1-3 and approved but unconstructed Train 4 and 5) to 21.7 MTPA (in service Trains 1-3 and enhanced Train 4). Because the project will not

⁸ Dual Loading Supplement at Section 1.2 – Project Description.

⁹ Application at 9 – 15.

¹⁰ Application at 15. Cameron LNG states that the following facilities approved in the Expansion Project would also be eliminated: an elevated low-pressure flare stack; a condensate storage tank for Trains 4 and 5; one of two boil-off gas compressors (approved in the original design); a high-pressure fuel gas system; reduction from three to two Essential Power generators; and adjustments to the air and nitrogen systems. *Id.* at 15 – 16.

increase export volumes, new export authorization from the U.S. Department of Energy, Office of Fossil Energy (DOE/FE) is not required.¹¹

6. On March 18, 2022, Cameron LNG supplemented its application, requesting authorization to add dual ship-loading capabilities. Currently, Cameron LNG has two marine berths and associated facilities capable of loading or unloading only one berth at a time. The dual ship loading capability will allow the simultaneous loading of LNG vessels at each berth. To facilitate dual ship loading, Cameron LNG would install a parallel transfer line, replace a low-capacity pump in each tank, and enlarge the capacity of the marine area spill containment.¹² The marine berths, loading facilities at the berths, and the maximum berth loading rate would not be changed under the proposal. Additionally, Cameron LNG does not propose to change the size or frequency of the marine vessels previously evaluated.

II. Notice, Interventions, Protests, and Comments

7. Notice of Cameron LNG's application was issued on January 28, 2022, and published in the *Federal Register* on February 3, 2022.¹³ The notice established February 18, 2022, as the deadline for filing interventions, comments, and protests. The U.S. Fish and Wildlife Service (FWS), the Louisiana Department of Wildlife and Fisheries (Louisiana DWF), the Choctaw Nation of Oklahoma, and over 350 individuals¹⁴ filed comments. The Louisiana Bucket Brigade filed a protest.¹⁵ Public

¹¹ See Application at 28 – 29. Cameron LNG has received authorizations from DOE/FE to export the equivalent of 9.97 MTPA or 515 Bcf per year of LNG to both free trade agreement (FTA) and non-FTA countries. See *Cameron LNG, LLC*, FE Docket No. 15-36-LNG, DOE/FE Order No. 3680 (July 10, 2015), amended by DOE/FE Order No. 3680-A (Nov. 2, 2020) and DOE/FE Order No. 3680-B (Dec. 30, 2020); *Cameron LNG, LLC*, FE Docket No. 15-90-LNG, DOE/FE Order No. 3846 (July 15, 2016), amended by DOE/FE Order No. 3846-A (Nov. 2, 2020) and DOE/FE Order No. 3846-B (Dec. 30, 2020). These authorization terms were subsequently extended through December 31, 2050.

¹² Dual Loading Supplement at Section 1.2 – Project Description.

¹³ 87 Fed. Reg. 6163 (Feb. 3, 2022).

¹⁴ The individuals all filed form letters in association with the Sierra Club.

¹⁵ On October 12, 2022, Louisiana Bucket Brigade filed, in this and several other Commission gas project dockets, a letter addressed to President Biden expressing general opposition to LNG export terminals on environmental, economic, climate, and national security grounds. Louisiana Bucket Brigade October 12, 2022 Letter at 1-4.

Citizen, the Center for Liquefied Natural Gas, the Natural Gas Supply Association, and the American Gas Association filed timely motions to intervene. Entergy Louisiana filed a timely motion to intervene and comments in support of the proposal and the Sierra Club filed a timely motion to intervene and comments in opposition to the proposal.¹⁶

8. Commenters primarily expressed concerns about environmental issues which were addressed in the Environmental Assessment (EA) prepared by Commission staff, and as appropriate, below.

III. Discussion

A. Public Interest Standard Under Section 3 of the NGA

9. Because Cameron LNG's request involves LNG terminal facilities that will be used to export natural gas to foreign countries, the proposal requires Commission approval under section 3 of the NGA.¹⁷ Section 3 provides that an application shall be approved if the proposal "will not be inconsistent with the public interest," subject to "such terms and conditions as the Commission [may] find necessary or appropriate."¹⁸

Environmental concerns expressed by the Louisiana Bucket Brigade were addressed in the EA.

¹⁶ Timely, unopposed motions to intervene are automatically granted pursuant to Rule 214 of the Commission's Rules of Practice and Procedure. 18 C.F.R. § 385.214 (2022). The Sierra Club also requested that the Commission grant it an out-of-time motion to intervene in the Expansion Project proceeding, docket number CP15-560-000. The out-of-time motion to intervene was denied in a separate notice in that docket. *Cameron LNG, LLC*, Docket No. CP15-560-000 (July 27, 2022).

¹⁷ 15 U.S.C. § 717b(a). The regulatory functions of NGA section 3 were transferred to the Secretary of Energy in 1977 pursuant to section 301(b) of the Department of Energy Organization Act, Pub. L. No. 95-91, 42 U.S.C. § 7101 et seq. The Secretary subsequently delegated to the Commission the authority to approve or disapprove the construction and operation of natural gas import and export facilities and the site at which such facilities shall be located. The most recent delegation is in DOE Delegation Order No. S1-DEL-FERC-2006, effective May 16, 2006. The Commission does not authorize importation or exportation of the commodity itself. Rather, application for authorization to import or export natural gas must be submitted to the U.S Department of Energy (DOE). *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).

¹⁸ 15 U.S.C. § 717b(a), (e)(3). 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*

NGA section 3(a) also provides that for good cause shown, the Commission may make supplemental orders as it may find “necessary or appropriate.”¹⁹

10. The Sierra Club urges the Commission to deny Cameron LNG’s application, contending that the scope of the project has changed since the approval of the Expansion Project due to the proposed amendment.²⁰ Louisiana Bucket Brigade asserts that LNG companies are exploiting Russian hostilities to garner support for their proposed LNG projects and that expanding the number of LNG terminals poses national security risks.²¹ Louisiana Bucket Brigade also states that LNG terminals threaten the economy and the environment.²²

11. In support of the proposal, Entergy Louisiana states that the Commission previously found that the Expansion Project was not inconsistent with the public interest, and therefore the proposed Amended Expansion Project, with a goal of reducing GHG emissions, should not upset the Commission’s prior approval.²³

12. Section 3(a) of the NGA provides, in part, that “no person shall export any natural gas from the United States to a foreign country or import any natural gas from a foreign country without first having secured an order of the Commission authorizing it to do so.”²⁴ As noted above, in 1977 the Department of Energy Organization Act transferred the regulatory functions of section 3 of the NGA to the Secretary of Energy. Subsequently, the Secretary of Energy delegated to the Commission authority to “[a]pprove or disapprove the construction and operation of particular facilities, the site at which such facilities shall be located, and with respect to natural gas that involves the

Corp. v. FPC, 495 F.2d 1057, 1063-64 (D.C. Cir. 1974), *cert. denied*, 419 U.S. 834 (1974); *Dynegy LNG Prod. Terminal, L.P.*, 97 FERC ¶ 61,231 (2001).

¹⁹ 15 U.S.C. § 717b(a).

²⁰ Sierra Club Feb. 18, 2022 Intervention and Comment at 2.

²¹ Louisiana Bucket Brigade October 12, 2022 Letter at 1-2.

²² *Id.* at 3.

²³ Entergy Louisiana Feb. 18, 2022 Intervention and Comment at 5-6.

²⁴ 15 U.S.C. § 717b(a).

construction of new domestic facilities, the place of entry for imports or exit for exports.”²⁵

13. As we have previously explained,²⁶ the Secretary has not delegated to the Commission any authority to approve or disapprove the import or export of the commodity itself.²⁷ Therefore, we decline to address Louisiana Bucket Brigade’s economic claims (e.g., those regarding market demand for LNG), which are relevant only to the exportation of the commodity of natural gas, which is within DOE’s exclusive jurisdiction, and are not implicated by our limited action of reviewing proposed terminal sites. The Commission’s authority under NGA section 3 applies “only to the siting and the operation of the facilities necessary to accomplish an export[.]”²⁸ while “export decisions [are] squarely and exclusively within the [DOE]’s wheelhouse.”²⁹ Similarly, issues related to the impacts of natural gas development and production are related to DOE’s authorization of the export and not the Commission’s siting of the facilities,³⁰ notwithstanding DOE’s interpretation of its own obligations under the National Environmental Policy Act of 1969 (NEPA).

14. We have reviewed Cameron LNG’s proposal to determine if siting, construction, and operation of its Amended Expansion Project would not be consistent with the public interest.³¹ The Amended Expansion Project facilities would be wholly within the

²⁵ DOE Delegation Order No. S1-DEL-FERC-2006.

²⁶ See *Commonwealth LNG, LLC*, 181 FERC ¶ 61,143, at P 13 (2022); see also, *Alaska Gasline Dev. Corp.*, 171 FERC ¶ 61,134, at P 15, *order on reh’g*, 172 FERC ¶ 61,214 (2020).

²⁷ See *supra* note 17; see also *Freeport LNG Dev., L.P.*, 148 FERC ¶ 61,076, *reh’g denied*, 149 FERC ¶ 61,119 (2014), *aff’d sub nom. Sierra Club v. FERC*, 827 F.3d 36 (D.C. Cir. 2016) (finding that because the DOE, not the Commission, has sole authority to license the export of any natural gas through LNG facilities, the Commission is not required to address the indirect effects of the anticipated export of natural gas in its NEPA analysis); *Sabine Pass Liquefaction, LLC*, 146 FERC ¶ 61,117, *reh’g denied*, 148 FERC ¶ 61,200 (2014), *aff’d sub nom. Sierra Club v. FERC*, 827 F.3d 59 (D.C. Cir. 2016).

²⁸ *Trunkline Gas Co., LLC*, 155 FERC ¶ 61,328, at P 18 (2016).

²⁹ *Sierra Club v. FERC*, 827 F.3d at 46.

³⁰ *Id.*

³¹ See *Nat’l Steel Corp.*, 45 FERC ¶ 61,100, at 61,332-33 (1998) (observing that the “Commission’s authority [regarding a LNG import facility] is limited to consideration

footprint authorized by the Commission for the Expansion Project. Further, the EA for the proposed project finds impacts from the construction and operation of the facilities will not constitute a major federal action significantly affecting the quality of the human environment.³² As discussed below, we concur with the EA's conclusions.

15. 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),³³ PHMSA undertook a review of the proposal's ability to comply with the federal safety standards under Part 193, Subpart B, of Title 49 of the Code of Federal Regulations (CFR).³⁴ On October 26, 2022, PHMSA issued a Letter of Determination to the Commission, concluding that, based on its review, the Amended Expansion Project complies with these federal safety standards. If the Liquefaction 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.

16. For the reasons discussed above, we find that the project is not inconsistent with the public interest, and we analyze the environmental impacts of the project below.

B. Environmental Analysis

17. On March 31, 2022, the Commission issued a *Notice of Scoping Period Requesting Comments on Environmental Issues for the Proposed Cameron LNG Amended Expansion Project and Notice of Public Scoping Session*. The notice was published in the *Federal Register*³⁵ and mailed to interested parties including federal, state, and local officials; agency representatives; environmental and public interest groups; Native American tribes; local libraries and newspapers; and affected property owners. We received comments in response to the notice from the U.S. Environmental Protection Agency (EPA), FWS, Louisiana DWF, Choctaw Nation of Oklahoma, Sierra

of the place of importation, which necessarily includes the technical and environmental aspects of any related facilities”).

³² EA at 136.

³³ *Memorandum of Understanding Between the Department of Transportation and the Federal Energy Regulatory Commission Regarding Liquefied Natural Gas Facilities* (Aug. 31, 2018), <https://www.ferc.gov/legal/mou/2018/FERC-PHMSA-MOU.pdf>.

³⁴ 49 C.F.R. pt. 193, subpt. B (2022).

