

190 FERC ¶ 61,149  
UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Mark C. Christie, Chairman;  
Willie L. Phillips, David Rosner,  
Lindsay S. See, and Judy W. Chang.

Corpus Christi Liquefaction, LLC  
& CCL Midscale 8-9, LLC

Docket No. CP23-129-000

ORDER GRANTING AUTHORIZATION UNDER SECTION 3 OF THE NATURAL  
GAS ACT

(Issued March 10, 2025)

1. On March 30, 2023, Corpus Christi Liquefaction, LLC (Corpus Christi) and CCL Midscale 8-9, LLC (CCL Midscale) (jointly, Applicants) filed an application pursuant to section 3 of the Natural Gas Act (NGA)<sup>1</sup> and Part 153 of the Commission's regulations<sup>2</sup> requesting authorization for a second expansion of the Corpus Christi liquefied natural gas (LNG) terminal in San Patricio and Nueces Counties, Texas (CCL Terminal). The proposed project (Midscale Trains 8 & 9 Project or project) includes adding two midscale liquefaction trains (Trains 8 & 9) and associated facilities, as well as increasing the authorized loading rate at the CCL Terminal's existing marine berth. For the reasons discussed in this order, we grant the requested authorization, subject to the conditions herein.

**I. Background**

2. The Applicants are Delaware limited liability companies, each with a primary place of business located in Houston, Texas, and are wholly owned subsidiaries of Cheniere Energy, Inc. (Cheniere Energy), which develops LNG terminals and natural gas pipelines in the Gulf Coast region. The Applicants are subject to the Commission's jurisdiction under NGA section 3.

3. As further described below, the Commission has authorized three proposals by Corpus Christi, Cheniere Energy, and their affiliates to site, construct, and operate LNG export facilities on the northern shore of Corpus Christi Bay in San Patricio and

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<sup>1</sup> 15 U.S.C. § 717b.

<sup>2</sup> 18 C.F.R. pts. 153, 380 (2024).

Nueces Counties, Texas. On December 30, 2014, the Commission issued an order (Authorization Order) under NGA section 3 authorizing Corpus Christi to site, construct, and operate export facilities located on the north end of the La Quinta Channel in San Patricio and Nueces Counties, Texas (Liquefaction Project).<sup>3</sup> As authorized by the Authorization Order, the major components of the Liquefaction Project include: three liquefaction trains, each capable of producing approximately five million metric tons per annum (MTPA) of LNG for a total liquefaction capacity of approximately 15 MTPA or 767 billion cubic feet per year (Bcf/y) of natural gas; three LNG storage tanks, each capable of storing 160,000 cubic meters (m<sup>3</sup>) of LNG or approximately 3.6 billion cubic feet of natural gas; two trains of ambient air vaporizers; and a marine terminal with two berths, each capable of receiving LNG carrier vessels.<sup>4</sup> Corpus Christi placed Trains 1 and 2, two full containment LNG storage tanks, and one of its berths into service in 2019 and placed Train 3, the third full containment LNG storage tank, and the second berth into service in 2021.

4. On November 22, 2019, the Commission issued an order (Stage 3 Authorization Order)<sup>5</sup> granting NGA section 3 authorization to Corpus Christi and Corpus Christi Liquefaction Stage III, LLC to construct and operate the Stage 3 LNG Project (Stage 3 Project, Midscale Trains 1-7).<sup>6</sup> The Stage 3 Authorization Order authorized the construction of seven midscale liquefaction trains (Midscale Trains 1-7) at a site located adjacent to the Liquefaction Project.<sup>7</sup> The Stage 3 Authorization Order also approved the construction and operation of a 160,000 m<sup>3</sup> full-containment LNG storage tank and appurtenant facilities.<sup>8</sup> Construction activities for the Stage 3 Project are on-going.

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<sup>3</sup> *Corpus Christi Liquefaction, LLC*, 149 FERC ¶ 61,283 (2014) (Authorization Order) (approving 2.4 Bcf/d of liquefaction capacity), *reh'g denied*, 151 FERC ¶ 61,098 (2015).

<sup>4</sup> *Id.*

<sup>5</sup> *Corpus Christi Liquefaction, LLC*, 169 FERC ¶ 61,135 (2019) (Stage 3 Authorization Order); *Corpus Christi Liquefaction, LLC*, 179 FERC ¶ 61,087, *reh'g denied*, 180 FERC ¶ 62,009 (2022).

<sup>6</sup> Effective June 15, 2022, Liquefaction Stage III, LLC was merged into Corpus Christi.

<sup>7</sup> Stage 3 Authorization Order, 169 FERC ¶ 61,135.

<sup>8</sup> *Id.*

5. On October 21, 2021, the Commission approved Corpus Christi's proposal to amend its section 3 authorization to increase the Liquefaction Project's maximum authorized liquefaction production capacity from 767 Bcf/y to 875.16 Bcf/y, to reflect the facilities' actual capabilities.<sup>9</sup>

6. On May 18, 2023, the Commission issued an order, at Corpus Christi's request, vacating in part the Stage 3 Authorization Order with respect to the Stage 3 Project's LNG storage tank and appurtenant facilities because Corpus Christi determined that it could accommodate all the storage needs of the Stage 3 Project with the three existing LNG storage tanks.<sup>10</sup>

7. The Department of Energy's Office of Fossil Energy (DOE/FE) has issued long-term authorizations under NGA section 3<sup>11</sup> authorizing Corpus Christi to export LNG from the Liquefaction Project (Trains 1-3) in a total volume equivalent to 875.16 Bcf/y of natural gas to both Free Trade Agreement (FTA) and non-FTA countries.<sup>12</sup> Additionally, Corpus Christi holds two long-term authorizations issued by DOE/FE to export domestically-produced LNG by vessel from the Stage 3 Project (Midscale Trains 1-7) to both FTA and non-FTA countries in a volume equivalent to 582.14 Bcf/y.<sup>13</sup>

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<sup>9</sup> *Corpus Christi Liquefaction, LLC*, 177 FERC ¶ 61,029 (2021).

<sup>10</sup> *Corpus Christi Liquefaction, LLC*, 183 FERC ¶ 61,127 (2023). *See infra* P 13.

<sup>11</sup> 15 U.S.C. § 717b.

<sup>12</sup> *Cheniere Marketing, LLC*, DOE/FE Order No. 3164, Docket No. 12-99-LNG (October 16, 2012) (authorizing Cheniere Marketing to export 767 Bcf/yr to FTA countries); *Cheniere Marketing, LLC and Corpus Christi Liquefaction, LLC*, DOE/FE Order No. 3638, Docket No. 12-97-LNG (May 12, 2015) (authorizing Corpus Christi to export 767 Bcf/yr to non-FTA countries); *Cheniere Marketing, LLC and Corpus Christi Liquefaction, LLC*, DOE/FE Order No. 4519, Docket No. 19-124-LNG (April 14, 2020) (authorizing Corpus Christi to export 108.16 Bcf/yr to FTA countries); *Cheniere Marketing, LLC and Corpus Christi Liquefaction, LLC*, DOE/FE Order No. 4799, (2022) (authorizing Corpus Christi to export 108.16 Bcf/yr to non-FTA countries).

<sup>13</sup> *Corpus Christi Liquefaction Stage III, LLC*, DOE/FE Order No. 4277, Docket No. 18-78-LNG (November 9, 2018) (authorizing Corpus Christi Liquefaction, LLC to export 582.14 Bcf/yr to FTA countries); *Corpus Christi Liquefaction, LLC*, DOE/FE Order No. 4490, Docket No. 18-78-LNG (February 10, 2020) (authorizing Corpus Christi Liquefaction, LLC to export 582.14 Bcf/yr to non-FTA countries), *amended by*, DOE/FE Order Nos. 4277-A, 4490-A, Docket No. 18-78-LNG (October 21, 202) (extending export term).

8. On April 6, 2023, the Applicants and Cheniere Marketing, LLC filed an application with DOE/FE seeking a long-term, multi-contract authorization to export LNG up to a total equivalent of 170 Bcf/y from the proposed Midscale Trains 8 & 9 Project to FTA and non-FTA countries. On July 19, 2023, DOE/FE approved the Applicants' request to export LNG to FTA countries for a term commencing on the date of first commercial export from the project and extending through December 31, 2050.<sup>14</sup> The request to export LNG to non-FTA countries remains pending. Thus, in total, the CCL Terminal is authorized to export a total volume of LNG equivalent to 1627.3 Bcf/yr of natural gas, to FTA countries and 1457.3 Bcf/yr of natural gas to non-FTA countries, as set forth in DOE/FE's respective orders.

## II. Proposal

9. The Midscale Trains 8 & 9 Project is a second expansion of the initial CCL Terminal. Specifically, the Applicants propose to construct Trains 8 & 9 and supporting infrastructure capable of liquefying up to approximately 170 Bcf/y<sup>15</sup> of domestically produced natural gas for export, which would interconnect and operate in conjunction with the Applicant's existing LNG storage tanks, control buildings, marine facilities, and other ancillary facilities. Additionally, Applicants request authorization to increase the maximum rate for the loading of LNG carriers at either of the two jetties at the CCL Terminal's existing marine berth from 12,000 cubic meters per hour (m<sup>3</sup>/hr) to 14,000 m<sup>3</sup>/hr, using a combination of two or three of the existing LNG storage tanks. Applicants also request authorization to provide for simultaneous loading capabilities at a combined rate of 22,500 m<sup>3</sup>/hr (not to exceed 12,000 m<sup>3</sup>/hr on a single line), using the three existing LNG storage tanks. Finally, Applicants propose certain operational enhancements at the CCL Terminal, which include the addition of refrigerant storage to serve Trains 8 & 9 and the CCL Terminal; an end flash gas (EFG) unit, which will service Trains 8 to 9 and Trains 1-7; and a sixth boil-off gas (BOG) compressor to the CCL Terminal.

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<sup>14</sup> *Corpus Christi Liquefaction, LLC; CCL Midscale 8-9, LLC, and Cheniere Marketing, LLC*, DOE/FE Order No. 5019, Docket No. 23-46-LNG (July 19, 2023).

<sup>15</sup> This liquefaction capacity is approximately equivalent to 3.28 million metric tons per annum (MTPA) of LNG or 0.47 Bcf per day of natural gas. The Midscale Trains 8 & 9 Project will increase the approved liquefaction capacity at the Corpus Christi LNG Terminal from 3.99 Bcf/d to 4.46 Bcf/d. The additional 0.47 Bcf/d would represent a 3.2% increase above the total 14.43 Bcf/d of liquefaction capacity across the 8 LNG export terminals approved and operating today. The additional 0.4647 Bcf/d of liquefaction capacity would represent a 0.9% increase above the total 49.06 Bcf/d across all 20 LNG export terminals approved by the Commission to date.

10. As proposed in the application, feed gas for the project will be transported to the CCL Terminal by a combination of the previously-authorized Corpus Christi Pipeline facilities<sup>16</sup> and a non-jurisdictional intrastate pipeline, referred to as the Agua Dulce Corpus Christi (ADCC) pipeline. The ADCC pipeline is an approximately 40-mile-long intrastate pipeline designed to transport up to 1.7 Bcf/d, to be operated by WWM Operating, LLC and owned by ADCC Pipeline, LLC.<sup>17</sup> The ADCC pipeline, which connects the Agua Dulce natural gas hub to the CCL Terminal, entered commercial service on July 1, 2024.

11. Once the Midscale Trains 8 & 9 Project is completed, Applicants anticipate that the maximum marine vessel traffic will increase by up to 80 LNG carriers per year, i.e., a total of up to 480 LNG carriers per year as compared to the 400 LNG carriers per year anticipated for the previously authorized facilities. Applicants propose to utilize the existing CCL Terminal marine facilities, including the existing marine flare and the CCL Terminal tug fleet. No new marine facilities will be required for the project.<sup>18</sup>

12. On February 9, 2023, Applicants filed a request with the U.S. Coast Guard for a Letter of Recommendation confirming that the waterway can adequately accommodate the proposed 480 LNG carriers per year. On January 25, 2024, the Coast Guard issued a Letter of Recommendation stating that the Corpus Christi Ship Channel from the entrance approach at Port Aransas to La Quinta Junction and entire length of the La Quinta Channel would be “considered suitable for the additional LNG marine traffic that is anticipated as a result from the additional capacity of LNG.”<sup>19</sup>

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<sup>16</sup> Authorization Order, 149 FERC ¶ 61,283 (authorizing the construction of the Corpus Christi Pipeline, a 23-mile-long, 48-inch-diameter pipeline from Corpus Christi Liquefaction’s facilities to a point near the City of Sinton, Texas); Stage 3 Authorization Order, 169 FERC ¶ 61,135 (authorizing construction of the Stage 3 Pipeline, a 21-mile-long, 42-inch-diameter pipeline running parallel to the Corpus Christi Pipeline).

<sup>17</sup> The ADCC Pipeline is a joint venture owned 30% by Cheniere ADCC Investments, LLC, a wholly-owned subsidiary of Cheniere Energy, and 70% by Whistler Pipeline LLC, which is a joint venture between WhiteWater Midstream, LLC; MPLX LP; and Enbridge Inc.

<sup>18</sup> The existing marine flare is designed to handle boil-off gas from the LNG storage tanks, if the tank boil-off gas systems are unavailable, as well as vapors from loading warm LNG ships.

<sup>19</sup> January 29, 2024 memorandum attaching the Coast Guard’s January 25, 2024 Letter of Recommendation and analysis document Corpus Christi Midscale Trains 8 & 9 Project, emailed to Commission staff on January 25, 2024.

13. The construction footprint of the proposed Midscale Trains 8 & 9 Project is approximately 443 acres, of which 342 acres are located within the existing project boundary of the CCL Terminal, including the area within the CCL Terminal originally approved for the now-vacated Stage 3 LNG Storage Tank.<sup>20</sup> The remaining 101 acres for project construction are located on lands directly adjacent to the CCL Terminal.

### **III. Notice, Interventions, Protests, and Comments**

14. Notice of the application was published in the *Federal Register* on April 20, 2023, with motions to intervene due by May 4, 2023.<sup>21</sup> Ingleside on the Bay Coastal Watch Association, Inc. (Ingleside) and Indigenous Peoples of the Coastal Bend<sup>22</sup> each filed timely motions to intervene, as did, jointly, Healthy Gulf, Sierra Club, Texas Campaign for the Environment, Chispa Texas, and Ingleside on the Bay Coastal Watch Association, Inc (collectively, Sierra Club).<sup>23</sup>

15. Ingleside, Indigenous Peoples of the Coastal Bend, and Sierra Club protested the application, generally asserting that the proposed project is inconsistent with the public interest, with Ingleside focusing on the project's impacts on residents' health, safety, and quality of life. Sierra Club and other commenters contend that the Commission is required to prepare an environmental impact statement (EIS), rather than an environmental assessment, for the Midscale Trains 8 & 9 Project. These concerns are addressed in the Environmental Assessment (EA) and are discussed further below.

16. The Commission also received protests and comments in opposition to the application from individuals and affected landowners. The concerns raised by commenters pertain to the environmental impacts of the project, including impacts to air and water quality, coastline erosion, marine and wildlife habitats, human health, land use, noise, aesthetics, recreation, and fishing. These protests, comments, and concerns are addressed in the EA, as well as the environmental section of this order.

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<sup>20</sup> Application at 14-15.

<sup>21</sup> 88 Fed. Reg. 24399 (April 20, 2023).

<sup>22</sup> The Indigenous Peoples of the Coastal Bend, an intertribal community group in Corpus Christi, Texas, comprises the following Tribes: Karankawa Kadla, Lipan Apache, Mexica, Comanche, and Coahuiltecan.

<sup>23</sup> 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 (2024).

17. On May 24, 2023, Applicants filed an answer to the comments and protests by the Indigenous Peoples of the Coastal Bend, Ingleside, Sierra Club, and several individual commenters. Although the Commission's Rules of Practice and Procedure do not permit answers to protests unless otherwise ordered by the decisional authority,<sup>24</sup> we will accept the answer herein because it clarifies the concerns raised and provides information that has assisted in our decision making.

#### IV. Discussion

##### A. Public Interest Standard Under Section 3 of the NGA

18. Because the proposed facilities will be used to export natural gas to foreign countries, the siting, construction, and operation of the proposed facilities require Commission approval under NGA section 3.<sup>25</sup> Section 3 provides that an application shall be approved if the Commission finds the proposal "will not be [in]consistent with the public interest," subject to "such terms and conditions as the Commission [may] find necessary or appropriate."<sup>26</sup> As the U.S. Court of Appeals for the D.C. Circuit (D.C. Circuit) has explained, the NGA section 3 standard that a proposal "shall" be authorized unless it "will not be consistent with the public interest[,]"<sup>27</sup> "sets out a general

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<sup>24</sup> 18 C.F.R. § 385.213(a)(2) (2024).

<sup>25</sup> 15 U.S.C. § 717b(a). The regulatory functions of NGA section 3 were transferred to the Secretary of Energy of the DOE 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. 00-004.00A, effective May 16, 2006. The Commission does not authorize importation or exportation of the commodity itself. Rather, applications for authorization to import or export natural gas must be submitted to the 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).

<sup>26</sup> 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 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).

<sup>27</sup> 15 U.S.C. § 717b(a)).

presumption favoring such authorizations.”<sup>28</sup> To overcome this favorable presumption and support denial of an NGA section 3 application, there must be an “affirmative showing of inconsistency with the public interest.”<sup>29</sup> In addition, NGA section 3(c) provides that the exportation of gas to nations with which there is in effect a free trade agreement (FTA nations) “shall be deemed to be consistent with the public interest.”<sup>30</sup>

19. Ingleside faults the Applicants’ evidentiary basis for project need, arguing that other nations are capable of meeting the demand for LNG in the global market.<sup>31</sup> Ingleside further argues that the incremental greenhouse gas emissions caused by foreign consumption of the project’s exported LNG and increased marine vessel traffic would worsen environmental impacts to Ingleside and coastal communities.<sup>32</sup>

20. As the Commission has previously explained,<sup>33</sup> the Secretary of Energy has not delegated to the Commission any authority to approve or disapprove the import or export of the commodity of natural gas itself.<sup>34</sup> Therefore, we decline to address those comments that are relevant only to the exportation of the LNG, which is within DOE’s

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<sup>28</sup> *Ctr. for Biological Diversity v. FERC*, 67 F.4th 1176, 1188 (D.C. Cir. 2023) (*Alaska LNG*) (quoting *W. Va. Pub. Servs. Comm’n v. U.S. Dep’t of Energy*, 681 F.2d 847, 856 (D.C. Cir. 1982)); see also *Sierra Club v. U.S. Dep’t of Energy*, 867 F.3d 189, 203 (D.C. Cir. 2017) (*Freeport II*).

<sup>29</sup> *Freeport II*, 867 F.3d at 203 (quoting *Panhandle Producers & Royalty Owners Ass’n v. Econ. Regul. Admin.*, 822 F.2d 1105, 1111 (D.C. Cir. 1987) (*Panhandle Producers*)).

<sup>30</sup> 15 U.S.C. § 717b(c).

<sup>31</sup> Ingleside May 4, 2023 Comments at 1.

<sup>32</sup> Ingleside May 4, 2023 Motion to Intervene.

<sup>33</sup> See *Alaska Gasline Dev. Corp.*, 171 FERC ¶ 61,134, at P 15, *order on reh’g*, 172 FERC ¶ 61,214 (2020).

<sup>34</sup> See *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) (*Freeport*) (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).

exclusive jurisdiction and are not implicated by our limited action of reviewing the construction and operation of 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[.]"<sup>35</sup> while "export decisions [are] squarely and exclusively within the [DOE]'s wheelhouse."<sup>36</sup> As noted above, Corpus Christi received authorization from DOE/FE, pursuant to its authority under NGA section 3, to annually export volumes equivalent to 170 Bcf/y of LNG to FTA nations from its proposed Midscale Trains 8 & 9 Project.<sup>37</sup> Thus, the project's production capacity may be statutorily deemed in the public interest.<sup>38</sup>

21. Sierra Club also contends that the Commission did not meaningfully balance the project's costs and benefits.<sup>39</sup> Sierra Club further asserts that the Commission's failure to articulate a standard for determining whether a project's harms outweigh its benefits renders any decision by the Commission arbitrary and capricious in violation of the Administrative Procedure Act.<sup>40</sup>

22. We disagree. We have reviewed the Applicants' proposal, including consideration of the environmental impacts,<sup>41</sup> to determine if the siting, construction, and operation of the proposed expansion of the Corpus Christi LNG terminal would not be consistent with the public interest.<sup>42</sup> Here, the Commission finds that the requested NGA section 3

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<sup>35</sup> *Trunkline Gas Co., LLC*, 155 FERC ¶ 61,328, at P 18 (2016).

<sup>36</sup> *Freeport*, 827 F.3d at 46.

<sup>37</sup> *Supra* note 14.

<sup>38</sup> *See Commonwealth LNG, LLC*, 183 FERC ¶ 61,173 at P 44 (2023).

<sup>39</sup> Siera Club May 4, 2023 Comments at 3.

<sup>40</sup> *Id.* at 4.

<sup>41</sup> *See Nat'l Steel Corp.*, 45 FERC ¶ 61,100, at 61,332-33 (1988) (observing that the "Commission's authority [regarding an LNG import facility] is limited to consideration of the place of importation, which necessarily includes the technical and environmental aspects of any related facilities.").

<sup>42</sup> *See* 15 U.S.C. § 717b; *see, e.g., Commonwealth LNG, LLC*, 183 FERC ¶ 61,173, at P 37 (2023) (explaining the standard under NGA section 3 and the Commission's application of the standard).

authorization is not inconsistent with the public interest.<sup>43</sup> None of the information analyzed and disclosed in our environmental analysis undermines this conclusion.

23. In accordance with the Memorandum of Understanding signed on August 31, 2018, by the Commission and the Department of Transportation's (DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA),<sup>44</sup> PHMSA undertook a review of the proposed project's ability to comply with the federal safety standards under Part 193, Subpart B, of Title 49 of the Code of Federal Regulations.<sup>45</sup> On February 13, 2024, PHMSA issued a Letter of Determination (LOD) indicating that the applicants have demonstrated that the siting of the proposed Midscale Trains 8 & 9 Project complies with these federal safety standards. The LOD includes three conditions that must be met: submission of pressure relief valve testing procedures, a car seal program,<sup>46</sup> and final design documentation on instrumentation used to monitor temperature and pressure of routinely isolated piping segments to warn operators of increasing temperature and pressure.<sup>47</sup>

24. Prior to receiving the LOD from PHMSA, as part of Commission staff's safety and reliability review included in the EA, Commission staff made similar recommendations regarding the pressure relief valves, operating and maintenance procedures, a car seal program, and instrumentation that may relate to the provisions stipulated by DOT PHMSA. Commission staff will coordinate with DOT PHMSA on any overlapping conditions to reduce conflict or duplication. If the 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.

25. The Applicants will operate the LNG terminal under the terms and conditions mutually agreed to by its customers and will solely bear the responsibility for the recovery

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<sup>43</sup> *Id.* P 18.

<sup>44</sup> *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>.

<sup>45</sup> 49 C.F.R. pt. 193, subpt. B (2021).

<sup>46</sup> Physical devices used to lock a valve in a pre-defined position to prevent inadvertent operation of the valve.

<sup>47</sup> Specifically, these LOD provisions stipulate "CCL must provide to PHMSA the pressure safety valve testing procedure, car seal program, and final design safeguards to warn of increasing temperature and pressure for piping segments routinely isolated by procedure."

of any costs associated with construction and operation of the terminal and associated facilities. Accordingly, the Applicants' proposal does not trigger NGA section 3(e)(4).<sup>48</sup>

26. In view of the above, after careful consideration of the entire record in this proceeding, including the findings and recommendations of the EA, we find that, subject to the conditions imposed in this order, the Applicants' proposal is not inconsistent with the public interest. Therefore, we will grant the Applicants' application for authorization under section 3 of the NGA to site, construct, and operate their proposed Midscale Trains 8 & 9 Project.

## V. Environmental Analysis

27. On November 10, 2022, the Commission issued a *Notice of Scoping Period Requesting Comments on Environmental Issues for the Planned Corpus Christi Liquefaction Midscale Trains 8 & 9 Project and Notice of Public Scoping Session*.<sup>49</sup> The notice was published in the *Federal Register*<sup>50</sup> 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. In response to the notice, the Commission received comments from the EPA, Texas Parks and Wildlife Department (Texas PWD), U.S. National Oceanic and Atmospheric Administration (NOAA), Texas Commission on Environmental Quality (Texas CEQ), non-governmental organizations (NGO), and individuals.

28. On December 1, 2022, the Commission staff conducted a public scoping session in Gregory, Texas, to provide the public with an opportunity to learn more about the project and comment on environmental issues that should be addressed in the environmental document. In total, 12 individuals provided oral comments on the project at the Commission's scoping session. Transcripts of the scoping session were entered into the public record in Docket No. PF22-10-000 during the pre-filing process for the Applicant's proposal.

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<sup>48</sup> 15 U.S.C. § 717b(e)(4) (governing orders for LNG terminals offering open access service).

<sup>49</sup> On September 9, 2022, Commission staff granted the Applicant's request to use the National Environmental Policy Act Pre-Filing Process and assigned Docket No. PF22-10-000. The Pre-Filing Process ended on March 30, 2023 with the filing of the application under Docket No. CP23-129-000.

<sup>50</sup> 87 Fed. Reg. 69015 (Nov. 17, 2022).

29. Pursuant to NEPA,<sup>51</sup> Commission staff prepared an EA for the Applicants' proposal, with the cooperation of the Coast Guard, DOE, and PHMSA. The analysis in the EA addresses geology, soils, water resources, wetlands, vegetation, fisheries, wildlife, threatened and endangered species, land use, recreation, visual resources, cultural resources, air quality, noise, safety, socioeconomics, cumulative impacts including climate change, and alternatives. Under NEPA, the Commission considers impacts to all potentially affected communities. The EA addressed all substantive environmental comments and concluded that approval of the project would not constitute a major federal action significantly affecting the quality of the human environment.<sup>52</sup>

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<sup>51</sup> 42 U.S.C. §§ 4321 *et seq.*, *see also* 18 C.F.R. pt. 380 (2024) (Commission's regulations implementing NEPA). On February 19, 2025, the Council on Environmental Quality (CEQ) issued an interim final rule rescinding its NEPA regulations, 90 Fed. Reg. 10610 (Feb. 25, 2025), and a memorandum directing agencies to "continue to follow their existing practices and procedures" while considering revising or establishing their own NEPA implementing procedures. *Memorandum for Heads of Departments and Agencies: Implementation of the National Environmental Policy Act*, CEQ (Feb. 19, 2025), <https://ceq.doe.gov/docs/ceq-regulations-and-guidance/CEQ-Memo-Implementation-of-NEPA-02.19.2025.pdf> (accessed Feb. 24, 2025). Additionally, the Commission is aware of the recent court decisions regarding CEQ's rulemaking authority. *Marin Audubon Society v. Fed. Aviation Admin.*, 121 F.4th 902 (D.C. Cir. 2024) (holding that CEQ's regulations implementing NEPA are not judicially enforceable or binding), *reh'g denied en banc*, No. 23-1067, 2025 WL 374897 (D.C. Cir. Jan. 31, 2025); *Iowa v. CEQ*, No. 1:24-cv-00089 (D.N.D. Feb. 3, 2025) (vacating CEQ's 2024 regulations). We are continuing to review the recent changes in the law and may take such further action as is appropriate.

<sup>52</sup> EA at 57. Commission staff could not determine whether the impacts from GHG emissions attributable to the project would be significant or insignificant. *Id.* at 54; *infra* PP 68-69; *see* 42 U.S.C. § 4336(b)(2) ("An agency shall prepare an environmental assessment with respect to a proposed agency action that does not have a reasonably foreseeable significant effect on the quality of the human environment, or if the significance of such effect is unknown . . ."). We note that NEPA does not require that the Commission formally label project-related GHG emissions as significant or insignificant. *See Citizens Action Coal. v. FERC*, 125 F.4th 229, 241-242 (D.C. Cir. 2025) (*Citizens Action Coal.*) (holding that "the absence of a 'significance' label does not violate NEPA, CEQ guidance, or FERC regulations") (citing *East 300*, 104 F.4th at 346); *see also Transcon. Gas Pipe Line Co.*, 187 FERC ¶ 61,200, at P 33 (2024) (applying *East 300* in the context of an EA).

30. The EA was issued on June 21, 2024, and notice of the EA was published in the *Federal Register* on June 27, 2024,<sup>53</sup> establishing a 30-day comment period. A Notice of Availability of the EA was 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. The Commission received comments on the EA regarding the project purpose and need, vessel traffic, threatened and endangered species, environmental justice, socioeconomics, cultural resources, reliability and safety, water quality, alternatives, GHG emissions, and air quality and noise, which are addressed below. Applicants also filed comments on the EA providing technical clarifications and updates on permitting status.<sup>54</sup> The Kickapoo Traditional Tribe of Texas states that it has no specific comments on the EA but notes that the Tribe does not own land in or near the project area and the project would not affect any known cultural, historical, or sacred sites.<sup>55</sup> In addition, United States Senators John Cornyn and Ted Cruz, four NGOs, the Port of Corpus Christi, and Del Mar College filed comments in support of the project, asserting it would, among other things, bring jobs to the area and increase economic growth. We respond to comments on the EA below.

31. The EA included a separate analysis of the impacts of the project on communities with environmental justice (EJ) concerns.<sup>56</sup> Sierra Club argues that the Commission failed to take a hard look at how the project will affect EJ communities.<sup>57</sup> The EA's separate analysis of the impacts of the project on communities with EJ concerns was based on Executive Orders 12898, 13985, and 14096.<sup>58</sup> These Executive Orders were revoked in January 2025.<sup>59</sup> However, the Commission continues to fulfill its NEPA

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<sup>53</sup> 89 Fed. Reg. 53616 (June 27, 2024).

<sup>54</sup> Applicants August 2, 2024 Comments.

<sup>55</sup> Kickapoo Traditional Tribe of Texas July 16, 2024 Comments.

<sup>56</sup> EA at 31-39; *id.* at 39 (concluding that construction and operation of the project would have a disproportionate and adverse impact on communities with environmental justice concerns, but the impacts would be less than significant).

<sup>57</sup> Sierra Club July 22, 2024 Comments at 29-50.

<sup>58</sup> EA at 31, 32.

<sup>59</sup> Exec. Order No. 14148, 90 Fed. Reg. 8237 (Jan. 28, 2025) (revoking Executive Orders 13985 and 14096); Exec. Order 14173, 90 Fed. Reg. 8633 (Jan. 31, 2025) (revoking Executive Order 12898).

responsibilities by considering impacts to all potentially affected communities.<sup>60</sup> Accordingly, in this order we focus on consideration of the direct, indirect, and cumulative environmental effects of the project on all communities, and as relevant to Sierra Club's specific concerns, the EA's discussion of the air quality,<sup>61</sup> visual,<sup>62</sup> noise,<sup>63</sup> socioeconomic,<sup>64</sup> and human health impacts.<sup>65</sup>

**A. Need for an Environmental Impact Statement**

32. The Commission received comments contending that the Commission erred by not preparing an EIS to assess the project's impacts.<sup>66</sup> Commenters generally assert that the Commission should have prepared an EIS rather than an EA for the project to assess the project's impacts on the local ecology,<sup>67</sup> recreation,<sup>68</sup> human health,<sup>69</sup> air quality<sup>70</sup>

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<sup>60</sup> See 42 U.S.C. § 4331 (setting forth NEPA's environmental protection objectives, including to "assure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings").

<sup>61</sup> *Infra* PP 46-57.

<sup>62</sup> *Infra* P 58.

<sup>63</sup> *Infra* P 59.

<sup>64</sup> *Infra* PP 60-61.

<sup>65</sup> *Infra* PP 62-66.

<sup>66</sup> Deborah A. Ferrell May 2, 2023 Comments; Lou Valdes May 2, 2023 Comments; Cyndi L Valdes May 4, 2023 Comments; Suzie and Steve Wilder May 4, 2023 Comments; Kathryn Masten May 4, 2023 Comments; Sierra Club May 4, 2023 Comments; Ingleside May 4, 2023 and July 22, 2024 Comments.

<sup>67</sup> Deborah A. Ferrell May 2, 2023 Comments.

<sup>68</sup> Suzie and Steve Wilder May 4, 2023 Comments; Cyndi L Valdes May 4, 2023 Comments.

<sup>69</sup> Ingleside May 4, 2023 Comments at 3; July 22, 2024 Comments at 4.

<sup>70</sup> Ingleside July 22, 2024 Comments at 5.

and increased marine vessel traffic,<sup>71</sup> as well as the cumulative effects of prior Commission authorizations at the CCL Terminal.<sup>72</sup>

33. An EA is a concise public document that serves to provide sufficient evidence and analysis based on which a federal agency can determine whether a proposed action will have a significant environmental impact.<sup>73</sup> The Commission's regulations provide that "[i]f 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."<sup>74</sup>

34. In preparing the EA, Commission staff fulfilled its obligation under NEPA to consider and disclose the environmental impacts of the Midscale Trains 8 & 9 Project. The EA addresses the impacts that could occur if the project were approved, constructed, and placed into operation, including the issues raised by the commenters.<sup>75</sup> As detailed below, we find that if the project is constructed and operated in accordance with Applicants' application and supplement, and in compliance with the environmental conditions in the appendix to this order, the project would not constitute a major federal action significantly affecting the quality of the human environment.<sup>76</sup> Thus, an EIS is not required.

## **B. Purpose and Need and Alternatives**

35. In its comments on the EA, Sierra Club on behalf of Indigenous Peoples of the Coastal Bend, Chispa Texas, Ingleside, and Texas Campaign for the Environment (Sierra Club) argues that the EA's statement of purpose and need is too narrow and, thus, forecloses consideration of an adequately broad set of reasonable alternatives, but Sierra Club did not identify any alternative that was not already considered in the EA. It further contends that, by using the Applicants' purpose and need statement, the EA lacks sufficient discussion of the project's need, including whether the proposed capacity of

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<sup>71</sup> *Id.* at 5.

<sup>72</sup> Kathryn Masten May 4, 2023 Comments; Lou Valdes May 2, 2023 Comments.

<sup>73</sup> 18 C.F.R. § 380.2(d) (2024).

<sup>74</sup> 18 C.F.R. § 380.6(b) (2024).

<sup>75</sup> EA at sections 4 (ecology), 6.2 (recreation), 8.1 (air quality), 7.1 (marine vessel traffic), 10 (cumulative impacts), and Appendix F (human health).