³⁵ 87 Fed. Reg. 19,915 (April 6, 2022).

Club, Restore Explicit Symmetry To Our Ravaged Earth (RESTORE), Southeast Laborers' District Council, and Entergy Louisiana.

18. On April 26, 2022, the Commission staff conducted a public scoping session to provide the public with an opportunity to learn more about the project and comment on environmental issues that should be addressed in the EA. Two individuals and a representative from the Louisiana Environmental Action Network provided oral comments on the project. A transcript of the scoping session was entered into the public record in Docket No. CP22-41-000.

19. The primary issues raised during the scoping process included purpose and need, air quality, climate change, hazardous materials, sensitive species, water resources, environmental justice, consultation with Tribal governments, cumulative impacts, alternatives, health, and safety.

20. To satisfy the requirements of the National Environmental Policy Act of 1969, our staff prepared an EA for Cameron LNG's proposal. The EA was prepared with the cooperation of DOE, PHMSA, and the U.S. Coast Guard. The analysis in the EA addresses environmental justice, air quality, reliability and safety, cumulative impacts, and alternatives. All substantive comments received in response to the scoping notice were addressed in the EA, including comments on hazardous materials, sensitive species, water resources, consultation with Tribal governments, and climate change.

21. Notice of the EA was published in the *Federal Register* on December 8, 2022, establishing a 30-day public comment period that ended on January 3, 2023.³⁶ The Commission received comments on the EA from the Louisiana DWF, Louisiana DWF Rockefeller Wildlife Refuge, the Cameron Parish Police Jury, Sierra Club and Healthy Gulf, RESTORE, State Senator Mark Abraham, and Cameron LNG.

22. The Louisiana DWF Rockefeller Wildlife Refuge, Cameron Parish Police Jury, and Senator Abraham state their support for the project. The Louisiana DWF states that the proposed modification will have no long-term adverse impacts on wetland functions and therefore, Louisiana DWF has no objections to Cameron LNG's proposed project. The Louisiana DWF also states that the West Indian Manatee may occur in the surrounding waterbodies of the project area; areas with sea-grass beds should be avoided during project activities; and all manatee sightings should be reported to the Louisiana DWF. As stated in the EA,³⁷ there is no proposed work in waterbodies; therefore, the Amended Expansion Project would have no effect on this species. No other impacts on

³⁶ 87 Fed. Reg. 75,246 (Dec. 8, 2022).

³⁷ EA at 7.

rare, threatened, or endangered species or critical habitats are anticipated from the proposed project.

23. Sierra Club, Healthy Gulf, and RESTORE express concern regarding the need for an environmental impact statement (EIS), safety, air quality, and environmental justice communities. Cameron LNG responded to comments received on the EA from Sierra Club, Healthy Gulf, and RESTORE. Cameron LNG disagrees with Sierra Club and Healthy Gulf that an EIS is required for the project and that the EA does not adequately address safety concerns and environmental justice issues. Cameron LNG also disagrees with RESTORE's description of emissions, CCS facilities, and the project purpose and need. Cameron LNG's response to these comments does not change our analysis; therefore, we do not further address Cameron LNG's response to comments. We discuss and respond to Sierra Club, Healthy Gulf and RESTORE's comments below.

1. Need for an Environmental Impact Statement

24. Healthy Gulf and Sierra Club state that an EIS must be prepared because the project is large and will affect a wide range of ecosystems and communities.³⁸ Healthy Gulf and Sierra Club assert that the EA incorrectly considers the impacts of the project independently.³⁹ Healthy Gulf and Sierra Club state that because the project is part of and relies on infrastructure already in place from the existing Cameron LNG facility, an EIS should be produced for the entire four-train facility, as opposed to an EA for the fourth train only.⁴⁰

25. An EA is a concise public document for which a federal agency is responsible that serves to provide sufficient evidence and analysis for determining a finding of no significant impact.⁴¹ The Commission's regulations under 18 CFR 380.6(b) (2022) state: "If the Commission believes that a proposed action ... may not be a major federal action significantly affecting the quality of the human environment, an EA, rather than an EIS, will be prepared first. Depending on the outcome of the EA, an EIS may or may not be prepared." In preparing the EA, Commission staff fulfilled our obligation under NEPA to consider and disclose the environmental impacts of the Amended Expansion Project. The Amended Expansion Project is relatively limited in scope. As described above, Cameron LNG requests authorization to add a feed gas booster compressor and an inlet gas propane refrigeration package to the previously authorized Train 4 facilities.

³⁸ Healthy Gulf and Sierra Club Jan. 3, 2023 Comment at 1.

³⁹ *Id.* at 2.

⁴⁰ *Id.*

⁴¹ 40 C.F.R. § 1508.1 (2022).

Cameron LNG also proposes to substitute electric drive motors for the previously authorized refrigerant compressor gas turbine drives. These facilities will be located within the footprint of the currently authorized LNG terminal, which was evaluated in the EA for the Expansion Project. Cameron LNG also requests the Commission vacate the previously granted authorization to construct one liquefaction train and a fifth LNG storage tank. As noted above, the EA addresses the impacts that could occur if the modifications to the previously authorized facilities proposed in the Amended Expansion Project are approved and constructed. We find that if the Amended Expansion Project is constructed and operated in accordance with the application and supplements, and in compliance with the environmental conditions in the Appendix, the project proposal would not constitute a major federal action significantly affecting the quality of the human environment. We also note that if the Commission were to prepare an EIS, the EIS would reiterate the discussion contained in the EA. “NEPA’s purpose is not to generate paperwork or litigation, but to provide for informed decision making and foster excellent action.”⁴²

2. Safety

26. Healthy Gulf and Sierra Club state that the EA does not adequately address safety of the project or the existing Cameron LNG facility.⁴³ As described above, the Amended Expansion Project proposes relatively limited modifications to the already authorized Expansion Project. Section 3 of the EA details the regime in place for regulatory oversight of the reliability, safety, and security of LNG facilities, including the existing LNG terminal facility, the Expansion Project, and the proposed amendment.⁴⁴ That section also details Commission staff’s analysis of safety issues raised by the changes proposed in the Amended Expansion Project. For additional clarity, we address certain of these issues further below.

27. Healthy Gulf and Sierra Club assert that because the proposal will allow simultaneous loading at both berths for the dock, a new safety evaluation should be completed due to the increased risk.⁴⁵ The EA addressed concerns regarding dual ship loading, finding that the increased loading rate would result in higher flowrates and

⁴² 40 C.F.R. § 1500.1(a).

⁴³ Healthy Gulf and Sierra Club Jan. 3, 2023 Comment at 1.

⁴⁴ EA at 37.

⁴⁵ *Id.*

higher volumes of potential spills in the marine transfer area.⁴⁶ However, Cameron LNG would enlarge the marine transfer area spill containment capacity, and Commission staff concluded that the worst-case spill would remain contained in the spill collection system. The EA recommends that Cameron LNG provide spill containment drawings and capacity calculations for review before construction,⁴⁷ and that recommendation is included as Condition 53 of this order. Additionally, as detailed in Section 3 of the EA, Commission staff conducted new safety evaluations on each layer of protection, including the dual ship loading process.

28. RESTORE states that the CCS facilities placed within the property of the Cameron LNG facility is a major safety concern.⁴⁸ RESTORE adds that the EA did not adequately consider seismic vulnerability of the project, including the potential increase in vibrations from a future CCS facility.⁴⁹ We note that there is no proposal to interconnect a CCS facility with the Cameron LNG terminal. The Amended Expansion Project only includes tie-ins (i.e., fittings to allow future piping connection) on the thermal oxidizer acid gas feed line that would accommodate the possibility of a future interconnection with a carbon sequestration facility.⁵⁰ As Cameron LNG states in its application, the proposed CCS tie-in facilities are solely for the potential future use, if such infrastructure is developed and if it is accessible to Cameron LNG both logistically and economically.⁵¹ We emphasize that the construction and operation of any additional

⁴⁶ *Id.* at 61-62.

⁴⁷ *Id.*

⁴⁸ RESTORE Jan. 3, 2023 Comment at 2-3.

⁴⁹ *Id.* at 3.

⁵⁰ EA at 10. Hackberry Carbon Sequestration, LLC (Hackberry), an affiliate of Cameron LNG, is developing the non-jurisdictional Hackberry CCS Project approximately five miles from the Cameron LNG Terminal. *See* Docket No. CP21-44, LA Storage, LLC February 22, 2022 Response to Data Request, Attachment 1. The EA for the Amended Expansion Project addressed and considered the cumulative impacts of the proposed Hackberry CCS project. EA at 10-11, Section 4.0. Hackberry has filed permit and authorization requests with the U.S. Army Corps of Engineers, the EPA, FWS, the National Oceanic and Atmospheric Administration and National Marine Fisheries Service, the Louisiana Department of Environmental Quality, the Louisiana Office of Cultural Development, the Louisiana Department of Natural Resources, and the Louisiana DWF, which are pending. *See* Docket No. CP21-44, LA Storage, LLC February 22, 2022 Response to Data Request, Attachment 2.

⁵¹ Application at 4.

facilities within the confines of the LNG terminal that would use those tie-ins to interconnect with any CCS facilities would require prior Commission authorization and that the potential impacts of such facilities, including safety impacts, would be reviewed when and if a request for such authorization is filed.⁵² With respect to the facilities that have been proposed (e.g., the feed gas booster compressor and an inlet gas propane refrigeration package) and the interplay of their construction and operation with the previously authorized facilities, the EA considers structural and natural hazards, including seismic activities, concluding that the proposal satisfies all safety and hazard requirements.⁵³

29. RESTORE questions the narrowness of the ship channel and the location of the construction dock, arguing that the U.S. Coast Guard and the Commission should review their earlier conclusions.⁵⁴ The construction dock was reviewed and approved in Docket No. CP13-25-000,⁵⁵ and has already been constructed.⁵⁶ The EA states that because no modifications to the construction dock are proposed for the Amended Expansion Project, Commission staff did not address it further.⁵⁷ We agree with these conclusions.

30. RESTORE expresses additional safety concerns with the project, including the need to prevent catastrophic events.⁵⁸ As detailed in the EA, Commission staff reviewed the proposed amendments to the facilities, including the design of the facilities and all layers of protection. This included an examination of the potential interplay between the new facilities and those previously authorized and an evaluation of the full range of potential releases for the entire facility, including up to catastrophic incidents. As part of its analysis of the Amended Expansion Project, Commission staff reviewed all of the over 80 safety-related conditions imposed in the Commission's order authorizing the Expansion Project and, as explained in the EA, recommended conditions be removed,

⁵² Depending on the facilities necessary, authorization could come either pursuant to the provisions of Condition 1, included herein, or through an amendment application filed with the Commission.

⁵³ EA at 80-81.

⁵⁴ RESTORE Jan. 3, 2023 Comment at 3.

⁵⁵ *Cameron LNG, LLC*, 147 FERC ¶ 61,230.

⁵⁶ See *Cameron LNG, LLC*, Inspection Report, Docket No. CP13-25-000, at 4 (filed Feb. 4, 2016).

⁵⁷ EA at 11.

⁵⁸ RESTORE Jan. 3, 2023 Comment at 3-4.

added, kept the same, or modified.⁵⁹ Commission staff determined that the risk (i.e., likelihood and consequence) of accidental and intentional events, including catastrophic incidents, would be less than significant with implementation of the proposed safety and security measures recommendations.⁶⁰ We agree and adopt all recommendations as conditions of this order. These measures enhance the safety and security of the facilities and will provide layers of protection beyond the minimum federal safety standards for the LNG terminal promulgated by PHMSA.