<sup>76</sup> *See infra* P 120.

2.8 Bcf/d is needed and, if so, the source of that supply.<sup>77</sup> Sierra Club argues that the Commission should craft a broader purpose and need for the project and assess environmental impacts accordingly.<sup>78</sup>

36. NEPA provides that agencies must include “a detailed statement” of “a reasonable range of alternatives to the proposed agency action, including an analysis of any negative environmental impacts of not implementing the proposed agency action in the case of a no action alternative, that are technically and economically feasible, and meet the purpose and need of the proposal.”<sup>79</sup> Where, as here, a federal agency is not the sponsor of a project, “the Federal government’s consideration of alternatives may accord substantial weight to the preferences of the applicant and/or sponsor in the siting and design of the project,” and courts have upheld federal agencies’ consideration of applicants’ project purpose and need in environmental documents and as a basis for evaluating alternatives.<sup>80</sup> When an agency is asked to consider a specific proposal, the needs and goals of the parties involved in the application should be taken into account.<sup>81</sup>

37. We recognize that a project’s purpose and need may not be so narrowly defined as to preclude consideration of reasonable alternatives. Nonetheless, an agency need only consider alternatives that will bring about the ends of the proposed action, and the evaluation is “shaped by the application at issue and by the function that the agency plays in the decisional process.”<sup>82</sup> Moreover, because the alternatives considered under NEPA are informed both by “the project sponsor’s goals,”<sup>83</sup> as well as “the goals that Congress

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<sup>77</sup> Sierra Club July 22, 2024 Comments at 2-4.

<sup>78</sup> *Id.* at 4.

<sup>79</sup> 42 U.S.C. § 4332(c)(iii).

<sup>80</sup> *E.g.*, *City of Grapevine v. U.S. Dep’t of Transp.*, 17 F.3d at 1506; *Citizens Against Burlington, Inc.*, 938 F.2d at 199 (explaining that the evaluation of alternatives is “shaped by the application at issue and by the function that the agency plays in the decisional process.”).

<sup>81</sup> *Citizens Action Coal.* 125 F.4th at 237 (citing *Citizens Against Burlington, Inc.*, 938 F.2d at 196 (explaining that the Commission “must identify a project’s purpose in light of the applicant’s goals and the agency’s statutory authority”).

<sup>82</sup> *Citizens Against Burlington*, 938 F.2d at 199.

<sup>83</sup> *Id.* at 196.

has set for the agency,”<sup>84</sup> i.e., the goals set in enacting the NGA, the Commission’s consideration of alternatives includes the no-action alternative and alternatives that could achieve the purpose of the project. As required by NEPA and Commission policy, the EA appropriately examined the no-action alternative, system alternatives, and site alternatives. As concluded in the EA, the reasonable alternatives considered offer no significant environmental advantage over the proposed project.<sup>85</sup> Further, Sierra Club’s comments do not identify or propose a specific project alternative for Commission staff to consider.

38. In Ingleside’s comments on the EA, it generally argues that the Commission staff’s analysis of system alternatives improperly presumes that the proposed expansion is in the public interest.<sup>86</sup> Ingleside offers no alternatives for Commission staff to consider and does not specify a system alternative that the EA failed to examine.<sup>87</sup> The EA’s review of alternatives does not make a public interest determination, but rather identifies and evaluates reasonable alternatives to the project to ascertain whether the implementation of an alternative would be environmentally preferable to the proposed action. System alternatives consider use of other existing, approved, or proposed natural gas export facilities, including modifications or expansions, to meet the stated objectives of the project, possibly with fewer or less significant adverse environmental impacts than those associated with the proposed project. The EA determined that accommodating the proposed export capacity at any other existing or proposed LNG facility would require an expansion or new facilities, resulting in environmental impacts similar to the proposed project. On that basis, the EA concluded that the system alternatives would not offer a significant environmental advantage over the proposed project.<sup>88</sup> We agree.

### C. Land Use

39. In their comments on the EA, Applicants ask that the EA’s recommendations be modified to more clearly reflect the type of restoration contemplated, given that the project will be constructed within the project boundary of the existing CCL Terminal and on leased industrial lands directly adjacent to the CCL Terminal.<sup>89</sup> As recognized by Applicants in

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<sup>84</sup> *Sierra Club v. U.S. Forest Serv.*, 897 F.3d 582, 598-99 (4th Cir. 2018).

<sup>85</sup> EA at 55-57.

<sup>86</sup> Ingleside July 22, 2024 Comments at 4.

<sup>87</sup> *Id.*

<sup>88</sup> EA at 56.

<sup>89</sup> Applicants July 22, 2024 Comments at 5.

their comments, section 6.1 (Land Use) of the EA specifically recognizes that “areas within the operational footprint of the terminal site that are disturbed during installation of facilities would be finished with pavement or gravel,” that “no seeding or revegetation plantings are proposed within the operational footprint,” and that “no restoration would occur on leased property” per the landowner’s request.<sup>90</sup> We find these measures appropriate and clear. Accordingly, we find that the EA has adequately described what is expected, the use in the EA’s recommendation section of the term “restoration” is appropriate, and no further changes are needed.

#### **D. Threatened and Endangered Species**

40. Sierra Club argues that the EA fails to account for the project’s potential impacts to the Rice’s whale and sperm whale and includes only a cursory and incomplete discussion of the direct, indirect, and cumulative effects to these endangered species.<sup>91</sup> Sierra Club challenges the EA’s discussion of the impacts from vessel strikes because the EA relies on voluntary measures, not mandatory requirements, for mariners to minimize the potential for vessel strikes.<sup>92</sup> Sierra Club also argues that the EA did not adequately examine the project’s noise impacts on the two species.<sup>93</sup> Additionally, Sierra Club suggests that the Commission must initiate formal consultation to comply with the Endangered Species Act (ESA).<sup>94</sup>

41. The EA concluded that the project may affect, but is not likely to adversely affect, a number of threatened and endangered species, including Rice’s whales and sperm whales or their designated critical habitat.<sup>95</sup> As noted in the EA, National Marine Fisheries Service (NMFS), the agency responsible for the conservation of marine species

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<sup>90</sup> EA at 23.

<sup>91</sup> Sierra Club July 22, 2024 Comments at 18. The Rice’s whale has been listed as endangered by National Marine Fisheries Service. 84 Fed. Reg. 15,446 (Apr. 15, 2019). In 1970, the sperm whale was listed as endangered throughout its range under the Endangered Species Conservation Act of 1969.

<sup>92</sup> Sierra Club July 22, 2024 Comments at 25.

<sup>93</sup> *Id.* at 27.

<sup>94</sup> *Id.* at 28.

<sup>95</sup> EA at 19. The EA explains that impacts and mitigation measures associated with species that may be affected by the project are similar to what was discussed in the

under the ESA, concurred with this conclusion.<sup>96</sup> Should NMFS designate critical habitat for the Rice's whale, Commission staff will coordinate any necessary consultation with NMFS at that time.<sup>97</sup>

42. The EA examined whether increased vessel traffic during construction and operation of the project, in addition to the other projects in the area,<sup>98</sup> could increase the potential for vessel strikes on whales in the Gulf of America. As discussed in the EA, due to their preference for offshore waters and their relative rarity in Texas waters, the occurrence of federally listed marine mammals within the project area would be limited to the portion of the LNG carrier transit route through the Gulf of America between Aransas Pass and the Exclusive Economic Zone.<sup>99</sup> In general, LNG carriers move slowly and make more noise than other vessels, allowing them to be more easily avoided by wildlife.<sup>100</sup> The EA discusses the potential cumulative impacts of vessel traffic related to congestion and vessel travel times within the La Quinta Ship Channel.<sup>101</sup> The La Quinta Ship Channel connects to the larger Corpus Christi Shipping Channel and it spans from the Ingleside on the Bay community to the CCL terminal. The EA explains that the other projects within the cumulative geographic scope for surface water and threatened and endangered species impacts are unlikely to result in increased vessel traffic.<sup>102</sup> For these reasons, we conclude that the increased potential for vessel strikes on whales in the Gulf

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Environmental Assessment completed for the Stage 3 Project. Cumulative impacts on special status species, including Rice's whale and the sperm whale, are presented in Appendix K of the EA. *Id.* at K-13.

<sup>96</sup> *Id.* at 20.

<sup>97</sup> NMFS has proposed, but not finalized, a critical habitat designation for the Rice's whale. 88 Fed. Reg. 47453 (July 24, 2023).

<sup>98</sup> The geographic scope established for water resources, including wetlands, is considered as the HUC-12 subwatershed affected by the Project. Projects identified within this geographic scope include the Stage 3 Project, Liquefaction Project, eight municipal and transportation development projects, and the ADCC Pipeline. EA at Appendix K-1.

<sup>99</sup> *Id.* at 17.

<sup>100</sup> *Id.* at 17.

<sup>101</sup> *Id.* at app. K-16.

<sup>102</sup> *Id.* at apps. K-12 - K-13.

of America, including Rice's whale and the sperm whale, resulting from the project and other projects identified in appendix K of the EA, would be less than significant.

43. Regarding noise impacts from increased vessel traffic, during project construction and operation, engine noise produced by marine vessels would result in temporary increases in underwater noise levels near transiting ships. Noise associated with these large vessels, which can startle wildlife, only exceeds ambient sound levels for a short period. These larger, slower vessels typically emit lower sound frequencies that tend to have less impact on smaller cetaceans (e.g., dolphins and porpoises).<sup>103</sup> The mobility of marine mammals (including the federally listed marine mammals) and their ability to leave any area of noise disturbance would minimize impacts from vessel traffic. Due to the temporary and intermittent nature of these noise sources, we conclude that construction and operational noise impacts from vessel traffic on marine mammals and other aquatic resources would not be significant.

#### E. Water Quality

44. EPA disagrees with the statement in the EA that "stormwater discharges from construction and operation of the project would be exempt from industrial stormwater permitting," claiming that LNG regasification facilities are not eligible for the exemption under the 2005 Energy Policy Act waiver.<sup>104</sup>

45. In response to EPA's comments, Applicants state that they coordinated with the Texas Railroad Commission, EPA Region 6 National Pollutant Discharge Elimination System Permits Branch, and EPA Headquarters Water Permits Division in 2014 in association with commencement of the CCL Terminal's first phase of development,<sup>105</sup> resulting in a consensus that the CCL Terminal is exempt from industrial stormwater requirements. Applicants refer to an email dated July 22, 2014, from the EPA Water Permits Division, stating that the exemption/waiver applies to natural gas liquefaction facilities but not LNG regasification facilities.<sup>106</sup> Applicants' proposal includes only liquefaction facilities and would not consist of any regasification facilities. Therefore, we conclude that Applicants adequately consulted with the appropriate agencies in determining that the project is exempt from stormwater permits.

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<sup>103</sup> Whale and Dolphin Conservation Society, 2004. *Oceans of Noise 2004 – A WDCS Science Report*.

<sup>104</sup> EPA July 22, 2024 Comments at 2 (quoting EA at 14).

<sup>105</sup> Applicants August 2, 2024 Comments at 4.

<sup>106</sup> *Id.*

## F. Air Quality

46. Sierra Club argues that the EA relies on outdated emissions assumptions by the Applicants that understate the total overall increase in emissions, thereby discrediting the conclusion that the project will be in compliance with the National Air Ambient Quality Standards (NAAQS).<sup>107</sup> Ingleside asserts that the project area's ozone NAAQS have already been exceeded so that the project would only further contribute to noncompliance.<sup>108</sup>

47. As stated in the EA, air quality would be affected by construction and operation of the project.<sup>109</sup> Commission staff verified Applicants' air quality impact analyses<sup>110</sup> and concluded that the maximum concentrations were below the NAAQs for all criteria pollutants.<sup>111</sup> These analyses relied on stationary source emission rates reviewed by the state regulatory agency and Commission staff.<sup>112</sup> Additionally, a cumulative impacts analysis was conducted for all criteria air pollutants over the associated averaging periods (depending on the pollutant, average concentrations are modeled variously over 1-hour, 3-hour, 8-hour, 24-hour, and annual periods).<sup>113</sup> The analysis included the emission sources (stationary and marine vessels) associated with the project, as well as existing emission sources (stationary sources and marine vessels) associated with CCL Terminal Stages 1 and 2 and 3 (Trains 1 through 7).<sup>114</sup> Recent representative background concentrations were accounted for in the cumulative impact analysis.<sup>115</sup> As discussed in

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<sup>107</sup> Sierra Club July 22, 2024 Comments at 4-5.

<sup>108</sup> Ingleside Comments at 12.

<sup>109</sup> EA at 39.

<sup>110</sup> Applicants' March 27, 2024 Response to Commission staff March 14, 2024 Data Request.

<sup>111</sup> EA at 46.

<sup>112</sup> *Id.* at app. H, tbl. H14.

<sup>113</sup> *Id.* at app. G, tbl. G2; app. H, tbls. H13 & H14.

<sup>114</sup> *Id.* at 46.

<sup>115</sup> *Id.* at app. K.

the EA, the results of these analyses showed that impacts for all criteria air pollutants and associated averaging periods to be below the NAAQS.<sup>116</sup>

48. Alternatively, Sierra Club argues that the EA cannot make a finding of no significant impact with respect to air pollution even if individual and cumulative impacts are not likely to exceed the NAAQS. Sierra Club contends compliance with the NAAQS alone does not demonstrate that the cumulative effect of air pollution impacts on human health will be insignificant.<sup>117</sup>

49. In addition to the EA's analyses examining criteria air pollutants,<sup>118</sup> Commission staff conducted a Human Health Risk Assessment that examined hazardous air pollutant emissions from the proposed project and existing emission sources at the CCL Terminal in accordance with standard EPA methodologies.<sup>119</sup> As discussed in the EA, the results of the assessment indicated that there would be no adverse health impacts on local communities.<sup>120</sup>

50. Additionally, Sierra Club argues that the EA failed to carefully identify EJ communities by setting its geographic scope to 50 kilometers; Sierra Club claims that radius is too broad to adequately assess significant impacts much closer to the project. Sierra Club points to both SF Austin Elementary and Gregory Head Start Preschool that are within 300 feet of the north end of Applicants' property and East Cliff Elementary School, which is approximately 1.5 miles from the Applicants' property boundary. Regarding air quality impacts, Sierra Club states that the Commission failed to consider existing levels of asthma or disease by income, age disparities, and lack of access to health care.<sup>121</sup>

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<sup>116</sup> *Id.* at 46.

<sup>117</sup> Sierra Club July 22, 2024 Comments at 6.

<sup>118</sup> EA at 45. To provide a more quantitative evaluation of the potential impacts of the project's operation on air quality, Applicants conducted a dispersion modeling analysis of project criteria air pollutant emissions following an approved modeling protocol.

<sup>119</sup> *Id.* at 46-47.

<sup>120</sup> *Id.* at 38 & app. F.

<sup>121</sup> Sierra Club July 22, 2024 Comments at 37.

51. As explained below,<sup>122</sup> the Commission considers the effects of the project on all communities. The Commission uses a 50-kilometer radius to assess air emission impacts as it is the distance used by the EPA for cumulative modeling of major sources of hazardous air pollutants. Sensitive receptors within the 50-kilometer radius were assessed for potential impacts that have a smaller unit of geographic analysis, including socioeconomic impacts, water resources, land traffic, marine traffic, recreational fishing and boating impacts, visual impacts, air quality and noise impacts during construction, and noise impacts during operation.<sup>123</sup> The EA discussed potential impacts on communities and sensitive receptors, including SF Austin Elementary, Gregory Head Start Preschool, and East Cliff Elementary School, as well as mitigation measures.<sup>124</sup> Cumulative impacts are discussed in section B.10 and appendix K of the EA. As discussed in the EA, concerns are not present for other resource areas, such as geology, soils, wildlife, wetlands, land use, or cultural resources, due to the minimal overall impact the project would have on these resources and/or the absence of any suggested connection between such resources and communities.<sup>125</sup> Commission staff addressed the potential for air quality impacts on communities and concluded that the highest ground-level pollutant impacts, which would occur at the closest proximity to the project site, were below all human health metrics (primary NAAQS for criteria air pollutants and human health risk assessment chronic cancer risks and chronic and acute non-cancer hazards for HAPs) in all nearby communities.<sup>126</sup> The primary NAAQS are set by the EPA at levels to protect human health, including the health of sensitive subpopulations such as children, the elderly, and people with asthma.

52. Applicants also filed several comments regarding air quality. They note that the three multi-point ground flares mentioned in the EA are being constructed as part of the Stage 3 Project and are not new emission sources for the Midscale Trains 8 & 9 Project.<sup>127</sup> The relevant text in the EA, referenced in the Applicants' comment, states that these emission sources would be "...associated with the Project...", which is not inaccurate, as emissions from the multi-point ground flares would increase under the proposed

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<sup>122</sup> *Infra* at P 61.

<sup>123</sup> EA at 34-35.

<sup>124</sup> *Id.* at 35-39.

<sup>125</sup> *Id.* at 35-36.

<sup>126</sup> *Id.* at 38. *See infra* PP 46-49, 62-66.

<sup>127</sup> Applicants July 22, 2024 Comments at 21.

project.<sup>128</sup> We confirm that the EA does not state nor intend that the multi-point ground flares are new sources to be constructed under the proposed project.