31. The Energy Policy Act of 2005 amended the NGA to require Emergency Response Plans (ERP) and Cost Sharing Plans to be developed by the LNG terminal operator. During an incident, response decisions would be made by local emergency responders according to conditions as they exist at that time at the facility and in offsite areas. While the Company may provide advice regarding hazards and potential impacts to the public, the emergency responders direct all response tactics, evacuation, sheltering in place, and public notification through an Incident Command System. In Environmental Condition 21, the Commission requires that, prior to initial site preparation, Cameron LNG shall file updates to its existing ERP for review and approval. These updates are to be coordinated with U.S. Coast Guard, state, county, and local emergency planning groups; fire departments; and state and local law enforcement. This ensures that the LNG terminal operator works with the local emergency providers to identify resource needs based on the hazards that could be present due to the facility. The result is pre-incident planning to establish procedures, training, and capabilities that would be available to the Incident Commander as they decide how best to address a specific incident.

32. We are also clarifying our expectation that certain ERP information be provided as public information. While the Commission has long required that certain ERP contents be subject to public disclosure, this has been previously interpreted to mean the ERP could be filed requesting privileged or CEII treatment and that the public could access this information through Freedom of Information Act procedures. We clarify the intent is for project sponsors to file certain ERP information as public so that surrounding communities are informed about the possible steps that an Incident Commander may require regarding notification, evacuation, and sheltering in place. We further emphasize that to the extent privileged or CEII treatment is requested for other ERP information, our regulations require that the filer provide justification for such treatment.⁶¹

⁵⁹ EA at 37-121.

⁶⁰ EA at 105-107.

⁶¹ 18 C.F.R. §§ 388.112(b)(1), 388.113(d)(1)(i) (2022).

3. Greenhouse Gas Emissions, Air Quality, and Climate Change

33. The Council on Environmental Quality (CEQ) defines effects or impacts as “changes to the human environment from the proposed action or alternatives that are reasonably foreseeable,” which include those effects that “occur at the same time and place” and those that “are later in time or farther removed in distance, but are still reasonably foreseeable.”⁶² An impact is reasonably foreseeable if it is “sufficiently likely to occur such that a person of ordinary prudence would take it into account in reaching a decision.”⁶³

34. For this proposed action, the reasonably foreseeable and causally connected GHG emissions are emissions associated with the project’s construction and operation. The EA concludes that the project would result in a reduction of construction and operational emissions.⁶⁴ The Amended Expansion Project does not implicate any new air emission impacts to construction activities beyond those identified, considered, and reviewed in the Expansion Project authorization.⁶⁵ Because this amendment reduces the scope of construction, the impacts associated with construction related air emissions will be reduced.⁶⁶ The EA estimates that operation of the project would result in 1,030,152 tons per year (tpy) of carbon dioxide equivalent (CO₂e) emissions (equivalent to 934,802 metric tons of CO₂e).⁶⁷ As compared to the authorized emissions in the Expansion Project, the Amended Expansion Project will result in permitted annual reductions of 85.7% for nitrogen oxides (NO_x), 48.1% for carbon monoxide (CO), 83.6% for particulate matter (PM), 61.0% for volatile organic compounds (VOC), and 68.2% for hazardous air pollutants (HAP).⁶⁸ Sulfur dioxide (SO₂) emissions will increase as a result

⁶² 40 C.F.R. § 1508.1(g).

⁶³ *Id.* § 1508.1(aa).

⁶⁴ EA at 131.

⁶⁵ *Id.* at 31. A description of construction emissions resulting from the previously authorized Expansion Project can be found on pages 41-44 of the EA in Docket No. CP15-560-000, issued on February 12, 2016.

⁶⁶ *Id.*

⁶⁷ EA at Table 4. The original Expansion Project authorization involved 3,446,807 tpy of CO₂e. The proposed Amended Expansion Project will result in an approximate 70% reduction in total operational emissions.

⁶⁸ EA at 26-27.

of the Amended Expansion Project, with an annual increase of 1.11 tons (or about 12%).⁶⁹

35. The EA compared the project's GHG emissions to the total GHG emissions of the United States as a whole and at the state level, which allows contextualization of the project's projected emissions.⁷⁰ In 2020, 5,222.4 million metric tons of CO₂e were emitted at a national level (inclusive of CO₂e sources and sinks).⁷¹ Operation of the amended Train 4 could potentially increase CO₂e emissions based on the 2020 national levels by 0.018%.⁷² At the state level, Louisiana's CO₂ emissions in 2020 were 183.3 million metric tons.⁷³ Operation of the amended Train 4 could increase emissions by 0.5%.⁷⁴

36. When states have GHG emissions reduction targets, a project's GHG emissions are compared to those state goals to provide additional context.⁷⁵ The state of Louisiana established executive targets in 2020 to reduce net GHG emissions 26% to 28% by 2025 and 40% to 50% by 2030, compared to 2005 levels. The state also targets net-zero GHG

⁶⁹ *Id.* at 32.

⁷⁰ *Id.* at 131-133.

⁷¹ EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2020* at ES-4 (Apr. 14, 2021), <https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks> (accessed Sept. 15, 2022).

⁷² EA at 132.

⁷³ U.S. Energy Information Administration, *Table 1, State Energy-Related Carbon Dioxide Emissions by Year, Unadjusted.: Louisiana* (October 11, 2022), <https://www.eia.gov/environment/emissions/state/> (accessed November 18, 2022).

⁷⁴ EA at 132. However, as noted above, the net result of the proposed amendment is an approximate 70% reduction of CO₂e emissions from the originally authorized Expansion Project.

⁷⁵ See *Tex. E. Transmission, LP*, 180 FERC ¶ 61,186, at P 28 (2022); *Golden Pass Pipeline, LLC*, 180 FERC ¶ 61,058, at P 21 (2022).

emissions by 2050.⁷⁶ The Amended Expansion Project would represent 0.9% of Louisiana's 2023 projected GHG emission levels.⁷⁷

37. Further, the EA, for informational purposes, disclosed the social cost of GHGs associated with the project's reasonably foreseeable GHG emissions.⁷⁸ By adopting the analysis in the EA, we recognize that the project may release GHG emissions that contribute incrementally to future global climate change impacts,⁷⁹ and have identified climate change impacts in the region.⁸⁰ In light of this analysis, and because we are conducting a generic proceeding to determine whether and how the Commission will conduct significance determinations for GHG emissions going forward, the Commission is not herein characterizing these emissions as significant or insignificant.⁸¹

38. RESTORE expresses concern regarding the project's impacts on air quality, asserting that the proposal will result in an increase in emissions.⁸² Table 3 in the EA

⁷⁶ EA at 133.

⁷⁷ *Id.*

⁷⁸ EA at 133-134. We note that we are not applying the social cost of GHGs because we have not determined which, if any, modifications are needed to use this tool for project-level analyses. *See, e.g., LA Storage, LLC*, 182 FERC ¶ 61,026, at P 14 (2023).

⁷⁹ EA at 133-134.

⁸⁰ *Id.* at 128-130.

⁸¹ On February 18, 2022, the Commission issued the Updated Certificate Policy Statement and an Interim GHG Policy Statement. *See* Certification of New Interstate Nat. Gas Facilities, 178 FERC ¶ 61,107 (2022) (Updated Certificate Policy Statement); Consideration of Greenhouse Gas Emissions in Nat. Gas Infrastructure Project Reviews, 178 FERC ¶ 61,108 (2022) (Interim GHG Policy Statement). The Interim GHG Policy Statement established a NEPA significance threshold of 100,000 tons per year of CO₂e as a matter of policy, which was meant to serve as interim guidance for project applicants and stakeholders and the Commission sought public comment on the statement. On March 24, 2022, the Commission, upon further consideration, made both statements draft and stated that it would not apply either statement to pending or new projects until the Commission issues any final guidance after public comment. *Certification of New Interstate Nat. Gas Facilities*, 178 FERC ¶ 61,197, at P 2 (2022) (Order on Draft Policy Statements).

⁸² RESTORE Jan. 3, 2023 Comment at 1.

shows the proposed emissions related to the electric-drive Train 4 (and ancillary equipment) as proposed in this project. As discussed above, the proposed project will result in a reduction of emissions.⁸³ RESTORE states that the EA should have concluded that the Cameron LNG Terminal's emissions would increase as a result of the operation of Train 4 and ancillary equipment, and that the EA should have included an estimation of emissions for Trains 1-3 and Train 4 combined.⁸⁴ While the Amended Expansion Project emissions would represent an increase in emissions from the existing Cameron LNG Facility as it currently operates, that is because the previously authorized Trains 4 and 5 are not yet constructed or in operation. In the EA analyzing the Expansion Project under Docket No. CP15-560, staff estimated the total emissions for the existing operational facilities (Trains 1-3) to be 5,582,810 tpy of CO₂e.⁸⁵ As discussed above, in the EA for the Amended Expansion Project, staff determined that the emissions for Train 4, as amended here, would be 1,030,152 tpy of CO₂e.⁸⁶ Therefore, an estimate of the total emissions after approval of the Amended Expansion Project, i.e., from Trains 1-3 and amended Train 4, would be 6,612,962 tpy of CO₂e. In the EA, staff estimated that the emissions for Trains 4 and 5 of the Expansion Project as previously authorized would be 3,446,807 tpy of CO₂e,⁸⁷ resulting in a total of 9,029,617 tpy of CO₂e for the entire post-Expansion Project Cameron LNG Terminal.

39. RESTORE states that the startup, shutdown, and maintenance-related activities and the new hot oil heaters will produce the most project-related carbon dioxide emissions.⁸⁸ RESTORE suggests that these emissions sources are not the best available control technology (BACT) and that installation of waste heat recovery units may reduce emissions.⁸⁹ RESTORE also suggests that the proposed new ground flare and new thermal oxidizer could also use newer control technologies to reduce overall emissions.⁹⁰

⁸³ EA at 31-32.

⁸⁴ RESTORE Jan. 3, 2023 Comment at 1.

⁸⁵ Cameron, LNG, Expansion Project EA Docket No. CP15-560-000, at Table 2.6-4.

⁸⁶ EA at Table 4.

⁸⁷ *Id.*

⁸⁸ *Id.*

⁸⁹ *Id.* at 1-2.

⁹⁰ *Id.* at 2.

RESTORE further states that the Commission should require additional electrification to replace existing fossil fuel-fired engines.⁹¹

40. The Clean Air Act permitting program is delegated by the EPA to the Louisiana Department of Environmental Quality (Louisiana DEQ). Accordingly, a BACT review was performed as part of the Title V/ Prevention of Significant Deterioration (PSD) air quality permitting process by the Louisiana DEQ. The Title V/Permit Modification Application provides additional detail on the BACT analysis that was completed for the Train 4 hot oil heaters, thermal oxidizer, amine unit 4, and acid gas flare.⁹² The Louisiana DEQ reviews emissions controls and the BACT analysis during the air quality permitting for the project. During operation, Cameron LNG proposes to use ultra-low sulfur fuel, good combustion practices,⁹³ and would comply with the Title V/PSD permit requirements, including New Source Performance Standards to reduce NO_x, CO, and VOC emissions.

4. **Environmental Justice**

41. In conducting NEPA reviews of proposed natural gas projects, the Commission follows the instruction of Executive Order 12898, which directs federal agencies to identify and address “disproportionately high and adverse human health or environmental effects” of their actions on minority and low-income populations (i.e., environmental justice communities).⁹⁴ Executive Order 14008 also directs agencies to develop

⁹¹ *Id.*

⁹² See Cameron LNG March 18, 2022 Letter at attach. 2 (Title V/ PSD Permit associated with Trains 1 through 5); Cameron LNG Oct. 14, 2022 Letter at attach. 1 (Title V/PSD Permit Modification to account for the proposed Amended Expansion Project).

⁹³ Good combustion practices involve operation of combustion equipment at high combustion efficiency to reduce the by-products of incomplete combustion (i.e., to minimize criteria pollutant emissions). The combustion equipment’s operations and maintenance manual typically specify methods to maintain a high level of combustion efficiency.