53. Applicants also seek to clarify the EA's statement that "[i]n summary, the proposed Best Available Control Technology (BACT) and resulting BACT-based emission rates for the project emissions sources would be consistent with New Source Performance Standards (NSPS), National Emission Standards for Hazardous Air Pollutants (for organics liquids distribution – subpart EEEE, stationary combustion turbines – subpart YYYY, and stationary reciprocating internal combustion engines – subpart ZZZZ), and TCEQ-stipulated emission standards (via recent PSD permits for other similar sources), as applicable."<sup>129</sup> Applicants state that the National Emission Standards for Hazardous Air Pollutants subpart EEEE determination for organics liquids distribution are not applicable to the project as there is no distribution of organic liquids associated with it because organic liquids will be transported to an onsite condensate storage tank and exported via pipeline, making them exempt from the requirements of National Emission Standards for Hazardous Air Pollutants subpart EEEE.<sup>130</sup>

54. We agree that the proposed project would not include distribution of organic liquids. However, we note that Corpus Christi's Texas CEQ application for the CCL Stage 3 permit amendment (for the addition of Midscale Trains 8 and 9), which is appendix 9A of Resource Report 9 of CCL's application, discusses applicability of National Emission Standards for Hazardous Air Pollutants subpart EEEE to the extent that condensate can be loaded into trucks for "delivery to market" (e.g., in the event of a pipeline outage).<sup>131</sup> Given this potential alternate scenario for condensate transport for the CCL Terminal in general and the discussion of it in the permit amendment applications, the EA appropriately discusses the applicability of NESHAP Subpart EEEE for organic liquids distribution.

55. Applicants additionally state that, contrary to a statement in the EA, the project does not include combustion turbines and that there are no affected sources subject to the requirements of National Emission Standards for Hazardous Air Pollutants subpart YYYY.<sup>132</sup> We agree.

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<sup>128</sup> EA at 42.

<sup>129</sup> Applicants July 22, 2024 Comments at 23.

<sup>130</sup> *Id.*

<sup>131</sup> Application at app. 9A.

<sup>132</sup> Applicants July 22, 2024 Comments at 23.

56. With regard to table H7 (Maximum Short-Term Emissions (lb/hr) of Criteria Air Pollutant and HAPs for CCL Midscale Trains 8 & 9 Project Operations) in appendix H of the EA, Applicants note that the representation for nitrogen oxides (NO<sub>x</sub>) and volatile organic compounds (VOC) do not match their December 19, 2023 response. We agree that the NO<sub>x</sub> and VOC emission rates in table H7 of the EA should show 1,116 lb/hr and 3,517 lb/hr, respectively, to be consistent with the maximum short-term MSS emission rates for ground flares presented in attachment 3A (revised table B-1) in Applicants' December 19, 2023 response. This correction does not alter the EA's analysis or conclusions.

57. Commission staff reviewed Applicants' other proposed clarifications and generally found them accurate.<sup>133</sup> The clarifications do not alter the EA's conclusions.

### **G. Visual Impacts**

58. Sierra Club claims that the Commission failed to take a hard look at how the project's visual impacts will affect EJ communities.<sup>134</sup> The permanent project facilities would be constructed within the existing CCL Terminal and the EA concludes that the proposed project facilities would either be obscured by vegetation and/or existing infrastructure or would be consistent with the current industrial use and viewshed of the area.<sup>135</sup> The additional LNG carrier visits during project operation would be consistent with the current use and visual character of the waterways. Therefore, visual impacts from the CCL Terminal proposed facilities and increased LNG carrier visits are not anticipated to be significant.<sup>136</sup>

### **H. Noise Impacts**

59. Sierra Club argues that the Commission failed to take a hard look at how the project's noise impacts will affect EJ communities.<sup>137</sup> The EA concludes that, based on the projected noise levels, the project would not result in significant cumulative noise

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<sup>133</sup> Applicants July 22, 2024 Comments.

<sup>134</sup> Sierra Club July 22, 2024 Comments at 42.

<sup>135</sup> EA at 24-25 (discussing visual impacts), 37 (discussing visual impacts on EJ communities), and apps. K, K-18 (discussing cumulative visual impacts).

<sup>136</sup> *Id.*

<sup>137</sup> Sierra Club July 22, 2024 Comments at 42.

impacts.<sup>138</sup> To ensure that the nearest noise sensitive areas are not significantly affected by noise during operation, Applicants are required to conduct and file a noise survey no later than 60 days after placing the project into service.<sup>139</sup> In the unlikely event that the survey demonstrates that noise from all of the equipment at the CCL terminal exceeds an Ldn of 55 dBA at any nearby NSA, then Applicants must install additional noise controls to meet that level within 1 year of the in-service date.<sup>140</sup> [REDACTED]

### **I. Socioeconomic Impacts**

60. Sierra Club contends that potential impacts on the leisure and hospitality sector and its dependency on tourism and recreation were left unanalyzed. Sierra Club further argues that the EA fails to provide sufficient information regarding the extent to which recreational boaters would be impacted by increased LNG carrier traffic.<sup>141</sup>

61. The EA discusses potential impacts on the local economy and employment, as well as tourism and recreation, resulting from the project.<sup>142</sup> As stated in the EA, Corpus Christi Bay supports abundant marine life that drives the tourism industry in the area.<sup>143</sup> The EA confirmed that project construction and operation, including the arrival and departure of additional LNG carriers, would not have a significant adverse impacts on recreation,<sup>144</sup> tourism,<sup>145</sup> or aquatic resources.<sup>146</sup> We agree. On that basis, we conclude that the project would not have a significant adverse effect on the local hospitality industry.

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<sup>138</sup> EA at 47 (discussing noise impacts), 39 (discussing noise impacts on EJ communities), and app. K, K-21 (discussing cumulative noise impacts).

<sup>139</sup> *Id.* at 49.

<sup>140</sup> *Infra* Environmental Condition 13.

<sup>141</sup> Sierra Club July 22, 2024 Comments at 44.

<sup>142</sup> EA at 25-31 (discussing socioeconomic impacts); EA at 36 (discussing socioeconomic impacts on EJ communities); and EA at apps. K, K-14 – K-15 (discussing cumulative impacts on socioeconomics, economy and employment, housing, and public services).

<sup>143</sup> EA at 27.

<sup>144</sup> *Id.*

<sup>145</sup> *Id.*

<sup>146</sup> *Id.* at 17.

## **J. Human Health**

62. Sierra Club criticizes the EA for failing to consider whether unique factors within impacted EJ communities will result in significant and disproportionate impacts from the project. Sierra Club faults the EA's Human Health Risk Assessment (HHRA), which refers to hypothetical off-property residents who live near the project and are exposed to its effects, for failing to ascribe any other characteristics to the hypothetical persons, based on residents who actually live, work, and recreate near the project site, such as their demographic data and their underlying health issues, which could be compounded by additional exposure to the project's effects.<sup>147</sup>

63. The Human Health Risk Assessment was developed in accordance with standard EPA methodologies, which do not mandate ascribing additional characteristics based on demographic data.<sup>148</sup> The HHRA conducted for the project evaluated the inhalation exposure of hypothetical Adult and Child Residents for which Reasonable Maximum Exposure (RME) was assumed.<sup>149</sup> RME assumes a hypothetical resident, conservatively assumed to be exposed 24 hours/day, 350 days/year (two weeks assumed for travel) for 30 years for the Adult Resident and six years for the Child Resident.<sup>150</sup> To further ensure a conservative estimate of maximum exposure, the Adult Resident and Child Resident are assumed to live at the off-property location where hazardous air pollutant (HAP) concentrations are highest. These highly conservative exposure assumptions are intended to evaluate potential risk/hazard with a level of protectiveness to address the possibility that actual people bear additional exposures not directly evaluated in the HHRA.

64. Except for benzene exposure, the inhalation HHRA demonstrated that for hypothetical adult residents the individual cancer risks, chronic (long-term) non-cancer hazards, and acute (short-term) hazards are below EPA's most stringent target levels for the HAPs analyzed. Further details on the HHRA assumptions and results are provided in Appendix F of the EA.

65. Regarding benzene, the highest estimated cancer risk for the maximum off-property Adult Resident was slightly above EPA's target cancer risk level, while the

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<sup>147</sup> Sierra Club July 22, 2024 Comments at 35-36 (citing EA at Appendix F: Human Health Risk Assessment, at 3-2).

<sup>148</sup> EPA, Human Health Risk Assessment Protocol for Hazardous Waste Combustion Facilities, EPA530-R-05-006, (2005) pp. 6-20.

<sup>149</sup> Section 8.1 of EA; full report located in EA at app. F.

<sup>150</sup> EPA, Human Health Risk Assessment Protocol for Hazardous Waste Combustion Facilities, EPA530-R-05-006, (2005) pp. 6-20.

estimated cancer risk for the maximum off-property Child Resident was below EPA's target cancer risk level. The estimated maximum benzene acute non-cancer hazard for the maximum off-property Adult/Child Resident was above EPA's target value. However, the hypothetical off-property resident in these analyses is assumed to live at the location of the highest model-predicted off-property annual and hourly benzene concentrations, which would occur in an industrial, uninhabited area where no one is expected to remain for any length of time. The model-predicted annual and hourly benzene concentrations at the closest residences north of the CCL Terminal in Gregory are at least an order of magnitude lower, with estimated cancer risks and acute hazards well below EPA's most stringent target levels.

66. We note that upon further review of the dispersion modeling results for benzene, we determined that the primary source of benzene emissions would be the emission losses resulting from the emptying of volatile organic liquids/condensate from storage containers directly to a tanker truck. Applicants stated that they will use three 55-gallon carbon canisters in series to control the displaced vapors, resulting in an expected control efficiency of at least 95%, which should mitigate potential impacts from benzene.<sup>151</sup>

#### **K. Greenhouse Gas Emissions and Climate Change**

67. We find that the project's construction and operational emissions are reasonably foreseeable effects of the Midscale Trains 8 & 9 Project. The estimated emissions associated with construction and commissioning activities associated with the project<sup>152</sup> are about 414,076 metric tons of carbon dioxide equivalents (CO<sub>2</sub>e), and the estimated emissions associated with operation of the project are approximately 411,846 metric tons per year of new CO<sub>2</sub>e emissions.<sup>153</sup> To place project emissions in context, in the EA we compared estimated project GHG emissions to the total GHG emissions of the United States as a whole and at the state level.<sup>154</sup> When states have GHG emissions reduction

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<sup>151</sup> Applicants February 29, 2024 Filing at 3.

<sup>152</sup> Once constructed, the project equipment would undergo a commissioning process before it could be fully operational. The commissioning activities are activities that are necessary to test the new equipment to verify proper functionality and ensure safety. The gas generated during these activities are directed to one of the flares and are combusted.

<sup>153</sup> EA at 53.

<sup>154</sup> EA at 54. *See Citizens Action Coal.*, 125 F.4th at 240-41 (affirming the Commission's use of percentage comparisons to state and national emissions to place a project's GHG emissions in context).

targets, we compare a project's GHG emissions to those state goals to provide additional context. Texas does not have established reduction targets.

68. For the same reasons upheld in *East 300* and *Citizens Action Coalition*,<sup>155</sup> we are unable to determine whether GHG emissions are significant or insignificant. We cannot characterize any project's GHG emissions as significant or insignificant because we are unable to identify any accepted tool or method at this time that would allow us to determine what level of GHG emissions' contribution to adverse climate change impacts is significant under NEPA.<sup>156</sup> NEPA does not require that the Commission formally label project-related GHG emissions as significant or insignificant.<sup>157</sup>

69. Sierra Club argues that the Commission is required to use the social cost of carbon, first, to quantify the project's impacts and, second, to determine the significance of the project's greenhouse gas emissions.<sup>158</sup> The EA disclosed an estimate of the social cost of GHGs.<sup>159</sup>

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<sup>155</sup> *East 300*, 104 F.4th at 346; *Citizens Action Coal.*, 125 F.4th at 241-42.

<sup>156</sup> We note that to date, no other Federal agency, including the EPA and CEQ, has established either an accepted tool or method or a threshold for determining significance that the Commission could adopt. *See, e.g., Transcon. Gas Pipe Line Co.*, 190 FERC ¶ 61,048 at P 84 (citing *Tenn. Gas Pipeline Co.*, 181 FERC ¶ 61,051, at P 34 (2022) (“[T]he Commission did not characterize [GHG] emissions as significant or insignificant because we currently have no methodology for doing so.”), *aff'd sub nom. East 300*, 104 F.4th 336; *Tenn. Gas Pipeline Co.*, 180 FERC ¶ 61,205 at P 75 (“[W]e note that there 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.”), *aff'd sub nom. Evangeline Pass*, 100 F.4th 207; National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions & Climate Change, 88 Fed. Reg. 1196, 1200 (Jan. 9, 2023) (CEQ Interim Guidance) (“This guidance does not establish any particular quantity of GHG emissions as ‘significantly’ affecting the quality of the human environment.”)).

<sup>157</sup> *Citizens Action Coal. of Indiana, Inc. v. FERC*, 125 F.4th at 241 (D.C. Cir. 2025) (holding that “the absence of a ‘significance’ label does not violate NEPA, CEQ guidance, or FERC regulations”).

<sup>158</sup> Sierra Club May 4, 2023 Protest at 11.

<sup>159</sup> EA at 54. The EA estimated the social cost of the project's GHG emissions to be either \$121,996,006 (assuming a discount rate of 5%), \$449,187,966 (assuming a discount rate of 3%), \$674,172,961 (assuming a discount rate of 2.5%), or \$1,356,887,604 (using the 95th percentile of the social cost of GHGs with a discount rate of 3%). After Commission staff prepared the EA, Executive Order 14154 disbanded the Interagency Working Group on the Social Cost of Greenhouse Gases and withdrew its publications.

Courts have repeatedly upheld the Commission's conclusion that it is not required to use the social cost of carbon to determine the significance of reasonably foreseeable GHG emissions.<sup>160</sup>

70. Sierra Club also contends that the EA uses outdated global warming potentials (GWP) for methane, which understates the impact of GHG emissions.<sup>161</sup> Staff uses the 100-year GWPs for estimating GHG emissions,<sup>162</sup> which is consistent with the EPA's methodology.<sup>163</sup> The Commission acknowledges that, as part of EPA's finalized revisions to the GHG reporting rule, EPA has revised the 100-year GWPs, increasing the

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Section 6(b), 90 Fed. Reg. 8353 (Jan. 29, 2025). The Executive Order directs the EPA to issue guidance within 60 days to address inadequacies of the social cost of carbon, including consideration of eliminating the social cost of carbon calculation from any federal permitting or regulatory decision. *Id.* § 6(c). The Administrative Procedure Act requires that we respond to the Sierra Club's comment.

<sup>160</sup> See, e.g., *Evangeline Pass*, 100 F.4th at 214 (upholding the Commission's decision to estimate and publicly disclose the social cost of carbon values but not to rely on the social cost of carbon tool because of pending litigation challenging it and because, in the Commission's words, it had "not determined which, if any, modifications were needed to render that tool useful for project-level analyses"); *Alaska LNG*, 67 F.4th at 1184 (upholding as reasonable the Commission's decision to compare the Project's direct emissions with existing Alaskan and nationwide emissions but not to apply the social cost of carbon for reasons the court had previously accepted: (1) "the lack of consensus about how to apply the social cost of carbon on a long time horizon," (2) that "the social cost of carbon places a dollar value on carbon emissions but does not measure environmental impacts as such," and (3) "FERC has no established criteria for translating these dollar values into an assessment of environmental impacts").

<sup>161</sup> Sierra Club July 22, 2024 Comments at 7 (suggesting that the Commission use a 20-year GWP for methane).

<sup>162</sup> EA at 40. GWP is a ratio relative to CO<sub>2</sub> that is based on GHG's ability to absorb solar radiation as well as its residence time within the atmosphere. Based on this definition, CO<sub>2</sub> has a GWP of 1, CH<sub>4</sub> has a GWP of 25, and N<sub>2</sub>O has a GWP of 298 on a 100-year timescale.

<sup>163</sup> The EPA historically has used the 100-year GWPs because these values are the internationally accepted standard for reporting GHG emissions. These values were subsequently adopted and used in multiple EPA climate initiatives, including the EPA's Significant New Alternatives Policy program (40 C.F.R. PT. 82, Subpart G (2024)) and most recently in EPA's April 25, 2024 final rule: *Revisions and Confidentiality Determinations for Data Elements Under the Greenhouse Gas Reporting Rule*, 89 Fed. Reg. 31,802.

value for methane from 25 to 28, while decreasing the value for nitrous oxide from 298 to 265. The GHG emission rates given in the EA were not revised accordingly because the basis of the GHG emission rate calculations (i.e., GWP values) for the Midscale Trains 8 and 9 Project should remain the same as that used for the GHG emission rate calculations for the other emission sources at the CCL LNG Terminal approved under previous Commission orders.

71. Although there is no single metric that represents both short-term impacts (across decades) and long-term impacts (across centuries or millennia), the 100-year GWP has been widely accepted by the international community.<sup>164</sup> It is beneficial for both regulatory agencies and industry to use the same GWP values for these GHG compounds because it allows for more efficient review and comparison of data collected through the Greenhouse Gas Reporting Program and other U.S. climate programs. Similarly, it allows for more efficient review and comparison of GHG emission rates across current and past projects.