⁹⁴ Exec. Order No. 12898, 59 Fed. Reg. 7629 (Feb. 11, 1994). While the Commission is not one of the specified agencies in Executive Order 12898, the Commission nonetheless addresses environmental justice in its analysis, in accordance with our governing regulations and guidance, and statutory duties. See 15 U.S.C. § 717b; see also 18 C.F.R. § 380.12(g) (2022) (requiring applicants to submit information about the socioeconomic impact area of a project for the Commission’s consideration during NEPA review); Commission, *Guidance Manual for Environmental Report Preparation*

“programs, policies, and activities to address the disproportionately high and adverse human health, environmental, climate-related and other cumulative impacts on disadvantaged communities, as well as the accompanying economic challenges of such impacts.”⁹⁵ Environmental justice is “the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.”⁹⁶

at 4-76 to 4-80 (Feb. 2017), <https://www.ferc.gov/sites/default/files/2020-04/guidance-manual-volume-1.pdf>.

⁹⁵ Exec. Order No. 14008, 86 Fed. Reg. 7619 (Jan. 27, 2021). The term “environmental justice community” includes disadvantaged communities that have been historically marginalized and overburdened by pollution. *Id.* at 7629. The term also includes, but may not be limited to minority populations, low-income populations, or indigenous peoples. *See* EPA, *EJ 2020 Glossary* (Aug. 18, 2022), <https://www.epa.gov/environmentaljustice/ej-2020-glossary>.

⁹⁶ EPA, *Learn About Environmental Justice*, <https://www.epa.gov/environmental-justice/learn-about-environmental-justice> (Sep. 6, 2022). Fair treatment means that no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental, and commercial operations or policies. *Id.* Meaningful involvement of potentially affected environmental justice community residents means: (1) people have an appropriate opportunity to participate in decisions about a proposed activity that may affect their environment and/or health; (2) the public’s contributions can influence the regulatory agency’s decision; (3) community concerns will be considered in the decision-making process; and (4) decision makers will seek out and facilitate the involvement of those potentially affected. *Id.*

42. Consistent with CEQ⁹⁷ and EPA⁹⁸ guidance and recommendations, the Commission's methodology for assessing environmental justice impacts considers: (1) whether environmental justice communities (e.g., minority or low-income populations)⁹⁹ exist in the project area; (2) whether impacts on environmental justice communities are disproportionately high and adverse; and (3) possible mitigation measures. As recommended in *Promising Practices for EJ Methodologies in NEPA Reviews (Promising Practices)*, the Commission uses the 50% and the meaningfully greater analysis methods to identify minority populations.¹⁰⁰ Specifically, a minority population is present where either: (1) the aggregate minority population of the block groups in the affected area exceeds 50%; or (2) the aggregate minority population in the block group affected is 10% higher than the aggregate minority population percentage in the county.¹⁰¹

⁹⁷ CEQ, *Environmental Justice: Guidance Under the National Environmental Policy Act*, (Dec. 1997) (CEQ's *Environmental Justice Guidance*), <https://ceq.doe.gov/docs/ceq-regulations-and-guidance/regs/ej/justice.pdf>. CEQ offers recommendations on how federal agencies can provide opportunities for effective community participation in the NEPA process, including identifying potential effects and mitigation measures in consultation with affected communities and improving the accessibility of public meetings, crucial documents, and notices. There were opportunities for public involvement for environmental justice communities during the Commission's environmental review processes, though the record does not demonstrate that these opportunities were targeted at engaging environmental justice communities. *See supra* P 7.

⁹⁸ *See generally* EPA's Federal Interagency Working Group for Environmental Justice and NEPA Committee's publication, *Promising Practices for EJ Methodologies in NEPA Reviews* (Mar. 2016) (*Promising Practices*), https://www.epa.gov/sites/default/files/2016-08/documents/nepa_promising_practices_document_2016.pdf.

⁹⁹ *See generally* Exec. Order No. 12898, 59 Fed. Reg. 7629. Minority populations are those groups that include: American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic.

¹⁰⁰ *See Promising Practices* at 21-25.

¹⁰¹ Here, Commission staff selected Cameron and Calcasieu Parishes, Louisiana as comparable reference communities to ensure that affected environmental justice communities are properly identified. A reference community may vary according to the characteristics of the particular project and the surrounding communities.

43. CEQ's *Environmental Justice Guidance* also directs low-income populations to be identified based on the annual statistical poverty thresholds from the U.S. Census Bureau. Using *Promising Practices*' low-income threshold criteria method, low-income populations are identified as block groups where the percent of low-income population in the identified block group is equal to or greater than that of the county.

44. To identify potential environmental justice communities, Commission staff used 2019 U.S. Census American Community Survey data¹⁰² for the race, ethnicity, and poverty data at the state, county, and block group level.¹⁰³ Additionally, in accordance with *Promising Practices*, staff used EJScreen, EPA's environmental justice mapping and screening tool, as an initial step to gather information regarding minority and low-income populations; potential environmental quality issues; environmental and demographic indicators; and other important factors.

45. Once staff collected the block group level data, as discussed in further detail below, staff conducted an impacts analysis for the identified environmental justice communities, and evaluated health or environmental hazards; the natural physical environment; and associated social, economic, and cultural factors to determine whether impacts to environmental justice communities are disproportionately high and adverse and whether those impacts were significant.¹⁰⁴ For this project, Commission staff

¹⁰² U.S. Census Bureau, American Community Survey 2019, ACS File# B17017, *Poverty Status in the Past 12 Months by Household Type by Age of Householder*, <https://data.census.gov/cedsci/table?q=B17017>; U.S. Census Bureau, American Community Survey 2019 ACS 5-Year Estimates Detailed Tables, File #B03002 *Hispanic or Latino Origin By Race*, <https://data.census.gov/cedsci/table?q=b03002>. The 2020 U.S. Census American Community Survey data was not available for the study area.

¹⁰³ For this project, Commission staff chose a two-mile radius around the project boundary as the area of study. A two-mile radius is the appropriate unit of geographic analysis because, with the exception of sulfur dioxide (SO₂) emissions during operation, all other resource impacts as a result of the amendment would be equal or less than the currently authorized Expansion Project. See EA at 20.

¹⁰⁴ See *Promising Practices* at 33 (stating that "an agency may determine that impacts are disproportionately high and adverse, but not significant within the meaning of NEPA" and in other circumstances "an agency may determine that an impact is both disproportionately high and adverse and significant within the meaning of NEPA").

assessed whether impacts to an environmental justice community were disproportionately high and adverse, consistent with EPA's recommendations in *Promising Practices*.¹⁰⁵

46. Staff identified three U.S. Census block groups¹⁰⁶ within a two-mile radius around the project facilities, where the population exceeds the defined thresholds for minority and low-income communities, and are, therefore, environmental justice communities.¹⁰⁷

47. Staff identified that the Cameron LNG Terminal is partially located within one environmental justice block group where the population exceeds the defined thresholds for minority and low-income communities (Census Tract 9702.03, Block Group 1). Additionally, the Cameron LNG Terminal is located within two-miles of two other census block groups where the populations exceed the defined threshold for low-income communities (Census Tract 9701.01, Block Group 2 and Census Tract 9702.03, Block Group 2). No other census block groups within two miles of the Cameron LNG Terminal were identified as having minority or low-income populations. In the EA, staff identified potential impacts on environmental justice communities related to air quality and safety. Potentially adverse environmental effects on surrounding communities associated with the project, including environmental justice communities, would be minimized and/or mitigated. These impacts are addressed in greater detail in the associated sections of the EA.

48. The Amended Expansion Project would involve removal of the authorized, but not yet constructed, Train 5, LNG Tank T-205, and the ancillary equipment associated with Train 5 and Tank T-205. The Amended Expansion Project would also implement final design changes to enhance the overall efficiency of Train 4.

49. Cameron LNG does not propose any new construction activities outside of the Cameron LNG Terminal site, and the scope of activities within the site would be reduced compared to those that had been previously approved. As a result, there would be no substantial change to visual, traffic, or noise impacts on environmental justice

¹⁰⁵ *Id.* at 44-46 (explaining that there are various approaches to determining whether an action will cause a disproportionately high and adverse impact, and that one recommended approach is to consider whether an impact would be “predominantly borne by minority populations or low-income populations”). We recognize that EPA and CEQ are in the process of updating their guidance regarding environmental justice and we will review and incorporate that anticipated guidance in our future analysis, as appropriate.

¹⁰⁶ Census block groups are statistical divisions of census tracts that generally contain between 600 and 3,000 people (U.S. Census Bureau, 2021).

¹⁰⁷ See EA at Table 2 for the full population data.

communities from this Amended Expansion Project, as compared to the original Expansion Project authorization. In addition, environmental justice concerns are not present for other resource areas such as geology, soils, groundwater, surface water, wetlands, fisheries, wildlife, traffic, socioeconomics, land use, visual, noise, or cultural impacts due to the de minimis impact the project would have on these resources.

50. As described in the EA¹⁰⁸ and discussed above, the proposed project would have limited impacts on the air quality and would result in a net reduction in permitted air emissions that may affect individuals living in the vicinity of the Amended Expansion Project facilities, including environmental justice populations. The EA did note a minor increase in SO₂ emissions proximal to the aboveground facilities.¹⁰⁹ For SO₂, the only pollutant to increase as a result of the Amended Expansion Project, the air pollutant dispersion modeling indicated that air quality impacts greater than the significant impact level would not extend past the Cameron LNG Terminal's fence line.¹¹⁰ In addition, during operation, Cameron LNG is required to comply with Title V/PSD permit requirements and has committed to put in place good combustion practices. Cameron LNG would implement these measures across the project area, including within the identified environmental justice communities. The EA concluded,¹¹¹ and we agree, that if Cameron LNG operates the proposed facilities in accordance with its application, supplements, and the attached conditions, approval of the Amended Expansion Project would not result in significant air quality impacts on local residents, including environmental justice communities.¹¹²

51. Construction emissions would result in short-term, localized impacts in the immediate vicinity of construction work areas around the terminal. To mitigate these localized impacts, Cameron LNG is required to limit fugitive dust emissions, if necessary, by spraying water to dampen the surfaces of dry work areas and/or by the application of calcium chloride or other dust suppressants, as needed. Further, as noted by the EA,¹¹³ the Amended Expansion Project would result in a reduction of construction-related emissions from that previously authorized. Accordingly, we find

¹⁰⁸ EA at 31-32.

¹⁰⁹ *Id.* SO₂ emissions will increase as a result of the Amended Expansion Project, with an annual increase of 1.11 tons (or about 12%).

¹¹⁰ *See* Cameron LNG March 18, 2022, Letter at attach. 1.

¹¹¹ *Id.* at 26-27.

¹¹² *Id.*

¹¹³ *Id.* at 31.

that construction emissions would not cause significant air quality impacts on environmental justice communities.

52. Staff determined potential impacts on environmental justice communities may include safety concerns.¹¹⁴ The EA noted that two of the identified environmental justice block groups are within potential incident impact areas.¹¹⁵ As discussed above,¹¹⁶ the EA concluded, and we agree, that the risk of accidental and intentional incidents impacting the public would be less than significant with implementation of the proposed safety and security measures recommendations.¹¹⁷ The proposed measures rise above minimum federal requirements and will enhance the safety and security of the project. Implementation of these measures reduce the risk of incidents impacting the public to less than significant levels, including impacts on those with access and functional needs and environmental justice communities.¹¹⁸

53. Overall, staff concluded that impacts on air quality and safety would not be disproportionately high and adverse impacts on environmental justice communities.¹¹⁹ In addition, the EA concludes that these impacts would not be significant. We agree.

54. Healthy Gulf and Sierra Club state that the two-mile radius used to identify potentially-affected environmental justice communities is inadequate, and suggest expanding the radius to 54 kilometers.¹²⁰ The EA explained that for the facility modifications being proposed for this project, staff considers a two-mile radius to be sufficiently broad considering the likely concentration and range of construction emissions and air emissions during operation associated with the Amended Expansion Project facilities.¹²¹ The EA found the two-mile radius appropriate given that impacts from increases in SO₂ emissions associated with the Amended Expansion Project would not extend beyond the fence line of the terminal and would result in reductions in NO_x,

¹¹⁴ *Id.* at 104-105.