72. Sierra Club also argues that the Commission's EA should consider the indirect upstream and downstream greenhouse gas emissions caused by the project, despite the holding by the D.C. Circuit in *Sierra Club v FERC (Freeport)* that under NEPA the Commission is not required to include the indirect effects of the anticipated export of natural gas in its NEPA analysis of LNG terminals.<sup>165</sup> Sierra Club asserts that regardless of the *Freeport* decision, the Commission is still required to consider indirect emissions to inform its decision-making concerning emissions that are within its control.<sup>166</sup> Sierra Club avers that even if the Commission is not required to disclose all of the environmental impacts of the project under NEPA, NEPA and the NGA do not allow the Commission to segment its action from the Department of Energy's permitting responsibilities.<sup>167</sup>

73. The D.C. Circuit recently affirmed its decision in *Freeport* over similar assertions. In *Center for Biological Diversity v. FERC*, the court again concluded that the Commission's responsibility under NEPA does not extend to the indirect effects of

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<sup>164</sup> See EPA, Understanding Global Warming Potentials (last updated January 16, 2025), <https://www.epa.gov/ghgemissions/understanding-global-warming-potentials>.

<sup>165</sup> *Id.* at 17 (citing *Freeport*, 827 F.3d 36).

<sup>166</sup> *Id.* at 11 (arguing that *Freeport* was wrongly decided).

<sup>167</sup> *Id.*

export-bound natural gas.<sup>168</sup> The court also declined to apply the concept of “connected actions” to the independent authorizations by the Department of Energy and by the Commission.<sup>169</sup> As the Commission has previously concluded, it is unlikely that the environmental effects resulting from natural gas production are caused by the Commission’s approval of a project or are the reasonably foreseeable consequence of the approval.<sup>170</sup> Typically, relevant factors are unknown: the location of the supply source; whether transported gas would come from new or existing production; and whether there would be any potential associated development activities, and if so, its location.<sup>171</sup>

#### L. GHG Mitigation

74. EPA states that the EA did not describe how the project could potentially reduce direct GHG emissions.<sup>172</sup> It adds that GHG emissions could be reduced by using more efficient equipment and technology and optimizing the project operations.<sup>173</sup>

75. In general, we expect project sponsors to evaluate technically and economically feasible strategies to reduce or avoid GHG emissions during construction and operation of a natural gas infrastructure project.<sup>174</sup> Although every project differs as to what is

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<sup>168</sup> *Alaska LNG*, 67 F.4th at 1185 (“FERC properly recognized the limits of its delegated statutory authority and cabined its NEPA analysis accordingly.”).

<sup>169</sup> *Id.* at 1185.

<sup>170</sup> *Birckhead v. FERC*, 925 F.3d 510, 516-17 (D.C. Cir. 2019) (*Birckhead*). See, e.g., *Double E Pipeline, LLC*, 173 FERC ¶ 61,074, at P 97 (2020), *Cent. N.Y. Oil & Gas Co., LLC*, 137 FERC ¶ 61,121, at PP 81-101 (2011), *order on reh’g*, 138 FERC ¶ 61,104, at PP 33-49 (2012), *petition for review dismissed sub nom. Coal. for Responsible Growth v. FERC*, 485 F. App’x. 472,474-75 (2d Cir. 2012) (unpublished opinion); see also *Adelphia Gateway, LLC*, 169 FERC ¶ 61,220 at P 243, *order on reh’g*, 171 FERC ¶ 61,049 at P 89.

<sup>171</sup> See also *Birckhead*, 925 F.3d at 517 (finding the Commission appropriately did not consider upstream emissions to be a project effect because the record did not contain any information establishing a causal relationship between the proposed project and upstream development).

<sup>172</sup> EPA July 22, 2024 Comments at 2.

<sup>173</sup> *Id.*

<sup>174</sup> *Northern Nat. Gas Co.*, 190 FERC ¶ 61,114, at P 69 (2025); *Transcontinental Gas Pipe Line Co., LLC*, 190 FERC ¶ 61,048, at P 87 (2025).

feasible or practicable, such mitigation strategies during construction might include using equipment that meets regulatory emissions standards, locating contractor yards or staging areas near construction sites to reduce travel distances, restricting vehicle speed and idling time, or minimizing venting of natural gas to the atmosphere. Potential reduction strategies for project operations might include engineering and design options associated with compressor units (e.g., use of electric-driven compressor units), employing procedures to minimize gas venting during maintenance events, or monitoring and maintenance plans to prevent leaks. With that context, we detail below the design elements and construction and operational practices that Corpus Christi proposes to incorporate to reduce direct GHG emissions from the Corpus Christi Liquefaction Midscale Trains 8 and 9 Project. Given the number of variables and reliance on assumptions, Applicants noted that it is difficult to accurately quantify the reduction in direct GHG emissions from construction and operation of the project.

76. During construction of the project, Applicants will implement controls and mitigation methods to reduce GHG emissions, including but not be limited to ensuring that construction equipment is properly maintained, capping the age of construction equipment, enforcing vehicle speed limits, and encouraging idling restrictions.<sup>175</sup> Applicants also indicate that they would continue to explore opportunities to replace diesel-operated equipment such as forklifts, welders, compressors, scissor lifts, and personnel buses with electric-powered equipment.

77. With respect to design elements, Applicants propose to use electric-driven mixed-refrigerant compressors.<sup>176</sup> This would result in less GHG emissions than natural gas turbine-driven compressors. In addition, Applicants propose to use thermal oxidizers to combust the byproducts of the natural gas processing prior to liquefaction. This would result in less GHG emissions than venting or flaring due to the combustion and higher destruction efficiency of thermal oxidizers.<sup>177</sup>

78. Applicants also propose to install an additional electric-driven boil-off gas compressor within the existing boil-off gas recovery system.<sup>178</sup> Use of an electric-driven compressor in this system, which captures vapors from storage of the LNG and vapors generated from loading each LNG carrier, would result in less GHG emissions than

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<sup>175</sup> *Id.* at 2.

<sup>176</sup> March 30, 2023 Application at 1-5.

<sup>177</sup> Applicants' response to staff's January 28, 2025 Data Request at 4.

<sup>178</sup> Application at Resource Report 1.

venting or flaring. Using an electric-driven boil-off gas compressor also results in no direct GHG emissions compared to natural-gas or diesel-driven compression.

79. Applicants also propose to use flares to reduce emissions. Specifically, Applicants propose to use existing ground flares and an existing marine flare to handle any maintenance and emergency situations where they have to de-inventory the LNG or natural gas systems.<sup>179</sup> Applicants voluntarily identified and incorporated portions of the National Emission Standards for Hazardous Air Pollutants, 40 C.F.R. pt. 63, Subparts CC, YY, and FFFF, into their Texas CEQ GHG PSD permit for the CCL Terminal to improve efficiency and monitoring of the ground flares.<sup>180</sup> Applicants also propose to include a mixed refrigerant de-inventory and storage system to be used in maintenance situations rather than disposing of refrigerant through venting or flaring.<sup>181</sup> This would result in less GHG emissions.

80. During startup and commissioning for the project, CCL would look to further reduce venting and flaring by, to the maximum extent practicable, utilizing lessons learned during actual field conditions as experienced during the Stage 3 Project startup and commissioning activities.<sup>182</sup>

81. During operation, Applicants also state that they would implement a leak detection and repair (LDAR) program, in compliance with the Texas CEQ GHG PSD permit for the CCL Terminal, which includes instrument monitoring of fugitive emissions of all valves (including relief valves), pump and compressor seals, and audio, visual, and olfactory (AVO) monitoring of flanges.<sup>183</sup> Per Texas CEQ policy, following this LDAR program results in a 75% emission reduction for the instrument monitoring, and 30% reduction for the AVO monitoring. Applicants would also implement vendor-recommended inspections and maintenance programs; preventative maintenance; annual

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<sup>179</sup> The use of flares results in less GHG emissions than venting as the combustion of methane into carbon dioxide reduces GHG emissions.

<sup>180</sup> Applicants' response to staff's January 28, 2025 Data Request at 3.

<sup>181</sup> Application at Resource Report 1.

<sup>182</sup> Applicants' response to staff's January 28, 2025 Data Request at 1.

<sup>183</sup> *Id.* at 5.

tune-ups; proper insulation, for surfaces above 120 degrees Fahrenheit, to prevent heat loss and improve combustion efficiency; and proper combustion practices to mitigate GHG emissions.<sup>184</sup>

82. Overall, Applicants propose to implement an array of designs, measures, policies, and physical devices, as described above, to reduce direct GHG emissions from the construction and operation of the project. We find that the discussion of the mitigation measures above is sufficient to ensure that environmental consequences have been fairly evaluated under NEPA in this proceeding.<sup>185</sup>

### M. Soils

83. EPA states that installing temporary erosion controls immediately following land-disturbing activities could leave a window for a significant rain event causing erosion before permanent control measures could be implemented.<sup>186</sup> EPA recommends providing additional clarification regarding why erosion control measures are to be installed after the land disturbance takes place, and if there are any other preventative strategies that can be implemented before the disturbance instead.<sup>187</sup>

84. Applicants have committed to follow measures in the Commission's *Upland Erosion Control, Revegetation, and Maintenance Plan* (Plan). The Plan requires that the Applicants ensure "that erosion control devices are properly installed to prevent sediment flow into sensitive environmental resource areas (e.g., wetlands, waterbodies, cultural resource sites, and sensitive species habitats) and onto roads, and determine[e] the need for additional erosion control devices" (Section II.B.12 of the Plan). Erosion controls are not required prior to land disturbance, as installing temporary erosion control devices before land disturbance would impede access needed for the clearing and grading equipment to clear trees/brush and grade soils in the construction workspace at the start of construction. Further, any temporary erosion control devices installed before land disturbance would be damaged during the clearing/grading activities and would need to be re-installed, causing doubling of efforts. We note that the Plan requires constant and prescriptive monitoring of erosion during project construction as detailed in Section II.B.13.a-c. These baseline mitigation measures, in addition to the Plan requirement (Section IV.F of the Plan) to install temporary erosion controls immediately

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<sup>184</sup> *Id.* at 3.

<sup>185</sup> *See Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 352 (1989).

<sup>186</sup> EPA July 22, 2024 Comments at 1.

<sup>187</sup> *Id.*

after initial disturbance of the soil, are sufficiently protective to prevent or minimize erosion and sedimentation during project construction.

**N. Vessel Traffic**

85. The project would result in an increase in the maximum marine vessel traffic from the 400 per year authorized at the CCL Terminal, up to 480 per year. In a letter dated January 25, 2024, the Coast Guard issued the Letter of Recommendation for the project, stating that the evaluated portion of the Corpus Christi Ship Channel and the entirety of the La Quinta Ship Channel can be considered suitable for the increased LNG carrier traffic associated with the project.

86. Ingleside argues that the project's increased marine traffic would have a deleterious impact on water quality caused, in part, by dredging in Corpus Christi Bay.<sup>188</sup> No dredging is proposed as part of the project. Impacts on water quality resulting from the increase of LNG carrier traffic, specifically, ballast and cooling water discharge, is discussed in section B.3.2 of the EA.<sup>189</sup> As discussed in the EA, discharge of ballast and cooling water may result in a temporary increase in water salinity and temperature, respectively, within the marine berth; however, the discharged water would quickly disperse and increased salinity and temperature would diminish shortly after discharge, and return to ambient levels.<sup>190</sup> The EA concludes that the proposed increase of LNG carrier traffic is not anticipated to result in significant impacts to surface water quality in the project area.<sup>191</sup> We agree.

87. Ingleside also contends that the project's increased vessel traffic would significantly jeopardize aquatic life in the area<sup>192</sup> caused, in part, by increased siltation. It further argues that the proposed mitigation discussed in section B.4.2 of the EA is deficient. The EA stated in section B.3.2 that indirect impacts from turbidity due to vessel traffic during construction and operation of the project would temporarily impact Corpus Christi Bay.<sup>193</sup> Indirect impacts could include siltation from the settling of turbid water. However, the EA concluded that due to the temporary and intermittent nature of

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<sup>188</sup> *Id.*

<sup>189</sup> EA at 13-15.

<sup>190</sup> *Id.* at 15.

<sup>191</sup> *Id.*

<sup>192</sup> Ingleside July 22, 2024 Comments at 9-10.

<sup>193</sup> EA at 14.

each transit, the proposed increase in LNG carrier traffic would result in no significant, permanent impacts in the project area.<sup>194</sup> With adherence to the rules, regulations, and best management practices for ballast water discharge, cooling water discharge, and inadvertent spills, as well as the implementation of vessel strike avoidance measures, the EA concludes the project would not have a significant impact on aquatic resources.<sup>195</sup> We agree.

88. Ingleside also contends that the EA lacks sufficient evidence to demonstrate that increased vessel traffic will have no significant impact on land use, recreation, and aesthetics from vessel traffic.<sup>196</sup> Ingleside points to the erosion and impacts to waterfront properties in the City of Ingleside on the Bay.<sup>197</sup> The EA states that additional LNG carrier visits to the CCL Terminal for the project would result in an incremental impact on adjacent communities over the existing vessel traffic impacts, but the EA concludes that the increase in vessel traffic associated with the project is not expected to significantly impact marine transportation or result in any significant impacts on surrounding communities.<sup>198</sup> We agree with the EA's conclusion and further note that in response to comments from residents in Ingleside on the Bay concerned with impacts to the properties and residences along the La Quinta Ship Channel from existing and additional LNG carrier traffic,<sup>199</sup> CCL has begun an outreach effort with residents of Ingleside on the Bay regarding vessel traffic impacts within the La Quinta Ship Channel.<sup>200</sup> We also note that transit speed is at the discretion of the harbor pilot responsible for safely maneuvering each vessel through the waterway.

89. Ingleside also commented that the project is not in the public interest because it creates excessive navigational hazards and there was insufficient analysis of the impact of

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<sup>194</sup> *Id.*

<sup>195</sup> *Id.* at 17.

<sup>196</sup> Ingleside July 22, 2024 Comments at 11.

<sup>197</sup> *Id.*

<sup>198</sup> *Id.*

<sup>199</sup> EA at 30. Commentors stated that existing LNG carrier traffic passes the community with excessive speed at night, and that vessel wakes cause shoreline erosion and infrastructure damage, especially when vessels pass at high storm tides.

<sup>200</sup> *Id.* at 31.

increased marine vessel traffic.<sup>201</sup> As mentioned above, the Coast Guard is responsible for determining the suitability of waterways for LNG marine traffic. As stated in the EA,<sup>202</sup> Applicants submitted a follow-on Waterway Suitability Assessment (WSA) on February 9, 2023, to the Coast Guard and requested a Letter of Recommendation (LOR) confirming that the Corpus Christi and La Quinta Ship Channels can adequately accommodate increased capacity (i.e., 480 vessels per year) beyond the existing WSA. The Coast Guard provided an LOR and LOR Analysis to the Commission on January 25, 2024, in which they recommended that the waterway was suitable for accommodating the type and frequency of LNG marine traffic associated with the project.<sup>203</sup> The Coast Guard recommendation was based on a review of the follow-on WSA and evaluation of the waterway in consultation with a variety of state and local port stakeholders as well as factors listed in 33 CFR §§ 127.007 & 127.009 (2024).<sup>204</sup> Its review followed “guidance provided in U.S. Coast Guard Navigation and Vessel Inspection Circular 01-2011, dated January 24, 2011,” and analysis involved “the navigational safety and maritime security aspects of LNG [carriers] transits along the affected waterway,” including “an assessment of the risks posed by these transits and validation of the risk management measures proposed by the applicant in the WSA.”<sup>205</sup>

90. One of the comments from Ingleside cited an incident where “a commercial tanker collided with a commercial pleasure boat near the Lydia Ann Channel and Port Aransas Pass.”<sup>206</sup> The Coast Guard regulates navigation within the waterway and stated in the January 25, 2024 LOR that they “will assess each vessel transit on a case by case basis to identify what, if any, safety and security measures are necessary to safeguard the public health and welfare, critical marine infrastructure and key resources, the port, the marine environment, and vessels.”<sup>207</sup>

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<sup>201</sup> Ingleside July 22, 2024 Comments at 2 & 8.

<sup>202</sup> EA at 2.

<sup>203</sup> *Id.* APP. J at 10.

<sup>204</sup> Coast Guard LOR January 25, 2024 at 1.

<sup>205</sup> *Id.*

<sup>206</sup> Ingleside July 22, 2024 Comments at 2.

<sup>207</sup> Coast Guard LOR January 25, 2024 at 2.

**O. Coastal Zone Management**

91. In its comments on the EA, Ingleside states it received a public information request response from the Texas Railroad Commission stating that the agency had not yet issued a Texas Coastal Management Program consistency determination.<sup>208</sup> Ingleside claims this response contradicts the representation in the EA that such a determination had been completed as of April 24, 2023.<sup>209</sup> As discussed in the EA, Applicants requested a Texas Coastal Management Program consistency determination for the project on March 1, 2023, and, on April 24, 2023, the Texas Railroad Commission determined that a Texas Coastal Management Program consistency determination is not required for the project.<sup>210</sup>

**P. Cultural Resources**

92. Indigenous Peoples of the Coastal Bend argues that the project should not be approved until the Applicants have met certain conditions pertaining to cultural resources and preservation.<sup>211</sup> Specifically, Indigenous Peoples of the Coastal Bend supports completion of an archaeological field study for the proposed construction sites, consultation with the Karankawa Bands regarding the project's impacts on their ceremonial and sacred places, and access to the Texas Archaeological Research Laboratory to review the relevant cultural resource surveys.<sup>212</sup> In response, Applicants state that they did not consult with the Karankawa Bands or the Lipan Apache because they are not federally recognized Tribes.<sup>213</sup> Applicants also note that upon consultation with the Texas State Historic Preservation Office (SHPO), no historic architectural or

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<sup>208</sup> Section 307(c)(3) of the Coastal Zone Management Act requires that all federally licensed and permitted activities be consistent with approved state Coastal Zone Management Act Programs.