¹¹⁵ *Id.* at 104.

¹¹⁶ *See supra* at P 29.

¹¹⁷ EA at 104-105.

¹¹⁸ *Id.*

¹¹⁹ *Id.* at 27, 105.

¹²⁰ Healthy Gulf and Sierra Club Jan. 3, 2023 Comments at 2.

¹²¹ EA at 20.

CO, PM, VOCs, and HAPs operational emissions when compared to the previously authorized Expansion Project.¹²² We agree.

55. Further, Healthy Gulf and Sierra Club express concern that the EA does not adequately identify impacts of the project on environmental justice groups because the EA compares impacts of the amendment proposal to Cameron LNG's previous authorization.¹²³ Therefore, Healthy Gulf and Sierra Club conclude that the EA is incomplete because it does not analyze the impacts of the project as a whole.¹²⁴ The Amended Expansion Project involves process equipment modifications to previously authorized facilities, the elimination of the previously-approved Train 5, and the addition of dual loading facilities. As discussed above, the Amended Expansion Project would result in reductions in NOx, CO, PM, VOCs, and HAPs operational emissions when compared to the previously authorized Expansion Project. In addition, the proposed Amended Expansion Project would not result in an increase in the size and/or frequency of LNG vessel traffic. With the proposed Amended Expansion Project, the overall maximum productive capacity of the Expansion Project would be reduced from 9.97 MTPA to 6.75 MTPA. Accordingly, the EA describes the affected environment as it currently exists, and the potential environmental consequences of the Amended Expansion Project compared to the previously authorized Expansion Project on air quality and environmental justice communities. In addition, the EA addressed potential cumulative impacts on the identified environmental justice communities and concluded that impacts of the Amended Expansion Project on environmental justice communities when added to identified past, present, and reasonably foreseeable projects would also not be significant.¹²⁵ We agree and find that Commission staff appropriately analyzed the impacts of the amendment proposal.

56. Healthy Gulf and Sierra Club also suggest that the Commission should individually evaluate "non-white," "Indigenous," and "Black" population percentages for calculating Census Block groups for income and race.¹²⁶ Commission staff's approach for identifying environmental justice communities is consistent with the recommendations in *Promising Practices*. Commission staff compares the total percentage of minority individuals for each individual block group within the project's review area to the appropriate reference community, here being Calcasieu and Cameron

¹²² *Id.*

¹²³ *Id.* at 3.

¹²⁴ *Id.*

¹²⁵ EA at 128.

¹²⁶ Healthy Gulf and Sierra Club Jan. 3, 2023, Comments at 2.

Parishes. With respect to the identification of potentially-affected minority populations, Commission staff use American Community Survey File# B03002 *Hispanic or Latino Origin by Race* to determine the presence of minority populations. This dataset includes eight subcategories established by the U.S. Census Bureau, including White alone, Black or African American alone, American Indian and Alaska Native alone, Native Hawaiian and Other Pacific Islander alone categories. Healthy Gulf and Sierra Club provide no justification to support the recommendation that we deviate from our standard methodology in this case, noting only that doing so would change the block groups identified. Accordingly, we conclude that staff's approach to identifying environmental justice communities was appropriate and consistent with federal agency best practices, as outlined in *Promising Practices*.

57. In conclusion, impacts associated with the Amended Expansion Project on environmental justice communities would not be disproportionately high and adverse. In addition, project impacts on environmental justice communities associated with air emissions and safety would be less than significant.

5. Environmental Analysis Conclusion

58. We have reviewed the information and analysis contained in the EA regarding potential environmental effects of the project, as well as the other information in the record. We are including the environmental recommendations in the EA as conditions in the appendix to this order. Based on our consideration of this information and the discussion above, we agree with the conclusions presented in the EA and find that the project, if implemented as described in the EA, is an environmentally acceptable action.

IV. Conclusion

59. Consistent with the discussion above and the record, we find that the Amended Expansion Project, with the conditions imposed in this order, is not inconsistent with the public interest.¹²⁷ Therefore, we will grant Cameron LNG's application for authorization under section 3 of the NGA to construct and operate its Amended Expansion Project. Additionally, the Commission will vacate Cameron LNG's authorization to site, construct, and operate Train 5 and the fifth LNG storage tank authorized in the 2016 Order.

60. 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

¹²⁷ See, e.g., *EcoEléctrica L.P.*, 160 FERC ¶ 61,023, at P 8 (2017) (finding the Commission shall grant a request to amend an authorization under section 3 of the NGA "unless it finds that the proposal 'will not be consistent with the public interest'").

information submitted, and will issue a notice to proceed with a particular activity only 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 project, including authority to impose any additional measures deemed necessary to ensure continued compliance with the intent of the conditions of the order, as well as the avoidance or mitigation of unforeseen adverse environmental impacts resulting from project construction and operation.

61. Any state or local permits issued with respect to the jurisdictional facilities authorized herein must be consistent with the conditions of this authorization. The Commission encourages cooperation between interstate pipelines and local authorities. However, this does not mean that state and local agencies, through application of state or local laws, may prohibit or unreasonably delay the construction or operation of facilities approved by this Commission.¹²⁸

62. At a hearing held on March 16, 2023, the Commission on its own motion received and made a part of the record in this proceeding all evidence, including the application, and exhibits thereto, and all comments, and upon consideration of the record.

The Commission orders:

(A) Cameron LNG is authorized under section 3 of the NGA to site, construct, and operate its Amended Expansion Project, as described and conditioned herein and as more fully described in its application and supplements, including any commitments made therein, subject to the environmental conditions contained in the appendix to this order.

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

(C) The authorization to Cameron LNG under NGA section 3 by the Commission's 2016 Order in Docket No. CP15-560-000 to construct and operate

¹²⁸ See 15 U.S.C. § 717r(d) (state or federal agency's failure to act on a permit considered to be inconsistent with Federal law); see also *Schneidewind v. ANR Pipeline Co.*, 485 U.S. 293, 310 (1988) (state regulation that interferes with FERC's regulatory authority over the transportation of natural gas is preempted) and *Dominion Transmission, Inc. v. Summers*, 723 F.3d 238, 245 (D.C. Cir. 2013) (noting that state and local regulation is preempted by the NGA to the extent it conflicts with federal regulation, or would delay the construction and operation of facilities approved by the Commission).

liquefaction Train 5 and the fifth LNG storage tank, as described herein and more fully in the application and supplements filed in this proceeding, is vacated.

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

By the Commission. Commissioner Danly is concurring in part with a separate statement attached.

(S E A L)

Kimberly D. Bose,
Secretary.

Appendix

Environmental Conditions

As recommended the EA, this authorization includes the following conditions:

1. Cameron LNG, LLC (Cameron LNG) shall follow the construction procedures and mitigation measures described in its application and supplements and as identified in the EA, unless modified by the Order. Cameron 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), or the Director's designee, **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 operation.

3. **Prior to any construction**, Cameron 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 EA, as supplemented by filed alignment sheets. **As soon as they are available, and before the start of construction**, Cameron LNG shall file with the Secretary any revised detailed survey maps/sheets at a scale not smaller than 1:6,000 with station positions for the facility authorized by the order. All requests for modifications of

environmental conditions of the order or site-specific clearances must be written and must specify locations designated on these alignment maps/sheets.

5. Cameron LNG shall file with the Secretary detailed maps/sheets 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 that have not been previously identified in filings with the Secretary. Approval for use of 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, or aerial photographs. Each area must be approved in writing by the Director of OEP, or the Director's designee, **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*. 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 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 authorization and before construction begins**, Cameron LNG shall file an Implementation Plan with the Secretary for review and written approval by the Director of OEP, or the Director's designee. Cameron LNG must file revisions to the plan as schedules change. The plan shall identify:
 - a. how Cameron LNG will implement the construction procedures and mitigation measures described in its application and supplements (including responses to staff data requests), identified in the EA, and required by the order;
 - b. how Cameron 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 onsite construction and inspection personnel;
 - c. the number of EIs assigned, and how the company will ensure that sufficient personnel are available to implement the environmental mitigation;

- d. company personnel, including EIs and contractors, who will receive copies of the appropriate material;
 - e. the location and dates of the environmental compliance training and instructions Cameron LNG will give to all personnel involved with construction and restoration (initial and refresher training as the Amended Expansion Project progresses and personnel change);
 - f. the company personnel (if known) and specific portion of Cameron LNG's organization having responsibility for compliance;
 - g. the procedures (including use of contract penalties) Cameron 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:
 - (1) the completion of all required surveys and reports;
 - (2) the environmental compliance training of onsite personnel;
 - (3) the start of construction; and
 - (4) the start and completion of restoration.
7. Cameron LNG shall employ at least one EI during construction of the Amended Expansion Project. 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 order, 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, Cameron 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 the FERC **within 24 hours**. On request, these status reports will also be provided to other federal and state agencies with permitting responsibilities. Status reports shall include:

- a. an update on Cameron LNG's efforts to obtain the necessary federal authorizations;
 - b. the construction status of the Amended Expansion Project, work planned for the following reporting period, and any schedule changes for stream crossings or work in other environmentally-sensitive areas;
 - c. a listing of all problems encountered, contractor nonconformance/deficiency logs, and each instance of noncompliance observed by the EI during the reporting period (both for the conditions imposed by the Commission and any environmental conditions/permit requirements imposed by other federal, state, or local agencies);
 - d. a description of the corrective and remedial actions implemented in response to all instances of noncompliance, nonconformance, or deficiency;
 - e. the effectiveness of all corrective and remedial actions implemented;
 - f. a description of any landowner/resident complaints which may relate to compliance with the requirements of the order, and the measures taken to satisfy their concerns; and
 - g. copies of any correspondence received by Cameron LNG from other federal, state, or local permitting agencies concerning instances of noncompliance, and Cameron LNG's response.
9. Cameron LNG must receive written authorization from the Director of OEP, or the Director's designee, **before commencing construction** of any Amended Expansion Project facilities. To obtain such authorization, Cameron LNG must file with the Secretary documentation that it has received all applicable authorizations required under federal law (or evidence of waiver thereof).
10. Cameron LNG must receive written authorization from the Director of OEP, or the Director's designee, **prior to introducing hazardous fluids into the Amended Expansion Project facilities**. Instrumentation and controls, hazard detection, hazard control, and security components/systems necessary for the safe introduction of such fluids shall be installed and functional.
11. Cameron LNG must receive written authorization from the Director of OEP, or the Director's designee, **before placing into service** the Amended Expansion Project facilities. Such authorization will only be granted following a determination that the facilities have been constructed in accordance with the Commission's approval, can be expected to operate safely as designed, and the rehabilitation and restoration of areas affected by the Amended Expansion Project are proceeding satisfactorily.
12. **Within 30 days of placing the authorized facilities in service**, Cameron LNG shall file an affirmative statement with the Secretary, certified by a senior company official:

- a. that the facilities have been installed 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 Cameron LNG has complied with or will comply with. This statement shall also identify any areas affected by the Amended Expansion Project where compliance measures were not properly implemented, if not previously identified in filed status reports, and the reason for noncompliance.
13. Cameron LNG shall file a full load noise survey with the Secretary **no later than 60 days** after placing Train 4 into service. If a full load noise survey is not possible, Cameron LNG shall file an interim survey at the maximum possible load and provide the full load survey **within six months**. If the noise attributable to operation of all the equipment at the Cameron LNG Terminal, under interim or full load conditions, exceeds a day/night sound level of 55 decibels on the A-weighted scale at any nearby noise sensitive area, Cameron LNG shall file a report on the changes that are needed and shall install the additional noise controls to meet the level **within one year** of the in-service date. Cameron 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.
14. **Prior to construction of final design**, Cameron LNG shall file with the Secretary consultation with U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration that determines whether the use of normally closed valves to remove stormwater from curbed areas would meet U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration regulations.
15. **Prior to construction of final design**, Cameron LNG shall file with the Secretary the following information, stamped and sealed by the professional engineer-of-record, registered in the State of Louisiana, to ensure the facilities are protected for the life of the LNG terminal considering settlement, subsidence, and sea level rise:
 - a. the finalized settlement monitoring program and procedures for the Project site; and,
 - b. the total and differential settlement of final designed structures, systems, and components foundations for the Project site.
16. **Prior to construction of final design**, Cameron LNG shall file with the Secretary the following information, stamped and sealed by the professional engineer-of-record, registered in the State of Louisiana:

- a. site preparation drawings and specifications;
- b. finalized civil design basis, criteria, specifications;
- c. LNG terminal structures, and foundation design drawings and calculations (including prefabricated and field constructed structures);
- d. seismic specifications for procured Seismic Category I equipment prior to the issuing of request for quotations;
- e. quality control procedures to be used for civil/structural design and construction;
- f. a determination of whether soil improvement is necessary to counteract soil liquefaction; and,
- g. the finalized corrosion control and prevention plan for any underground piping, structures, foundations, equipment, and components.

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

Information pertaining to conditions 17 through 92 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 §388.113.¹²⁹ Information pertaining to items such as offsite emergency response, procedures for public notification and evacuation, and construction and operating reporting requirements would be subject to public disclosure. All information shall be filed a minimum of 30 days before approval to proceed is requested.

17. **Prior to initial site preparation**, Cameron LNG shall file an overall project schedule, which includes the proposed stages of initial site preparation, construction, commissioning, and in-service plan relative to notice to proceed requests and related conditions.
18. **Prior to initial site preparation**, Cameron LNG shall file a construction site security plan that explains how it will restrict facility access of unauthorized personnel from entering the operational areas of the plant to perform construction activities within a secure facility with respect to the existing U.S. Coast Guard-approved Facility Security Plan.
19. **Prior to initial site preparation**, Cameron LNG shall file quality assurance and

¹²⁹ See Critical Electric Infrastructure Security and Amending Critical Energy Infrastructure Information, Order No. 833,157 FERC ¶ 61,123 (2016).

quality control procedures for construction activities.

20. **Prior to initial site preparation**, Cameron LNG shall file updated storm surge hazard analysis that would demonstrate the facilities would be precluded from or withstand the 500-year mean recurrence interval flood event.
21. **Prior to initial site preparation**, Cameron LNG shall file updates to the existing Emergency Response Plan (ERP) (including evacuation and any sheltering and re-entry) to include the proposed facilities and coordinate procedures with the U.S. Coast Guard; state, county, and local emergency planning groups; fire departments; state and local law enforcement; and other appropriate federal agencies. This plan shall be consistent with recommended and good engineering practices and based on potential impacts and onsets of hazards from accidental and intentional events at the LNG terminal. This plan shall address any special considerations and pre-incident planning for infrastructure and public with access and functional needs and shall include at a minimum:
 - a. materials and plans for periodic dissemination of public education and training materials for potential hazards and impacts, identification of potential hazards, and steps for notification, evacuation, and shelter in place of the public within LNG terminal hazard areas in the event of an incident;
 - b. plans to competently train emergency responders required to effectively and safely respond to hazardous material incidents including, but not limited to LNG fires and dispersion;
 - c. plans to competently train emergency responders to effectively and safely evacuate or shelter public within hazard areas from LNG terminal;
 - d. designated contacts with federal, state and local emergency response agencies responsible for emergency management and response within hazard areas from LNG terminal;
 - e. scalable procedures for the prompt notification of appropriate local officials and emergency response agencies based on the level and severity of potential incidents;
 - f. scalable procedures for mobilizing response and establishing a unified command, including identification, location, and design of any emergency operations centers and emergency response equipment required to effectively and safely to respond to hazardous material incidents and evacuate or shelter public within LNG terminal hazard areas;
 - g. scalable procedures for notifying public, including identification, location, design, and use of any permanent sirens or other warning devices required to effectively communicate and warn the public prior to onset of debilitating hazards within hazard areas from LNG terminal;
 - h. scalable procedures for evacuating the public, including identification, location, design, and use of evacuation routes/methods and any mustering

- locations required effectively and safely evacuate public within hazard areas from LNG terminal; and
- i. scalable procedures for sheltering the public, including identification, location, design, and use of any shelters demonstrated to be needed and demonstrated to effectively and safely shelter public prior to onset of debilitating hazards within hazard areas that may benefit from sheltering in place.

Cameron LNG shall notify Commission staff of all planning meetings in advance and shall report progress on the development of its ERP **at three-month intervals**. Cameron LNG shall file public versions of offsite emergency response procedures for public notification, evacuation, and shelter in place.

22. **Prior to initial site preparation**, Cameron LNG shall file an updated Cost-Sharing Plan to include the proposed facilities and shall identify the mechanisms for funding all project-specific security/emergency management costs that would be imposed on state and local agencies. This comprehensive plan shall include funding mechanisms for the capital costs associated with any necessary security/emergency management equipment and personnel base. This plan shall include sustained funding of any requirement or resource gap analysis identified to effectively and safely evacuate and shelter public and to effectively and safely respond to hazardous material incidents consistent with recommended and good engineering practices. Cameron LNG shall notify Commission staff of all planning meetings in advance and shall report progress on the development of its Cost Sharing Plan at **three-month intervals**.
23. **Prior to construction of final design of any permanent facilities**, Cameron LNG shall file updated Emergency Response Plans and any associated Cost Sharing Plan provisions in coordination with federal, state, and local agencies for hazards that may reach State Highway 27, including identifying potential incidents, impact distances, and timing of the onset of hazards reaching State Highway 27, and measures to notify approaching highway traffic and evacuate persons from impacted areas as quickly as possible relative to the onset of hazards. The ERP and Cost Sharing Plans shall discuss consideration of signage or equivalent, and maintenance thereof, to facilitate notification and evacuation.
24. **Prior to construction of final design**, Cameron LNG shall file change logs that list and explain any changes made from the front end engineering design (FEED) provided in Cameron'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.

25. **Prior to construction of final design**, Cameron LNG shall file information/revisions pertaining to Cameron LNG's response: Numbers 3, 6, 18, 24, 26, 28, 29, 33, 34, 40, 45, 46, 47, 50, 51, 55, 56, 57, 58, 79, and 80 of its June 27, 2022 filing, which indicated features to be included or considered in the final design.
26. **Prior to construction of final design**, Cameron LNG shall file drawings of the security fence. The fencing drawings shall provide details of fencing that demonstrates it is in accordance with National Fire Protection Association (NFPA) 59A (2019 edition) and would restrict and deter access around the entire facility and has a setback from exterior features (e.g., power lines, trees, etc.) and from interior features (e.g., piping, equipment, buildings, etc.) that does not allow the fence to be overcome.
27. **Prior to construction of final design**, Cameron LNG shall file security camera and intrusion detection drawings. The security camera drawings shall show the locations, mounting elevation, areas covered, and features of each camera (e.g., fixed, tilt/pan/zoom, motion detection alerts, low light, etc.) and shall provide camera coverage at access points and along the entire perimeter of the terminal with redundancies and camera coverage of the interior of the terminal to enable rapid monitoring of the terminal, and coverage within pretreatment areas, within liquefaction areas, within truck transfer areas, within marine transfer areas, and within buildings. The drawings shall show or note the location and type of the intrusion detection and shall cover the entire perimeter of the facility.
28. **Prior to construction of final design**, Cameron LNG shall file photometric analyses or equivalent and associated lighting drawings. The lighting drawings shall show the location, elevation, type of light fixture, and lux levels of the lighting system and shall provide illumination along the perimeter of the terminal, process equipment, and along paths/roads of access and egress to facilitate security monitoring and emergency response operations in accordance with American Petroleum Institute (API) 540 (4th edition) or approved equivalent and applicable federal regulations.
29. **Prior to construction of final design**, Cameron LNG shall file drawings of internal road vehicle protections, such as guard rails, barriers, and bollards to protect transfer piping, pumps, compressors, hydrants, monitors, etc. to ensure that they are located away from roadway or protected from inadvertent damage from vehicles.
30. **Prior to construction of final design**, Cameron LNG shall file a plot plan of the final design showing all major equipment, structures, buildings, and impoundment systems.

31. **Prior to construction of final design**, Cameron LNG shall file a 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.
32. **Prior to construction of final design**, Cameron LNG shall file three-dimensional plant drawings to confirm plant layout for maintenance, access, egress, and congestion.
33. **Prior to construction of final design**, Cameron LNG shall file up-to-date process flow diagrams (PFDs), heat and mass balances (HMBs), and piping and instrument diagrams (P&IDs) including vendor P&IDs. The HMBs shall demonstrate a peak export rate of 6.75 million tonnes per annum. 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.
34. **Prior to construction of final design**, Cameron LNG shall file a car seal and lock philosophy and car seal and lock program, including a list of all car-sealed and locked valves consistent with the P&IDs. The car seal and lock program shall include monitoring and periodically reviewing correct car seal and lock placement and valve position.
35. **Prior to construction of final design**, Cameron 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.
36. **Prior to construction of final design**, Cameron LNG shall file information to demonstrate the EPC contractor has verified that all FEED hazard identification (HAZID) recommendations have been addressed.
37. **Prior to construction of final design**, Cameron LNG shall file a hazard and operability review of the final design P&IDs, a list of the resulting recommendations, and action taken on the recommendations. The issued for

construction P&IDs shall incorporate the hazard and operability review recommendations and justification shall be provided for any recommendations that are not implemented.

38. **Prior to construction of final design**, Cameron LNG shall provide a check valve upstream of the acid gas removal column to prevent backflow or provide a dynamic simulation that shows that upon plant shutdown, the swan neck would be sufficient for this purpose.
39. **Prior to construction of final design**, Cameron 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).
40. **Prior to construction of final design**, Cameron 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.
41. **Prior to construction of final design**, Cameron LNG shall specify that all Emergency Shut Down (ESD) valves are to be equipped with open and closed position switches connected to the Distributed Control System (DCS)/SIS.
42. **Prior to construction of final design**, Cameron LNG shall demonstrate that all electrical, instrument, and control systems at the project, which activate emergency systems or are relied upon for isolation or shutdowns, will be designed to withstand a 20-minute fire exposure per Underwriters Laboratory 1709 (6th edition) or approved equivalent.
43. **Prior to construction of final design**, Cameron LNG shall file the sizing basis of the LNG storage tank vacuum relief and pressure relief valves and demonstrate that adequate pressure and vacuum protection is maintained due to the proposed increased LNG in-tank pump capacity and additional boil-off gas (BOG) compressor.
44. **Prior to construction of final design**, Cameron 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, 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).
45. **Prior to construction of final design**, Cameron LNG shall file a list of all codes and standards and the final specification document number where they are referenced.
46. **Prior to construction of final design**, Cameron LNG shall evaluate whether a different flange orientation would minimize these potential leaks without any other safety implications and, if so, the final design shall reflect that different flange orientation. If there are other safety implications that would prevent a different orientation, Cameron LNG shall provide an analysis which demonstrates the dry flare header flanged connection to the dry flare knock out drum will not be susceptible to flange separation and leaking cause by uneven cooling.
47. **Prior to construction of final design**, Cameron 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).
48. **Prior to construction of final design**, Cameron LNG shall file an evaluation of dynamic pressure surge effects from valve opening and closure times and pump operations that demonstrate that the surge effects do not exceed the design pressures.
49. **Prior to construction of final design**, Cameron LNG shall demonstrate that, for hazardous fluids, piping and piping nipples two 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.
50. **Prior to construction of final design**, Cameron 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.
51. **Prior to construction of final design**, Cameron LNG shall specify the process vessels, and storage vessels for ethylene, propane, hot oil, and LNG are installed with spare pressure relief valves to ensure overpressure protection during relief valve testing or maintenance.