<sup>209</sup> Ingleside July 25, 2024 Comments at 1.

<sup>210</sup> EA at 25; see also Applicants Response to June 30, 2023 Environmental Information Request, attach. 1, (July 20, 2023).

<sup>211</sup> Motion to Intervene of Indigenous Peoples of the Coastal Bend.

<sup>212</sup> *Id.* at 2-3.

<sup>213</sup> Applicants' May 24, 2023 Reply to Opposition Comments at 7. Applicants also noted that they will include these tribes in future outreach if requested by the BIA or the Commission.

archaeological historic properties are present or affected by the project.<sup>214</sup> Additionally, Applicants argue that access to state archeological records is beyond the Commission's jurisdiction, and accordingly this request by Indigenous Peoples of the Coastal Bend is outside the scope of this proceeding.<sup>215</sup>

93. The Karankawa Tribe is not a federally recognized tribe, and therefore, is not an "Indian tribe" as defined by the regulations implementing section 106 of the National Historic Preservation Act.<sup>216</sup> Thus, the Karankawa Tribe holds the same rights to comment and participate as any other interested members of the public. With respect to the Karankawa Tribe's request to visit the Texas Archeological Research Laboratory in Austin, the Commission has no jurisdiction over these facilities.

94. Applicants sent a letter to the SHPO on August 15, 2022, requesting concurrence with the recommendation that the project would have no impacts to historic properties. In correspondence dated September 9, 2022, the Texas Historical Commission determined that the project would have no impact to historic properties, and no further work is warranted for the project. In the EA, Commission staff concurred with this finding.<sup>217</sup> We agree.

95. Ingleside question whether appropriate consideration has been given to the project's impact on the Old Bayview Cemetery archaeological sites within the area.<sup>218</sup> Additionally, Sierra Club states that the EA fails to take a hard look at the project's impact to the cultural resources of indigenous peoples in the Coastal Bend region, namely, ceremonial sites at the Hans and Pat Suter Wildlife Refuge and the Cayo del Oso burial ground, both located on the opposite side of Corpus Christi Bay.<sup>219</sup> It also asserts

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<sup>214</sup> *Id.* at 8.

<sup>215</sup> *Id.*

<sup>216</sup> The NHPA defines "Indian Tribe" as an Indian Tribe, band, nation, or other organized group or community, including a native village, regional corporation or village corporation, as those terms are defined in Section 3 of the Alaska Native Claims Settlement Act (43 U.S.C. § 1602), which is recognized as eligible for special programs and services provided by the United States to Indians because of their status as Indians. (54 U.S.C. § 300309). A list of recognized tribes was published in the *Federal Register*, 89 FR 944-02 (Jan. 8 2024) and the Karankawa are not included on that list.

<sup>217</sup> EA at 21.

<sup>218</sup> Ingleside July 22, 2024 Comments at 10.

<sup>219</sup> Sierra Club July 22, 2024 Comments at 44.

that there were no consultation efforts to ensure that the project would not affect or otherwise alter any of the sacred or historic sites important to their cultures and traditions.<sup>220</sup>

96. In its response to comments on the EA, Applicants note that the Old Bayview Cemetery is approximately 13 miles away from the project. Cayo del Oso burial ground and the Hans and Pat Suter Wildlife Refuge are also located over 12 miles away from the project. As discussed in the EA, the project's area of potential effects (APE) to historic properties is limited to the area where ground disturbance will or could take place and consists of previously authorized workspace and additional workspace totaling 1,737 acres.<sup>221</sup> The project's APE also includes an area in which historic structures lie within a direct line of sight within a 0.25-mile-wide buffer from the project area boundary.<sup>222</sup> The sites considered by Ingleside and Sierra Club are outside the project's APE, and, therefore, would not be affected by the project. Additionally, the archaeological sites within the Terminal site have been previously determined ineligible for listing in the National Register of Historic Places.

97. As discussed and described above, the project workspace includes the existing Terminal site boundary and adjacent industrial land that has been previously altered by ground disturbing activities for industrial development; thus, there is no need for an archaeological field study. As stated in section B.5 of the EA, Commission staff agreed with the Texas Historic Commission that the project would have no effect on historic properties eligible for listing in the National Register of Historic Places. A total of twelve federally recognized tribes were contacted for the project.<sup>223</sup> No responses were received from contacted tribes.<sup>224</sup> As noted earlier, the federally recognized Kickapoo Traditional Tribe of Texas does not have concerns with the project and no other tribes provided comments.<sup>225</sup>

98. Sierra Club criticizes the acceptability of Applicants' Unanticipated Discoveries Plan, claiming that the Commission accepted the plan without analysis and without the

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<sup>220</sup> Sierra Club July 22, 2024 Comments at 45.

<sup>221</sup> EA at 21.

<sup>222</sup> *Id.*

<sup>223</sup> *Id.* at 21-22.

<sup>224</sup> *Id.*

<sup>225</sup> *See supra* P 30 & note 55.

SHPO's concurrence.<sup>226</sup> The plan was revised upon Commission staff's review and provides guidance regarding notification protocol to be taken by Applicants in the unlikely event that cultural resources or human remains are encountered during construction activities. The application included information that the plan was provided to the SHPO for review and comment. No comment has been filed.

**Q. Safety and Reliability**

99. We received comments on the EA's safety and reliability section from Applicants, Ingleside, as well as local mayors and a city representative.<sup>227</sup> Responses to these comments are discussed below.

100. First, Applicants commented that the "Trains 8 & 9 are near replicas of the seven midscale trains approved by FERC for the Stage 3 Project. To ensure consistency, efficiency and safe operation across the nine-midscale train platform Applicants propose to utilize the codes and standards approved for use for the Stage 3 Project."<sup>228</sup> Applicants indicate that they are evaluating discrepancies between the recommended code requirements in the EA and the Stage 3 Authorization Order and would reserve the right to comment further after evaluation is completed.

101. As noted by Applicants, many of the recommendations in the EA are similar to conditions of the Stage 3 Authorization Order. There were 10 recommendations in the EA referencing codes, standards, recommended practices or technical reports that were similar to 10 conditions in the Stage 3 Authorization Order. Two recommendations specified in the EA included a new edition of a code or standard that was not specified in the Stage 3 Authorization Order and two recommendations specified in the EA added additional codes or standards. Two of those recommendations added a code or standard that is now referenced in PHMSA and Coast Guard federal regulations and the other two were added to provide more clarification on expectations to satisfy those recommendations. Furthermore, the EA has several recommendations that generally allow projects to use 'approved equivalents' in lieu of the referenced codes, standards, and recommended practices to avoid a prescriptive approach while providing expectations for design, engineering, construction, and operations. Therefore, the recommendations in the EA do not pose any discrepancies with the Stage 3 Authorization Order and are adopted herein as conditions to this order.

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<sup>226</sup> *Id.* Comments at 46.

<sup>227</sup> Jo Ann Ehmann, Mayor, Ingleside on the Bay, Texas; Cathy Skurow, Mayor, Portland, Texas; and, Brenton Lewis, City Manager, Ingleside, Texas.

<sup>228</sup> Applicants July 22, 2024 Comment No. 1 at 4.

102. EA recommendation No. 14(d) requires Applicants to file specific information, stamped and sealed by the professional engineer-of-record registered in the State of Texas, including Issued for Construction of LNG terminal structures and foundations design drawings and calculations (including prefabricated and field constructed structures). Applicants commented again that “Trains 8 & 9 are near replicas of the seven midscale trains approved by FERC for the Stage 3 Project,” but this time in reference to submitting a representative package of civil design drawings and calculations in lieu of submitting all civil design drawings and calculations for similarly designed facilities “to eliminate duplicate filings in compliance with Recommendation No. 14(d).”<sup>229</sup> Commission staff recommend that all civil design drawings and calculations be filed to ensure they reflect what is being installed and verify there are no modifications in the final design packages. If there are no modifications to the design packages of the new facilities from design packages of previous facilities filed with the Commission, Applicants can provide the filing date and location for each previously filed civil design package (i.e., design criteria, calculations and drawings) affirming that the new facilities are of the same civil design and there are no modifications. Therefore, we require Environmental Condition No. 14 in the appendix to this order.

103. EA recommendation No. 22 requires Applicants to file information and revisions relating to some of CCL’s responses to the Commission staff’s September 11, 2023 data request. Applicants commented that EA recommendation No. 22 references the date of Commission staff’s data request, which was September 11, 2023, and not the date of the Applicants’ response, which was on October 11, 2023.<sup>230</sup> We agree with Applicants that the recommendation was intended to reference the date of the data request response, and we have modified Environmental Condition No. 22 in the appendix to this order accordingly.

104. EA recommendation No. 24 requires Applicants to file photometric analyses or the equivalent and associated lighting drawings that show the location, elevation, type of light fixture, and lux levels of the lighting system and depict illumination coverage 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 federal regulations (e.g., 49 C.F.R. pt. 193 (2024), 33 C.F.R. 127 (2024), 29 C.F.R. pt. 1910 (2024), and 29 C.F.R. pt. 1926 (2024)) and API 540 or approved equivalent. Applicants state that regulations 29 C.F.R. pt 1926 and 33 C.F.R. Part 127 are not applicable because 29 C.F.R. pt. 1926 is a construction regulation and not applicable to operating facilities and 33 C.F.R. pt. 127 applies to marine facilities and requested “that

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<sup>229</sup> *Id.* at 7.

<sup>230</sup> *Id.* at 12.

FERC remove these codes from Recommendation No. 24.”<sup>231</sup> We agree with Applicants that the listed regulation examples may not necessarily be applicable to the final design of the permanent facilities and could be causing confusion; therefore, we have removed the examples from Environmental Condition No. 24 in the appendix to this order.

105. EA recommendation No. 25 requires Applicants to file security enclosure drawings with the new project facilities that contain details of the enclosure and demonstrate that the enclosure is in accordance with NFPA 59A (2019 edition) or an approved equivalent, that the enclosure would restrict and deter access around the entire facility, and that the enclosure would have a setback from both exterior and interior features of at least 10 feet, that would not allow the enclosure to be overcome. Applicants commented that “a setback of at least 10 feet around the facility fence line is not warranted because the CCL Terminal is surrounded by multiple layers of protection” and requested that we remove the 10-foot setback from Recommendation No. 25 to include a perimeter fence that surrounds all Applicants-owned property and active access points that are secured by electronic access control and/or a security officer.<sup>232</sup>

106. Commission staff recognize from security layout drawings from the CCL Midscale Trains 8 & 9 Project and CCL Stage 3 Project currently under construction that Trains 8 and 9 and the other proposed facilities appear to be within the Stage 3 security fence, which is located within an external and existing protective enclosure of the CCL Terminal. However, the 10-foot setback is recommended to prevent intruders circumventing the protective enclosures. Eliminating features that can be used to overcome a security enclosure increases all three primary objectives of a security enclosure, which are to deter, delay, and protect. While a 10-foot set back is a common stipulation used to prevent nearby structures and features being in close proximity of a security enclosure that could be used to overcome or circumvent a security enclosure, we recognize there may be other methods of accomplishing the same objectives to deter, delay, and protect the facilities. Therefore, we modified Environmental Condition No. 25 in the appendix to this order to file with the Secretary, for review and written approval by the Director of OEP, or the Director’s designee, security enclosure drawings that demonstrate it is in accordance with NFPA 59A (2019 edition) or approved equivalent and would restrict and deter access around the entire terminal and have a setback or additional impediments (e.g., barbed- or razor-wire) from or at exterior features (e.g., power lines, trees, etc.) and from or at interior features (e.g., piping, equipment, buildings, etc.) that would not allow any part of the enclosure to be overcome and would protect interior equipment from outside security threats (e.g., explosives placed outside security enclosure) consistent with a security vulnerability assessment. The security vulnerability assessment should be consistent with the Facility Security Assessment in

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<sup>231</sup> *Id.* at 13.

<sup>232</sup> *Id.* at 14.

33 CFR 105 and take into account the potential target attractiveness, threats, vulnerabilities, consequences, and mitigation effectiveness consistent with American Institute of Chemical Engineers, *Guidelines for Analyzing and Managing the Security Vulnerabilities of Fixed Chemical Sites*, or approved equivalent.

107. EA recommendation No. 48 requires Applicants to specify redundant, full capacity relief valves for the Ethylene, Propane, Butane, and Pentane storage drums. Applicants request that the order remove this recommendation because spare relief valves are not required to meet the codes and standards applicable to the project, and the refrigerant storage vessels can be taken out of service without an operational impact for required pressure safety valve maintenance.<sup>233</sup>

108. We accept that spare relief valves are not the only method for overpressure protection but do not believe that redundant overpressure protection should be removed entirely. The intention of this recommendation is to ensure overpressure protection for these vessels in the event of an overpressure during relief valve testing or maintenance. We recognize there could be other means that provide the vessels with equivalent overpressure protection during safety valve maintenance other than the installation of a fully redundant pressure relief valve. Therefore, in response to Applicants' comment, we have revised Environmental Condition No. 48 in the appendix to this order to allow an approved equivalent means for redundant overpressure protection for the Ethylene, Propane, Butane and Pentane storage drums.

109. EA recommendation No. 62 involves the filing of a technical review that assesses the final design locations of buildings that shows their locations are consistent with API 752 and API 753, or approved equivalents for the managing of hazards, including the risk from explosions, fires, and toxic material releases to on-site personnel located in new and existing occupied buildings.<sup>234</sup> Applicants state that the project is not proposing any new buildings and request that EA recommendation No. 62 be removed.<sup>235</sup> The project's trains will each have a utility and liquefaction substation building and although these are not normally occupied buildings during operation, Applicants could occupy these during construction and commissioning activities. In addition, the hazards from the CCL Midscale Trains 8 & 9 Project could impact existing occupied buildings that should be evaluated prior to construction of final design. Further, during the construction phase of the project, there may be portable buildings, such as trailers used by construction

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<sup>233</sup> *Id.* at 15.

<sup>234</sup> EA app. J at 100 - 103.

<sup>235</sup> *Id.* at 16.

personnel. Therefore, we find that these codes would be applicable and have adopted the EA recommendation as Environmental Condition No. 62 in the appendix to this order.

110. Regarding EA recommendation No. 84 and the personnel and training section of Appendix J,<sup>236</sup> Applicants request to remove the reference to the API RP 755, Fatigue Risk Management Systems for Personnel in the Refining and Petrochemical Industries. Applicants do not agree with the applicability of API RP 755 and state that Applicants' current fatigue risk management and staffing levels meet or exceed National Fire Protection Association (NFPA) 59A requirements and are aligned with experience and conditions under which the facility is operated. However, NFPA 59A only addresses training and does not address fatigue management and staffing levels. Nonetheless, Applicants further provide that fatigue management and staffing levels are rigorously evaluated, biennial training is conducted, and overtime is reviewed by multi-disciplined

teams quarterly. In addition, applicable lessons learned, including those stemming from human errors are captured and shared across assets and all appropriate actions to mitigate the risk of reoccurrence.<sup>237</sup>

111. We decline to make Applicants' requested change to EA recommendation No. 84. As stated in the EA, past LNG incident investigations and root cause analyses have identified insufficient training, staffing, and resultant fatigue as contributing causes. In addition, API RP 755 (2<sup>nd</sup> 2019 edition) scope indicates the "...RP was developed for refineries, petrochemical and chemical operations, *natural gas liquefaction plants*, and other facilities...."<sup>238</sup> EA recommendation No. 84 states that information filed in accordance with the condition should be consistent with API RP 755 *or approved equivalent*. With regards to an approved equivalent, the EA references several other publications and recommended guides that cover various human error causes, factors, and techniques to identify and mitigate them that could be proposed as an equivalent to API RP 755. We also note that many of the components Applicants indicate are part of their fatigue risk management program appear consistent with API RP 755, but no documentation related to this fatigue risk management program has been filed yet to confirm consistency with API RP 755. Therefore, we require Environmental Condition No. 84 in the appendix of this order to ensure Applicants implement an effective fatigue risk management system consistent with API RP 755 or approved equivalent. Consistent with API RP 755 or equivalent standards, this would include conducting periodic

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<sup>236</sup> *Id.* at J-38, J-39.

<sup>237</sup> Applicants July 22, 2024 Comment at 17.

<sup>238</sup> *Fatigue Prevention Guidelines for the Refining and Petrochemical Industries*. ANSI/API Recommended Practice 755, Second Edition, 2019, p. 1.

assessments of their staffing levels to reduce human error caused by periods of overtime, and address any incidents and near misses for identified causes of fatigue and any related lessons learned and deficiencies.