52. **Prior to construction of final design**, Cameron 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 justify the type, quantity, and location of hazard detection and hazard control, passive fire protection, emergency shutdown and depressurizing systems, firewater, and emergency response equipment, training, and qualifications in accordance with NFPA 59A (2001). The justification for the flammable and combustible gas detection and flame and heat detection systems shall be in accordance with ISA 84.00.07 (2018 edition) or equivalent methodologies and would need to demonstrate 90% or more of releases (unignited and ignited) that could result in an off-site or cascading impact would be detected by two or more detectors and result in isolation and de inventory within 10 minutes. The analysis shall take into account the set points, voting logic, wind speeds, and wind directions. The justification for firewater shall provide calculations for all firewater demands based on design densities, surface area, and throw distance as well as specifications for the corresponding hydrant and monitors needed to reach and cool equipment.
53. **Prior to construction of final design**, Cameron LNG shall file spill containment system drawings with dimensions and slopes of curbing, trenches, impoundments, tertiary containment and capacity calculations considering any foundations and equipment within impoundments, as well as the sizing and design of the down-comers. The spill containment drawings shall show containment for all hazardous fluids including all liquids handled above their flashpoint, from the largest flow from a single line for 10 minutes, including de- inventory, or the maximum liquid from the largest vessel (or total of impounded vessels) or otherwise demonstrate that not providing spill containment would not significantly increase the flammable vapor dispersion or radiant heat consequences of a spill.
54. **Prior to construction of final design**, Cameron LNG shall specify remotely operated or automatic firewater monitors in areas that are inaccessible or difficult to access in the event of an emergency.
55. **Prior to construction of final design**, Cameron LNG shall determine whether a horizontal or tangential LNG release up to a full guillotine of the 36-inch-diameter loading line could enter the waterway and evaluate if additional mitigation such as barriers, shrouds, or a pipe-in-pipe design along this section of piping would prevent releases from reaching the waterway. Alternatively, if no mitigation measures are proposed to prevent releases from reaching the waterway for the new parallel loading line, Cameron LNG shall perform a quantitative risk analysis per NFPA (2019) Section 19.6.1 and also include; modeling that determines the probability of LNG releases resulting in rainout on the water surface, accounting for release size, direction, and discharge angle relative to the horizontal; calculates

the distances to specified endpoints for potential hazards associated with LNG spills on water, with and without the estimated effect of rapid phase transitions (RPTs) accounting for weather data particularly wind speed and direction; and calculates the number of persons impacted by each release case accounting for as well as population distribution; and lastly comparing the results with tolerability criteria published by the Commission and NFPA 59A.

56. **Prior to construction of final design**, Cameron LNG shall file electrical area classification drawings, including cross sectional drawings. The drawings shall demonstrate compliance with NFPA 59A (2019 edition), NFPA 70 (2017 edition), NFPA 497 (2017 edition), and API RP 500 (3rd edition), or equivalents. In addition, the drawings shall include revisions to the electrical area classification design or provide technical justification that supports the electrical area classification of the following areas using most applicable API RP 500 figures (e.g., figures 20 and 21) or hazard modeling of various release rates from equivalent hole sizes and wind speeds (see NFPA 497 release rate of one lb-mole/minute).
57. **Prior to construction of final design**, Cameron 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) or approved equivalents.
58. **Prior to construction of final design**, Cameron 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.
59. **Prior to construction of final design**, Cameron LNG shall file analysis of the buildings containing hazardous fluids and the ventilation calculations that limit concentrations below the LFLs (e.g., 25% LFL), including an analysis of off gassing of hydrogen in battery rooms, and shall also provide hydrogen detectors that alarm (e.g., 20% to 25% LFL) and initiate mitigative actions (e.g., 40% to 50% LFL) in accordance with NFPA 59A (2019 edition) and NFPA 70 (2017 edition), or equivalents.
60. **Prior to construction of final design**, Cameron 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 as well as their coverage area. The list shall include the instrument tag number, type and location, alarm indication locations, and shutdown functions of the hazard detection equipment.

61. **Prior to construction of final design**, Cameron 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 would isolate or shutdown any combustion or heating ventilation and air conditioning equipment whose continued operation could add to or sustain an emergency.
62. **Prior to construction of final design**, Cameron 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.
63. **Prior to construction of final design**, Cameron LNG shall file an evaluation of the voting logic and voting degradation for hazard detectors.
64. **Prior to construction of final design**, Cameron 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, ethylene, propane, isopentane, and condensate.
65. **Prior to construction of final design**, Cameron 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 and hydrogen sulfide.
66. **Prior to construction of final design**, Cameron LNG shall file a drawing showing the location of the emergency shutdown buttons, including, but not limited to the refrigerant storage, condensate storage, and LNG storage areas. Emergency shutdown buttons shall be easily accessible, conspicuously labeled, and located in an area which would be accessible during an emergency.
67. **Prior to construction of final design**, Cameron LNG shall file facility plan drawings and a list of the fixed and wheeled dry-chemical, hand-held fire extinguishers, and other hazard control equipment. Plan drawings shall clearly show the location by tag number of all fixed, wheeled, and hand-held extinguishers and shall demonstrate the spacing of extinguishers meet prescribed travel distances in NFPA 10 (2022 edition) or approved equivalent. 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 and shall demonstrate they meet NFPA 59A (2019 edition) or approved equivalent.

68. **Prior to construction of final design**, Cameron LNG shall file drawings and specifications for the structural passive protection systems to protect equipment and supports from cryogenic releases.
69. **Prior to construction of final design**, Cameron LNG shall file calculations or test results for the structural passive protection systems to protect equipment and supports from cryogenic releases.
70. **Prior to construction of final design**, Cameron LNG shall file drawings and specifications for the structural passive protection systems to protect equipment and supports from pool and jet fires.
71. **Prior to construction of final design**, Cameron LNG shall file a detailed quantitative analysis to demonstrate that adequate mitigation would be provided for each pressure vessel that could fail within the 4,000 BTU/ft²-hr zone from a pool or jet fires; each critical structural component (including the LNG marine vessel) and emergency equipment item that could fail within the 4,900 BTU/ft²-hr zone from a pool or jet fire; and each occupied building that could expose unprotected personnel within the 1,600 BTU/ft²-hr zone from a pool or jet fire. Trucks at truck transfer stations shall be included in the analysis of potential pressure vessel failures, as well as measures needed to prevent cascading impact due to the 10-minute sizing spill at the marine area. Mitigation measures to protect the above facilities from radiant heat from a spill impoundment shall be demonstrated to have a reliability equivalent to a SIL 3 system. A combination of passive and active protection for pool fires and passive and/or active protection for jet fires shall be provided and demonstrate the effectiveness and reliability. Effectiveness of passive mitigation shall be supported by calculations or test results for the thickness limiting temperature rise over the fire duration, and active mitigation shall be supported by reliability information by calculations or test results, such as demonstrating flow rates and durations of any cooling water would mitigate the heat absorbed by the component. The total firewater demand shall account for all components that could fail to a pool or jet fire.
72. **Prior to construction of final design**, Cameron LNG shall file an evaluation and associated specifications, drawings, and datasheets for transformers demonstrating how it would prevent cascading damage of transformers (e.g., fire walls or spacing) in accordance with NFPA 850 (2015 edition) or equivalent.
73. **Prior to construction of final design**, Cameron 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 and sectional valves, and the location and area covered by, each monitor, hydrant, hose, water curtain, deluge system, foam system, water-mist system, and

sprinkler. The drawings shall demonstrate that each process area, fire zone, or other sections of piping with several users can be isolated with post indicator or sectional valves. The firewater coverage drawings shall illustrate firewater coverage by two or more hydrants or monitors accounting for obstructions (or deluge systems) for all areas that contain flammable or combustible fluids.

74. **Prior to commissioning**, Cameron 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. Cameron 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.
75. **Prior to commissioning**, Cameron LNG shall file detailed plans and procedures for: testing the integrity of onsite mechanical installation; functional tests; introduction of hazardous fluids; operational tests; and placing the equipment into service.
76. **Prior to commissioning**, Cameron 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.
77. **Prior to commissioning**, Cameron 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.
78. **Prior to commissioning**, Cameron LNG shall tag all equipment, instrumentation, and valves in the field, including drain valves, vent valves, main valves, and car-sealed or locked valves.
79. **Prior to commissioning**, Cameron LNG shall file a plan to maintain a detailed training log to demonstrate that operating, maintenance, and emergency response staff have completed the required training.
80. **Prior to commissioning**, Cameron LNG shall file the procedures for pressure/leak tests which address the requirements of American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Coded (BPVC) Section VIII (2017 edition) and ASME B31.3 (2016 edition). In addition, Cameron LNG shall file a line list of pneumatic and hydrostatic test pressures.

81. **Prior to introduction of hazardous fluids**, Cameron 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.
82. **Prior to introduction of hazardous fluids**, Cameron LNG shall complete and document all pertinent tests (Factory Acceptance Tests, Site Acceptance Tests, Site Integration Tests) associated with the DCS, SIS and FGS that demonstrates full functionality and operability of the system.
83. **Prior to introduction of hazardous fluids**, Cameron LNG shall develop, file, and implement an alarm management program consistent with ISA 18.2 (2016 edition) or equivalent to reduce alarm complacency and maximize the effectiveness of operator response to alarms.
84. **Prior to introduction of hazardous fluids**, Cameron LNG shall complete and document clean agent acceptance tests.
85. **Prior to introduction of hazardous fluids**, Cameron LNG shall complete and document foam system and sprinkler system acceptance tests.
86. **Prior to introduction of hazardous fluids**, Cameron 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).
87. **After production of first LNG**, Cameron 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 the liquefaction train, and the number of anticipated and actual LNG commissioning cargoes, along with the associated volumes loaded or unloaded. Further, the weekly reports shall include a status and list of all planned and completed safety and reliability tests, work authorizations, and punch list items. Problems of significant magnitude shall be reported to the FERC within 24 hours.
88. **Prior to commencement of service**, Cameron LNG shall file a request for written authorization from the Director of OEP. Such authorization would 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, 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 Cameron LNG or other appropriate parties.

89. **Prior to commencement of service**, Cameron LNG shall file any proposed revisions to the security plan and physical security of the plant.
90. **Prior to commencement of service**, Cameron LNG shall label piping with fluid service and direction of flow in the field consistent with ASME A13.1 (2007 edition) or equivalent, in addition to the pipe labeling requirements of NFPA 59A (2001).
91. **Prior to commencement of service**, Cameron LNG shall provide plans for any preventative and predictive maintenance program that performs periodic or continuous equipment condition monitoring.
92. **Prior to commencement of service**, Cameron LNG shall develop procedures for offsite contractors' responsibilities, restrictions, monitoring, training, and limitations and for supervision of these contractors and their tasks by Cameron LNG staff. Specifically, the procedures shall address:
 - a. selecting a contractor, including obtaining and evaluating information regarding the contract employer's safety performance and programs.
 - b. informing contractors of the known potential hazards, including flammable and toxic release, explosion, and fire, related to the contractor's work and systems they are working on.
 - c. developing and implementing provisions to control and monitor the entrance, presence, and exit of contract employers and contract employees from process areas, buildings, and the plant.
 - d. developing and implementing safe work practices for control of personnel safety hazards, including lockout/tagout, confined space entry, work permits, hot work, and opening process equipment or piping.
 - e. developing and implementing safe work practices for control of process safety hazards, including identification of layers of protection in systems being worked on, recognizing abnormal conditions on systems they are working on, and re-instatement of layers of protection, including ensuring bypass, isolation valve, and car-seal programs and procedures are being followed.
 - f. developing and implementing provisions to ensure contractors are trained on the emergency action plans and that they are accounted for in the event of an emergency.

- g. monitoring and periodically evaluating the performance of contract employers in fulfilling their obligations above, including successful and safe completion of work and re-instatement of all layers of protection.