112. Applicants request that EA recommendation No. 96 be revised to remove the specification of Tier 4 metrics of the API RP 754, Process Safety Performance Indicators for the Refining and Petrochemical Industries. Applicants disagree with the specified Tier 4 metrics because API RP 754 indicates the selection of Tier 4 metrics should be representative of the particular facility.<sup>239</sup>

113. EA recommendation No. 96 requires Applicants to file a written management plan to document and track process safety metrics consistent with API RP 754 or approved equivalent. This includes Tier 4 metrics that include, but are not limited to, whether personnel are involved in the development of procedures they are assigned, whether supervisors are using only qualified personnel for carrying out procedures, whether personnel are adhering to procedures, whether deviations from procedures are investigated, and whether procedural and organizational changes are subjected to management of change requirements. API RP 754 is an industry recommended practice for identifying leading and lagging process safety indicators that are considered useful for driving performance improvement and which are classified into four tiers that represent lower and higher consequence events related to process safety. API RP 754 includes LNG in its list of petrochemical and other processes and includes Annex A for application to Petroleum Pipeline and Terminal Operations. API RP 754 states “Tier 4 indicators represent operating discipline and management system barriers,” and “indicators at this level are the most leading and represent fundamental processes and activities that prevent or mitigate process safety events.”<sup>240</sup> The inclusion of Tier 4 metrics in recommendation No. 96 is based on past LNG incidents and inspection findings that demonstrated having procedures in place and training on those procedures, for both operating and maintenance personnel, including contractors, does not necessarily ensure that operators and contractors are following such procedures. We agree that API RP 754’s Tier 4 level includes process safety indicators that are intended to be site-specific performance objectives and are comprised of operating discipline and management system performance. Therefore, we have revised Environmental Condition No. 96 in the appendix to this order to allow Applicants to file a written management system to document and track process safety metrics consistent with API RP 754 or approved equivalent, including *site-specific* Tier 4 metrics that include, but are not limited to, whether personnel are involved in the development of procedures they are assigned, whether supervisors are using only qualified personnel for carrying out

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<sup>239</sup> *Id.* at 18.

<sup>240</sup> *Process Safety Performance Indicators for the Refining and Petrochemical Industries*. ANSI/API Recommended Practice 754, Third Edition, 2021, p. 92.

procedures, whether personnel are adhering to procedures, whether deviations from procedures are investigated, and whether procedural and organizational changes are subjected to management of change requirements. We also note that Environmental Condition No. 1 allows the Applicants to demonstrate equivalency. In this case, the Applicants could demonstrate how its proposed metrics provide equal or greater protection to those specified.

114. Applicants request that EA recommendation No. 101 be revised to eliminate what they characterize as redundant and time-consuming actions with respect to incident or safety-related condition reporting requirements.<sup>241</sup> We disagree. EA recommendation No. 101 is a standard incident reporting requirement that is included in every Commission order for LNG facilities and we find that revising the incident reporting requirement would create conflicting requirements with existing Commission orders including Corpus Christi's existing authorizations in Docket Nos. CP04-37-000, CP12-507-000, and CP18-513-000. Moreover, while these incident and safety related notifications encompass the same incident and safety related condition reporting requirements to PHMSA and Coast Guard, they encompass some additional incident and safety related events (e.g., hazardous releases of 5 min or more, fires, and explosions) that are more expansive than the reporting requirements to PHMSA and Coast Guard. As a result, notification of these incidents to Commission staff can also be reported in a single notification to PHMSA and Coast Guard. In order to maintain consistency with existing Commission orders for incident reporting and be kept abreast of incidents that could impact the safety and reliability of LNG facilities under our jurisdiction, we require Environmental Condition No. 101 in the appendix of this order.

115. The mayor of City of Ingleside on the Bay and a city representative expressed concern that portions of EA recommendations Nos. 19 and 20 for an updated Emergency Response Plan (ERP) and Cost Sharing Plan (CSP) would put an unnecessary burden on the emergency response community. The mayor of the City of Portland, along with Applicants, indicated that Applicants do not have the authority to address offsite public emergency response issues.<sup>242</sup> The Energy Policy Act of 2005 mandates that the Commission require the LNG terminal operator to develop an ERP for Commission approval and that the ERP must be prepared "in consultation with" the Coast Guard and state and local agencies.<sup>243</sup> EA recommendation No. 19 has been revised to better clarify

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<sup>241</sup> *Id.* at 19.

<sup>242</sup> Mayor Ingleside July 18, 2024 Comment No. 1 at 1; Brenton Lewis July 22, 2024 Comment No. 1 at 1; and Mayor Portland July 22, 2024 Comment No. 1 at 2.

<sup>243</sup> 15 U.S.C. § 717b-1(e) as amended by section 311 of the Energy Policy Act 2005, Pub. L. 109-58, 119 Stat. 594.

the roles of the Applicant, emergency response planning organizations, and emergency responders in the development of emergency response plans.

116. Further, the Energy Policy Act of 2005 requires the ERP to include a CSP that describes any direct cost reimbursements the applicant agrees to provide to state and local agencies for security and emergency response. EA recommendation No. 20 requires identification of mechanisms for funding related costs to state and local agencies. Both requirements allow for any funding structures agreeable to the state and local agencies. We have modified this recommendation to for clarity and require Environmental Condition No. 20 in the appendix of this order.

117. Applicants indicate that they believe a comma should be inserted in the paragraph before EA recommendation No. 15, between “offsite emergency response” and “procedures for public notification and evacuation.” However, as the Commission has previously clarified, the intent of this language is for project sponsors to file certain ERP information as public so surrounding communities are informed about the possible steps an Incident Commander may require regarding notification, evacuation, and sheltering in place.<sup>244</sup> Therefore, no comma would be intended in the referenced language, because “offsite emergency response” would be descriptive of the “procedures for public notification and evacuation” rather than a separate topic.

118. Applicants request that EA recommendation No. 19 be revised to recognize that an ERP developed by its contractor would be used during construction of the project and that, upon placing project facilities in service, Applicants would update their existing ERP for this project. The timeframe required by Congress in the NGA, as amended by the Energy Policy Act of 2005, is for the LNG terminal operator to develop an ERP prior to any final approval to begin construction. Environmental Condition Nos. 19 and 20 in the appendix of this order require Applicants to update its ERP and CSP for this project prior to initial site preparation and to notify Commission staff of all planning meetings in advance and file progress reports, including meeting minutes, on the development of its ERP at 3-month intervals. If Applicants elect to have a contractor update the ERP for use during construction of the project, Applicants must still satisfy the criteria in Environmental Conditions 19 and 20.

119. Separately, the Ingleside on the Bay Coastal Watch Association expressed concerns that Resource Report 11, *Reliability and Safety*, does not provide more analysis on the potential impacts of the increased LNG marine carrier traffic and the full impacts of the expanded project facilities. The EA discusses the potential impacts from accidental and intentional acts on LNG marine vessels due to the increase in LNG marine traffic and from project facilities at the terminal and consideration of those impacts in the emergency response plan. Full details of emergency response planning for potential

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<sup>244</sup> See, e.g., *Cameron LNG, LLC*, 182 FERC ¶ 61,173 (2023).

offsite impacts may include Critical Energy Infrastructure Information, which is withheld from public disclosure by statute and the Commission's regulations.<sup>245</sup> However, as discussed in a paragraph above, the language in the paragraph above Environmental Condition No. 15 specifies that offsite emergency response procedures related to public notification and evacuation would be subject to public disclosure.

## **R. Environmental Analysis Conclusion**

120. We have reviewed the information and analysis contained in the EA, as well as the other information in the record, regarding potential environmental effects of the project. We accept the environmental recommendations in the EA, as modified in this order, and are including them as conditions in an appendix to this order. Based on the analysis in the EA, as supplemented herein, we conclude that if the project is constructed and operated in accordance with Applicants' application and supplement, and in compliance

with the environmental conditions in the appendix to this order, our approval of this proposal would not constitute a major federal action significantly affecting the quality of the human environment.<sup>246</sup>

121. Sierra Club and Ingleside argue that the Commission has statutory obligations under NEPA and the NGA to determine whether the project's GHG emissions warrant rejecting the application or requiring mitigation measures.<sup>247</sup> They contend that the project is inconsistent with the public interest because its GHG emissions will hamper the achievement of international climate goals to limit climate change.<sup>248</sup>

122. The Commission's NGA and NEPA responsibilities are separate and distinct.<sup>249</sup> As for the Commission's responsibilities under NEPA, contrary to Sierra Club's

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<sup>245</sup> 18 C.F.R. § 388.113 (2024).

<sup>246</sup> We are not making a significance determination regarding GHG impacts for the reasons discussed *supra* P 68.

<sup>247</sup> Sierra Club May 4, 2023 Protest at 11-12; Ingleside July 22, 2024 Comments at 4.

<sup>248</sup> *Id.* at 12-13 (citing U.N. Framework Convention on Climate Change Secretariat, Glasgow Climate Pact, at 17, *available at* [https://unfccc.int/sites/default/files/resource/cop26\\_auv\\_2f\\_cover\\_decision.pdf](https://unfccc.int/sites/default/files/resource/cop26_auv_2f_cover_decision.pdf); International Energy Agency, Net Zero by 2050, at 102 (May 2021), <https://www.iea.org/reports/net-zero-by-2050>).

<sup>249</sup> *See Transcon. Gas Pipe Line Co.*, 182 FERC ¶ 61,148, at P 101 (2023).

assertion, NEPA is not a means of “mandating that agencies achieve particular substantive environmental results”,<sup>250</sup> rather, it is a procedural statute that “prescribes the necessary process.”<sup>251</sup>

123. As explained above, denial of an NGA section 3 application can only occur with an “affirmative showing of inconsistency with the public interest”<sup>252</sup> and further that exportation of gas to FTA nations “shall be deemed to be consistent with the public interest.”<sup>253</sup> The EA thoroughly analyzes all environmental impacts, including GHG emissions, properly associated with our action of approving the siting, construction, and operation of the project. We acknowledge that the project will increase the atmospheric concentration of GHGs and will contribute cumulatively to climate change. Based on the foregoing discussion, we conclude that notwithstanding the project’s adverse impacts, as identified in the EA and herein, the CCL Midscale Trains 8 & 9 Project is an environmentally acceptable action and that the identified environmental harms are not inconsistent with the public interest.<sup>254</sup>

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<sup>250</sup> *Marsh v. Or. Nat. Res. Council*, 490 U.S. 360, 371 (1989); accord *Robertson v. Methow Valley Citizens Council*, 490 U.S. at 350.

<sup>251</sup> *Oglala Sioux Tribe v. U.S. Nuclear Regul. Comm’n*, 45 F.4th 291, 299 (D.C. Cir. 2022); see also *Methow Valley*, 490 U.S. at 351 (1989) (explaining that “it would not have violated NEPA if the Forest Service, after complying with [NEPA’s] procedural prerequisites, had decided that the benefits to be derived from downhill skiing at Sandy Butte justified the issuance of a special use permit, notwithstanding the loss of 15%, 50%, or even 100% of the mule deer herd” and also explaining that “[o]ther statutes may impose substantive environmental obligations on federal agencies, but NEPA merely prohibits uninformed—rather than unwise—agency action”).

<sup>252</sup> *Alaska LNG*, 67 F.4th at 1188 (“The NGA ‘sets out a general presumption favoring ... authorization.’ *W. Va. Pub. Servs. Comm’n*, 681 F.2d at 856. FERC’s approval of the Project easily comports with the NGA. The Commission expressly concluded the Project was in the public interest because it would have substantial economic and commercial benefits, and these benefits were not outweighed by the projected environmental impacts.”).

<sup>253</sup> 15 U.S.C. § 717b(c).

<sup>254</sup> See *supra* P 22.

## VI. Conclusion

124. For the reasons discussed above, we find that the project is not inconsistent with the public interest. Therefore, we will grant the Applicants' application authorization under section 3 of the NGA to site, construct, and operate their proposed CCL Midscale Trains 8 & 9 Project.

125. Compliance with the environmental conditions appended to our orders is integral to ensuring that the environmental impacts of approved projects are consistent with those anticipated by our environmental analyses. Thus, Commission staff carefully reviews all information submitted, and will issue a notice to proceed with a particular activity only when satisfied that the applicants have 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.

126. 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 applicants and local authorities. However, this does not mean that state and local agencies through application of state or local laws, may prohibit or unreasonably delay the construction or operation of facilities approved by this Commission.<sup>255</sup>

127. 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 comments, and upon consideration of the record.

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<sup>255</sup> 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).

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The Commission orders:

(A) The Applicants are authorized under section 3 of the NGA to site, construct, and operate the CCL Midscale Trains 8 & 9 Project, as described and conditioned herein and as more fully described in their application and supplements, including any commitments made therein, subject to the environmental conditions contained in the appendix to this order.

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

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

By the Commission.

( S E A L )

Debbie-Anne A. Reese,  
Secretary.

## Appendix A

### Environmental Conditions

As recommended in the Environmental Assessment (EA) and modified herein, this authorization includes the following conditions:

1. Applicants shall follow the construction procedures and mitigation measures described in their application and supplements (including responses to data requests) and as identified in the EA, unless modified by the Order. Applicants must:
  - a. request any modifications 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 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 construction and operation.
  
3. Prior to any construction, Applicants shall file an affirmative statement with the Secretary, certified by a senior company official, that all company personnel, EIs, and contractor personnel would be informed of the EI's authority and have been or would 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, Applicants 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. Applicants 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, 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, Applicants shall file an Implementation Plan with the Secretary for review and written approval by the Director of OEP, or the Director's designee. Applicants must file revisions to the plan as schedules change. The plan shall identify:

- a. how Applicants will implement the construction procedures and mitigation measures described in their application and supplements (including responses to staff data requests), identified in the EA, and required by the Order;
- b. how Applicants 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 Applicants will give to all personnel involved with construction and restoration (initial and refresher training as the project progresses and personnel change);
- f. the company personnel (if known) and specific portion of Applicants' organization having responsibility for compliance;
- g. the procedures (including use of contract penalties) Applicants 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. Applicants shall employ at least one EI during construction of the 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 their Implementation Plan, Applicants 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 Applicants' efforts to obtain the necessary federal authorizations;
  - b. the construction status of the 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 Applicants from other federal, state, or local permitting agencies concerning instances of noncompliance, and Applicants response.
9. Applicants must receive written authorization from the Director of OEP, or the Director's designee, before commencing construction of any project facilities. To obtain such authorization, Applicants must file with the Secretary documentation that it has received all applicable authorizations required under federal law (or evidence of waiver thereof).
10. Applicants must receive written authorization from the Director of OEP, or the Director's designee, prior to introducing hazardous fluids into the project facilities. Instrumentation and controls, hazard detection, hazard control, and security components/systems necessary for the safe introduction of such fluids shall be installed and functional.
11. Applicants must receive written authorization from the Director of OEP, or the Director's designee, before placing into service the 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 project are proceeding satisfactorily.
12. Within 30 days of placing the authorized facilities in service, Applicants shall file an affirmative statement with the Secretary, certified by a senior company official:
- a. that the facilities have been constructed in compliance with all applicable conditions, and that continuing activities will be consistent with all applicable conditions, or
- b. identifying which of the conditions in the Order Applicants have complied with or will comply with. This statement shall also identify any areas affected by the project

where compliance measures were not properly implemented, if not previously identified in filed status reports and the reason for noncompliance.

13. Applicants shall file a noise survey with the Secretary, no later than 60 days after placing the project into service. If a full load condition noise survey is not possible, Applicants shall provide an interim survey at the maximum possible horsepower load within 60 days of placing Trains 8 & 9 into service and provide the full load survey within 6 months. If the noise attributable to operation of the equipment at the CCL Terminal exceeds an Ldn of 55 dBA at any nearby NSA under interim or full horsepower load conditions, Applicants shall file a report on what changes are needed and shall install the additional noise controls to meet the level within 1 year of the in-service date. Applicants shall confirm compliance with the above requirement by filing an additional noise survey with the Secretary no later than 60 days after it installs the additional noise controls.

14. Prior to construction of final design, Applicants shall file with the Secretary the following information, stamped and sealed by the professional engineer-of-record, registered in the State of Texas:

- a. site preparation drawings and specifications;
- b. finalized civil and structural design basis, criteria, specifications;
- c. finalized wind and seismic design basis;
- d. Issued for Construction of LNG terminal structures and foundations design drawings and calculations (including prefabricated and field constructed structures);
- e. quality control procedures to be used for civil/structural design and construction;
- f. soil improvement procedures for the proposed project site;
- g. the finalized corrosion control and prevention plan for any underground piping, structures, foundations, equipment, and components; and
- h. the total and differential settlement of final designed foundations for structures, systems, and components for the project site.
- i. the finalized foundation design criteria for the project, and the associated quality assurance and quality control procedures.
- j. In addition, Applicants shall file, in their Implementation Plan, the schedule for producing this information.

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

15. Prior to initial site preparation, Applicants shall file an overall project schedule, which includes the proposed stages of initial site preparation, final design, procurement, construction, commissioning, introduction of hazardous fluids, and commencement of service.

16. Prior to initial site preparation, Applicants shall file procedures for controlling access during construction. The procedures shall address how unauthorized construction personnel would be restricted from entering the operational areas of the plant.

17. Prior to initial site preparation, Applicants shall file quality assurance and quality control procedures for construction activities, including initial equipment laydown, receipt, and preservation.

18. Prior to initial site preparation, Applicants shall file an analysis demonstrating that the anticipated traffic loads on buried pipelines and utilities at temporary and permanent crossings will be adequately distributed during construction and operation of the project. The analysis must consider anticipated traffic loads along the facility entrance/exit roads during construction and operation to determine whether provisions are needed to dissipate the loads on the active buried natural gas and hydrocarbon pipelines situated along the facility entrance/exit roads. If provisions are required, the analysis must

demonstrate the effectiveness of such provisions. The analysis shall be based on American Petroleum Institute (API) RP 1102 or other approved methodology.