The following measures apply throughout the life of the Cameron LNG Amended Expansion Project:

- 93. 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, Cameron 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.
- 94. **Semi-annual** operational reports shall be filed with the Secretary to identify changes in facility design and operating conditions; abnormal operating experiences; activities (e.g., ship arrivals, quantity and composition of imported and exported LNG, liquefied and vaporized quantities, boil off/flash gas); and plant modifications, including future plans and progress thereof. Abnormalities shall include, but not be limited to, unloading/loading/shipping problems, potential hazardous conditions from offsite vessels, storage tank stratification or rollover, geysering, storage tank pressure excursions, cold spots on the storage 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 would provide the FERC staff with early notice of anticipated future construction/maintenance at the LNG facilities.
- 95. Significant non-scheduled events, including safety-related incidents (e.g., LNG, condensate, refrigerant, or natural gas releases; fires; explosions; mechanical failures; unusual over pressurization; and major injuries) and security-related incidents (e.g., attempts to enter site, suspicious activities) shall be reported to the FERC staff. In the event that an abnormality is of significant magnitude to

threaten public or employee safety, cause significant property damage, or interrupt service, notification shall be made **immediately**, without unduly interfering with any necessary or appropriate emergency repair, alarm, or other emergency procedure. In all instances, notification shall be made to the FERC staff **within 24 hours**. This notification practice shall be incorporated into the 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 five minutes or more;
- f. unintended movement or abnormal loading by environmental causes, such as an earthquake, landslide, or flood, that impairs the serviceability, structural integrity, or reliability of an LNG facility that contains, controls, or processes hazardous fluids;
- g. any crack or other material defect that impairs the structural integrity or reliability of an LNG facility that contains, controls, or processes hazardous fluids;
- h. any malfunction or operating error that causes the pressure of a pipeline or LNG facility that contains or processes hazardous fluids to rise above its maximum allowable operating pressure (or working pressure for LNG facilities) plus the build-up allowed for operation of pressure-limiting or control devices;
- i. a leak in an LNG facility that contains or processes hazardous fluids that constitutes an emergency;
- j. inner tank leakage, ineffective insulation, or frost heave that impairs the structural integrity of an LNG storage tank;
- k. any safety-related condition that could lead to an imminent hazard and cause (either directly or indirectly by remedial action of the operator), for purposes other than abandonment, a 20% reduction in operating pressure or shutdown of operation of a pipeline or an LNG facility that contains or processes hazardous fluids;
- l. safety-related incidents from hazardous fluids transportation occurring at or en route to and from the LNG facility; or
- m. an event that is significant in the judgment of the operator and/or management even though it did not meet the above criteria or the guidelines set forth in an LNG facility's incident management plan.

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Cameron LNG, LLC

Docket No. CP22-41-000

(Issued March 16, 2023)

DANLY, Commissioner, *concurring in the result*:

1. I concur in the decision to grant Cameron LNG, LLC’s requested Natural Gas Act (NGA) section 3¹ authorization.

2. *First*, as I have stated previously, the Commission should not lose sight of the limits of our authority under the NGA.² The Supreme Court has explained that the inclusion of the term “public interest” in our statute is not “a broad license to promote the general public welfare”—instead, it “take[s] meaning from the purposes of the regulatory legislation.”³ The purpose of the NGA, as the Supreme Court has instructed us, is “to encourage the orderly development of plentiful supplies of . . . natural gas at reasonable prices.”⁴

3. *Second*, the Commission states that because it is “conducting a generic proceeding to determine *whether and how* the Commission will conduct significance determinations for [greenhouse gas (GHG)] emissions going forward, the Commission is not herein characterizing these emissions as significant or insignificant.”⁵ I continue to urge my colleagues to repudiate the misguided “eyeball” test established in *Northern Natural*⁶ and

¹ 15 U.S.C. § 717b.

² *See, e.g., Commonwealth LNG, LLC*, 181 FERC ¶ 61,143 (2022) (Danly, Comm’r, concurring in the judgment at P 2).

³ *NAACP v. FPC*, 425 U.S. 662, 669 (1976) (*NAACP*).

⁴ *Id.* at 669-70; *accord Myersville Citizens for a Rural Cmty.*, 783 F.3d 1301, 1307 (D.C. Cir. 2015) (quoting *NAACP*, 425 U.S. at 669-70). I note that the Supreme Court has also recognized the Commission has authority to consider “other subsidiary purposes,” such as “conservation, environmental, and antitrust questions.” *NAACP*, 425 U.S. at 670 & n.6 (citations omitted). But all subsidiary purposes are, necessarily, subordinate to the statute’s primary purpose.

⁵ *Cameron LNG, LLC*, 182 FERC ¶ 61,173, at P 37 (2023) (emphasis added).

⁶ *N. Nat. Gas Co.*, 174 FERC ¶ 61,189 (2021) (*Northern Natural*). In *Northern*

to acknowledge that the now-draft Interim GHG Policy Statement should never have issued in the first place.⁷ The Interim GHG Policy Statement has been in draft form for nearly a year. The regulated industry needs certainty that the Commission's moment of misguided whims will not resurface. My colleagues should simply terminate the proceeding in Docket No. PL21-3-000.

4. We are not competent to declare our own threshold for the quantity of GHG emissions we would consider significant when determining whether a project is required by the public convenience and necessity.⁸ While such an acknowledgement has yet to make an appearance in the Commission's orders, the Commission's actions in this proceeding, and other recent NGA section 3 or 7 proceedings,⁹ speak volumes. The Commission neither applied its "eyeball" test nor any other Commission-declared

Natural, a majority of my colleagues established what has been referred to (by some) as the "eyeball" test. See Catherine Morehouse, *Glick, Danly spar over gas pipeline reviews as FERC considers project's climate impacts for first time*, UTIL. DIVE (Mar. 19, 2021), <https://www.utilitydive.com/news/glick-danly-spar-over-gas-pipeline-reviews-as-ferc-considers-projects-cli/597016/> ("We essentially used the eyeball test," [Chairman Glick] said, adding that based on that analysis, 'it didn't seem significant in terms of the impact of those emissions on climate change.'").

⁷ See *Consideration of Greenhouse Gas Emissions in Nat. Gas Infrastructure Project Revs.*, 178 FERC ¶ 61,108, at P 79 (2022) ("To determine the appropriate level of [National Environmental Policy Act (NEPA)] review, the Commission is establishing a significance threshold of 100,000 metric tons or more per year of CO₂e.") (Interim GHG Policy Statement). The Interim GHG Policy Statement was converted to a draft on March 24, 2022. See *Certification of New Interstate Nat. Gas Facilities*, 178 FERC ¶ 61,197, at P 2 (2022) (converting the two policy statements issued on February 18, 2022, *Certification of New Interstate Nat. Gas Facilities*, 178 FERC ¶ 61,107 (2022) and Interim GHG Policy Statement, 178 FERC ¶ 61,108, to "draft" policy statements).

⁸ See *West Virginia v. Env't Prot. Agency*, 142 S. Ct. 2587, 2609 (2022) ("Agencies have only those powers given to them by Congress, and 'enabling legislation' is generally not an 'open book to which the agency [may] add pages and change the plot line.'") (citation omitted).

⁹ See, e.g., *Gas Transmission Nw. LLC*, 181 FERC ¶ 61,234, at P 32 (2022) ("The Commission explained it is not characterizing these emissions as significant or insignificant because it is currently considering in a generic proceeding issues that include whether and how to assess the significance of GHG emissions.") (citation omitted).

threshold. The Commission makes no finding regarding the significance of the GHG emissions. Why? Because we have no means to do so.

5. *Third*, I also object to staff’s inclusion of a Social Cost of GHGs calculation based on the estimated emissions from the project’s construction and operation in this proceeding’s Environmental Assessment.¹⁰ The Commission has often—and extensively—discussed why the Social Cost of Carbon, and similar tools, are ill-suited to project-level NEPA review, and why such a tool cannot meaningfully inform the Commission’s decision to approve or reject natural gas infrastructure project applications under the NGA.¹¹ The U.S. Court of Appeals for the District of Columbia Circuit previously upheld the Commission’s decision to decline to use the Social Cost of Carbon and has similarly upheld the Commission’s conclusion that there is “no scientifically-accepted methodology available to correlate specific amounts of [greenhouse-gas] emissions to discrete changes in’ the human environment.”¹² This remains true.¹³ As the EA acknowledges, “[t]he Commission has not determined which, if any, modifications

¹⁰ See Commission Staff, Environmental Assessment for Cameron LNG Amended Expansion Project, Docket No. CP22-41-000, at 133-134 (Dec. 2, 2022) (EA).

¹¹ See, e.g., *Mountain Valley Pipeline, LLC*, 161 FERC ¶ 61,043, at P 296 (2017), *order on reh’g*, 163 FERC ¶ 61,197, at PP 275-97 (2018), *aff’d sub nom. Appalachian Voices v. FERC*, No. 17-1271, 2019 WL 847199, at *2 (D.C. Cir. 2019) (“[The Commission] gave several reasons why it believed petitioners’ preferred metric, the Social Cost of Carbon tool, is not an appropriate measure of project-level climate change impacts and their significance under NEPA or the Natural Gas Act. That is all that is required for NEPA purposes.”) (citation omitted).

¹² *Del. Riverkeeper Network v. FERC*, 45 F.4th 104, 111 (D.C. Cir. 2022) (citing *EarthReports, Inc. v. FERC*, 828 F.3d 949, 956 (D.C. Cir. 2016)) (citation omitted); see *id.* at 112 (finding that because petitioners “did not argue before the Commission that section 1502.21(c) required the use of the Social Cost of Carbon tool,” the court lacked jurisdiction to consider that argument). *But see Vecinos para el Bienestar de la Comunidad Costera v. FERC*, 6 F.4th 1321, 1329-30 (D.C. Cir. 2021) (remanding the Commission’s decision to not use the Social Cost of Carbon because the court found that the Commission failed to respond to an argument raised on rehearing that 40 C.F.R. § 1502.21(c) calls for the Commission to apply the social cost of carbon).

¹³ See, e.g., *LA Storage, LLC*, 182 FERC ¶ 61,026, at P 11 (2023) (recognizing that the Commission does “not rely on, the results of the social cost of GHG methodology”) (citation omitted); *id.* P 14 (“[T]here are currently no criteria to identify what monetized values are significant for NEPA purposes, and we are currently unable to identify any such appropriate criteria.”) (citation omitted).

are needed to render the [social cost of GHGs] tool useful for project-level analyses.”¹⁴ Simply put, no valuable information can be gleaned from the numbers included in Commission staff’s EA and they serve merely to confuse the matter—they should be omitted from future issuances.¹⁵ And as the Commission has explained, we do “not rely[] on or us[e] the social cost of GHGs estimates to make any finding or determination regarding either the impact of the proposed project’s GHG emissions or whether the project is in the public convenience and necessity.”¹⁶

For these reasons, I respectfully concur in the result.

James P. Danly
Commissioner

¹⁴ EA at 133. *Accord Cameron LNG, LLC*, 182 FERC ¶ 61,173 at P 37 n.78 (“We note that we are not applying the social cost of GHGs because we have not determined which, if any, modifications are needed to use this tool for project-level analyses.”) (citation omitted).

¹⁵ Because the Social Cost of Carbon was not developed for project-level review, its use is not required for the evaluation of impacts under section 1502.21 of the Council on Environmental Quality’s regulations. 40 C.F.R. § 1502.21(c). This reasoning is consistent with *Florida Southeast Connection, LLC* where the Commission stated, “[a]nd we do not dispute that [the Social Cost of Carbon] is generally accepted in the scientific community and can play an important role *in different contexts, such as rulemaking proceedings.*” 164 FERC ¶ 61,099, at P 35 (2018) (emphasis added) (footnote omitted).

¹⁶ See, e.g., *Gas Transmission Nw. LLC*, 180 FERC ¶ 61,056, at P 62 (2022).