19. Prior to initial site preparation, Applicants shall file an updated Emergency Response Plan (ERP), developed in consultation with the 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, as defined in National Fire Protection Association (NFPA) 1660, NFPA 470, NFPA 475, or approved equivalents, and shall be based on potential impacts and onsets of hazards from accidental and intentional events along the LNG marine vessel route and potential impacts and onset of hazards from accidental and intentional events at the LNG terminal, including but not limited to a catastrophic failure of the largest LNG tank. This plan shall also 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/or shelter in place of the public within any transient hazard areas along the LNG marine vessel route and within LNG terminal hazard areas in the event of an incident;
- b. identification of any training, that is existing or needed by emergency responders to effectively and safely respond to hazardous material incidents including, but not limited to, initial and periodic exercises, drills, and training on LNG fires and dispersion;
- c. identification of any training existing or needed by emergency responders to effectively and safely evacuate or shelter public within transient hazard areas along the LNG marine vessel route and within hazard areas from LNG terminal including, but not limited to initial and periodic exercises, drills, and training on mass evacuation or sheltering;
- d. designated contacts with federal, state and local emergency response agencies responsible for emergency management and response within any transient hazard areas along the LNG marine vessel route and within hazard areas from LNG terminal;

e. scalable procedures by Applicant for the prompt notification of appropriate local officials and emergency response agencies based on the level and severity of potential incidents;

f. scalable procedures by Applicant, emergency response planning groups, or emergency responders for mobilizing response and establishing a unified command. The procedures should identify the location, design, and use of existing or newly proposed emergency operations centers and emergency response equipment, that would potentially be required or used by emergency response planning groups and emergency responders to effectively and safely respond to hazardous material incidents and evacuate and/or shelter public within transient hazard areas along the LNG marine vessel route and within LNG terminal hazard areas;

g. scalable procedures for communicating potential onset of hazards and potential consequences to Unified Command by Applicant, and any notification of any incidents to the public by Applicant, emergency response planning groups, or emergency responders. The procedures should identify the location, design, and use of existing or newly proposed permanent sirens, mass notification systems, or other warning devices, that would potentially be required or used by emergency response planning groups and emergency responders to effectively communicate and warn the public prior to onset of debilitating hazards for scalable scenarios within any transient hazard areas along the LNG marine vessel route and within hazard areas from LNG terminal;

h. scalable procedures by emergency response planning groups, or emergency responders for evacuating the public. The procedures should identify the location, design, and use of evacuation routes/methods and any mustering locations, that would potentially be required or used by emergency response planning groups and emergency responders to effectively and safely evacuate the public based on the potential onset of hazards and potential consequences of scalable scenarios within any transient hazard areas along the LNG marine transit route and within hazard areas from LNG terminal; and

i. scalable procedures by emergency response planning groups, or emergency responders for sheltering the public. The procedures should identify the location, design,

and use of any shelters or areas of refuge, that would potentially be required or used by emergency response planning groups and emergency responders to effectively and safely shelter the public prior to onset of debilitating hazards for scalable scenarios within transient hazard areas along the route of the LNG marine vessel and within hazard areas of the LNG terminal.

Applicants shall notify the FERC staff of all planning meetings in advance and shall file progress reports, including meeting minutes, on the development of their ERP at 3-month intervals. Applicants shall file public versions of offsite emergency response procedures for communicating potential onset of hazards and potential consequences to emergency management organizations and Unified Command to inform any public notification, evacuation, and shelter in place.

20. Prior to initial site preparation, Applicants shall file a Cost-Sharing Plan, to be included in the ERP, identifying the mechanisms for funding all project-specific security/emergency management costs that would be imposed on state and local agencies. This comprehensive plan shall include funding mechanisms for any capital costs associated with any necessary security/emergency management equipment, personnel base, and training identified by emergency responders as a resource gap. This plan shall include sustained funding of any requirement or resource gap(s) identified to effectively and safely execute any emergency actions to notify, evacuate and shelter the public and to effectively and safely respond to hazardous material incidents consistent with recommended industry practices, as defined in National Fire Protection Association (NFPA) 1660, NFPA 470, NFPA 475, or approved equivalents. Applicants shall notify FERC staff of all planning meetings in advance and shall report progress on the development of their Cost-Sharing Plan at 3-month intervals.

21. Prior to construction of final design, Applicants shall file change logs that list and explain any changes made from the front-end-engineering-design (FEED) provided in Applicants' application and filings. A list of all changes with an explanation for the design alteration shall be filed and all changes shall be clearly indicated on all diagrams and drawings.

22. Prior to construction of final design, Applicants shall file information/revisions pertaining to Applicants' response numbers 5, 13, 18, 40, 41, 42, 44, 45, 46, 47, 48, and

53 of their October 11, 2023 filing, which indicated features to be included or considered in the final design.

23. Prior to construction of final design, Applicants shall file drawings of vehicle protections internal to the plant, such as guard rails, barriers, and bollards to protect transfer piping, pumps, compressors, hydrants, monitors, firewater post indicator valves per NFPA 24 section 6.3, etc. to ensure that the facilities would be protected from inadvertent damage from vehicles, unless the facilities are located sufficiently away from in-plant roadways and areas accessed by vehicle.

24. Prior to construction of final design, Applicants 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 depict illumination coverage 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 federal regulations and API RP 540 or approved equivalent.

25. Prior to construction of final design, Applicants shall file updated drawings of the security enclosure that show the new project facilities. The security enclosure drawings shall provide details of the enclosure that demonstrate it is in accordance with NFPA 59A (2019 edition) or approved equivalent and would restrict and deter access around the entire facility and have a setback or additional impediments (e.g., barbed- or razor-wire) from or at exterior features (e.g., power lines, trees, etc.) and from or at interior features (e.g., piping, equipment, buildings, etc.) that would not allow any part of the enclosure to be overcome and would protect interior equipment from outside security threats (e.g., explosives placed outside security enclosure) consistent with a security vulnerability assessment. The security vulnerability assessment should be consistent with the Facility Security Assessment in 33 CFR 105 and take into account the potential target attractiveness, threats, vulnerabilities, consequences, and mitigation effectiveness consistent with American Institute of Chemical Engineers, *Guidelines for Analyzing and Managing the Security Vulnerabilities of Fixed Chemical Sites*, or approved equivalent.

26. Prior to construction of final design, Applicants shall file updated closed-circuit television (CCTV) and intrusion detection drawings. The CCTV 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 CCTV coverage interior of the facility to enable rapid monitoring of the terminal, including coverage within new project areas and buildings. The drawings shall show or note the location and type of the intrusion detection and shall demonstrate coverage of the entire perimeter surrounding the project facilities.

27. Prior to construction of final design, Applicants shall file a plot plan of the final design showing all major equipment, structures, buildings, and impoundment systems.

28. Prior to construction of final design, Applicants shall file an evaluation that demonstrates overpressures would not cause failure of the firewater tanks and pumps, emergency diesel generators, and any other significant components. Alternatively, Applicants shall provide drawings and calculations for mitigation measures that would be installed to prevent failure of these components due to overpressures.

29. Prior to construction of final design, Applicants shall file an evaluation to demonstrate a fire at the ISBL and refrigerant impoundments would not pose cascading damage risk to any of the firefighting equipment and vessels in the refrigerant storage area using methods and/or models that would appropriately account for the composition of a ISBL and refrigerant impoundment fires.

30. Prior to construction of final design, Applicants shall file three-dimensional plant drawings to confirm plant layout for maintenance, access, egress, and the extent and density of congested areas used in overpressure modeling.

31. Prior to construction of final design, Applicants 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 3.28 million metric 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;

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- 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.

32. Prior to construction of final design, Applicants 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.

33. Prior to construction of final design, Applicants 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. The physical car seal to be used shall have sufficient mechanical strength to prevent unauthorized valve operation.

34. Prior to construction of final design, Applicants shall file information to verify how the engineering, procurement, and construction (EPC) contractor has addressed all FEED Hazard and Operability (HAZOP) recommendations.

35. Prior to construction of final design, Applicants shall file a HAZOP study and any Layer of Protection Analysis (LOPA) or safety integrity level verification studies on the final design, a list of the resulting recommendations, and actions taken on the recommendations. The issued for construction P&IDs shall incorporate the recommendations and justification shall be provided for any recommendations that are not implemented.

36. Prior to construction of final design, Applicants 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 vertical piping segment would be sufficient for this purpose.

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

38. Prior to construction of final design, Applicants 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.

39. Prior to construction of final design, Applicants shall file the details of the emergency shutdown system, including a project-wide emergency shutdown button with proper sequencing and reliability or another system that is demonstrated through a human reliability analysis to provide a means to quickly and reliably shutdown the entire CCL Midscale Trains 8 & 9 Project.

40. Prior to construction of final design, Applicants shall specify that all emergency shutdown (ESD) valves are to be equipped with open and closed position switches connected to the distributed control system (DCS)/ safety instrumented system (SIS).

41. Prior to construction of final design, Applicants 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, 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, SIS, cable, other electrical and instrumentation); and

d. security and fire safety specifications (e.g., security, passive protection, hazard detection, hazard control, firewater).

42. Prior to construction of final design, Applicants shall file a final list of all applicable codes and standards that would be used in the final design, fabrication, construction, commissioning, inspection, testing, operation and maintenance of the project facilities, systems, and components that cross references the final specifications and document numbers.

43. Prior to construction of final design, Applicants shall file documentation demonstrating that the corrosion allowances for piping and pressure vessels systems are consistent with the American Society of Mechanical Engineers (ASME) B31.3 (or appropriate ASME B31 code), ASME Section VIII, and the inspection intervals prescribed by the facility's preventative maintenance program governing the internal, external, corrosion under insulation, and metal thickness inspections (e.g., API 510, API 570).

44. Prior to construction of final design, Applicants 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).

45. Prior to construction of final design, Applicants 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 or pipe support design loads.

46. Prior to construction of final design, Applicants shall file a pipe stress analysis for critical or potential higher consequence lines that evaluates all loads in ASME B31.3 (2016 edition) or approved equivalent, including but not limited to consideration of hazardous fluid lines that are cryogenic, high temperature, subject to slug flow, and that include 2-phase flow. Applicants shall also demonstrate, for hazardous fluids, piping and piping nipples 2 inches or less in diameter are designed to withstand external loads, including vibrational loads in the vicinity of rotating equipment and operator live loads in areas accessible by operators.

47. Prior to construction of final design, Applicants 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.

48. Prior to construction of final design, Applicants shall specify a redundant, full capacity pressure relief valves or approved equivalent means of overpressure protection for the Ethylene, Propane, Butane and Pentane storage drums. The equivalent means shall demonstrate the overpressure protection would have equivalent capacity and equivalent reliability to relieve the vessel of credible overpressure scenarios during inspection, testing, and maintenance tasks.

49. Prior to construction of final design, Applicants shall file a final 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 International Society for Automation (ISA) 84.00.07 or approved equivalent methodologies and would need to demonstrate 90 percent 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.

50. Prior to construction of final design, Applicants 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 and 10 minutes of firewater, or the maximum liquid from

the largest vessel (or total of impounded vessels) or otherwise demonstrate that providing spill containment would not significantly reduce the flammable vapor dispersion or radiant heat consequences of a spill.

51. Prior to construction of final design, Applicants shall file final design drawings and spill sizing calculations for the existing LNG Storage Tank spill collection and conveyance system, considering vapor formation rates, that demonstrates the existing spill conveyance systems, including their downcomers, would be adequately sized to convey a spill with an additional LNG pump in each storage tank.

52. Prior to construction of final design, Applicants shall file impoundment swale hydraulics analysis on the OSBL and Jetty Impoundment Basins that demonstrates the maximum sizing spill controlled by the proposed safety integrity level 2 rated system could be contained without overtopping each trench segment and provide the dimensions of the minimum, maximum trench height, and the slope and length of each section of their trench systems.

53. Prior to construction of final design, Applicants shall file a finalized sizing spill analysis and supporting documentation that considers the maximum LNG spill for the increased loading rate and demonstrate how the maximum LNG ship loading spill would be limited by a safety integrity level 2 rated system or equivalent to prevent overfilling the OSBL and/or Jetty Impoundment Basins and backing up into the LNG trenches. The analysis shall include spill containment drawings and calculations and consider the maximum flowrates, largest piping deinventory, and a feasible instrument response time for the surveillance and shutdown system.

54. Prior to construction of final design, Applicants shall file details on the interlocks that specify the maximum loading rate would not exceed 14,000 m<sup>3</sup>/hr for both the East and West Jetties.

55. Prior to construction of final design, Applicants shall file a plan, including mitigative measures or design modifications, to inhibit conveyance of an LNG spill downstream of the OSBL and Jetty Impoundment Basins into the stormwater conveyance system in the event of a safety system failure.

56. Prior to construction of final design, Applicants shall file detailed calculations for sump pumps for all impoundments potentially impacted by proposed project facilities demonstrating they can remove at least 25% of the maximum predictable collection rate from a storm of 10-year frequency and 1-hour duration using National Weather Service, Atlas 14, Volume 11, Version 2, or approved equivalent.

57. Prior to construction of final design, Applicants shall file electrical area classification drawings, including cross sectional drawings. The drawings shall demonstrate compliance with NFPA 59A, NFPA 70, NFPA 497, and API RP 500, or approved equivalents. In addition, the drawings shall include revisions to the electrical area classification design or provide technical justification that supports the electrical area classification using most applicable API RP 500 figures (i.e., figures 20 and 21) or hazard modeling of various release rates from equivalent hole sizes and wind speeds (see NFPA 497 release rate of 1 lb-mole/minute).

58. Prior to construction of final design, Applicants shall file analysis of the buildings containing hazardous fluids and the ventilation calculations that limit concentrations below the lower flammable limits (LFLs) (e.g., 25-percent 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-percent LFL) and initiate mitigative actions (e.g., 40- to 50-percent LFL) or alarms in the event the ventilation is not functioning as designed, in accordance with NFPA 59A and NFPA 70, or approved equivalents.

59. Prior to construction of final design, Applicants shall file final drawings and details that show 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) and NFPA 70 (1999 or 2020, as applicable).

60. Prior to construction of final design, Applicants 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. Alternatively, Applicants shall file

details on a system providing an approved equivalent protection, in accordance with NFPA 59A (2023 edition), from the migration of flammable fluid through the electrical conduit or wiring.

61. Prior to construction of final design, Applicants 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, manufacturer, model, location, alarm indication locations, and shutdown functions of the hazard detection equipment.

62. Prior to construction of final design, Applicants shall file a technical review of the final design of the locations of buildings that shows their locations are consistent with API RP 752 (2009 edition) and API RP 753 (2007 edition), or approved equivalents.

63. Prior to construction of final design, Applicants shall file a technical review of the final design of the facility that identifies all combustion/ventilation air intake equipment, shows the detailed placement of detectors at those air intakes to detect flammable gas or toxic releases, and verifies these areas would be adequately covered by hazard detection devices that would isolate or shut down any combustion or ventilation equipment whose continued operation could add to or sustain an emergency.

64. Prior to construction of final design, Applicants shall file a design that includes hazard detection suitable to detect high temperatures and smoldering combustion products in electrical buildings.

65. Prior to construction of final design, Applicants shall file an evaluation of the voting logic and voting degradation for hazard detectors.

66. Prior to construction of final design, Applicants 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, iso-pentane, and condensate.

67. Prior to construction of final design, Applicants 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.

68. Prior to construction of final design, Applicants shall file a drawing showing the location of the emergency shutdown buttons, including, but not limited to the refrigerant storage and area/unit emergency isolation and equipment shutdown. Emergency shutdown buttons shall be easily accessible, conspicuously labeled, and located in an area which would be accessible during an emergency.

69. Prior to construction of final design, Applicants shall file facility plan drawings and a list of the fixed and wheeled dry-chemical, hand-held fire extinguishers, and other hazard control equipment. Plan drawings shall clearly show the location and elevation by tag number of all fixed, wheeled, and hand-held extinguishers and shall demonstrate the spacing of extinguishers meet prescribed NFPA 10 travel distances. The list shall include the equipment tag number, type, manufacturer and model, capacity, equipment covered, discharge rate, and automatic and manual remote signals initiating discharge of the units and shall demonstrate they meet NFPA 59A.

70. Prior to construction of final design, Applicants shall file drawings and specifications for the structural passive cold protection systems, demonstrating that equipment and supports would be adequately protected from low temperature releases (e.g., design spills) below minimum design metal temperatures that may exacerbate the initial hazard.

71. Prior to construction of final design, Applicants shall file calculations and/or test results, per International Organization for Standardization (ISO) 20088 or approved equivalent, for the structural passive protection systems to protect equipment and supports from low temperature releases below minimum design metal temperatures.

72. Prior to construction of final design, Applicants shall file drawings and specifications for the passive fire protection systems, demonstrating that structural supports and equipment would be adequately protected from fire scenarios (e.g., design spills) that may exacerbate the initial hazard.

73. Prior to construction of final design, Applicants shall file fire resistant cable specifications for electrical, instrument, and control equipment, which would activate emergency systems or would be relied upon for isolation to withstand a minimum 20-minute fire exposure, per Underwriters Laboratories (UL) 1709 (6th edition) or approved equivalent.

74. Prior to construction of final design, Applicants shall file a detailed quantitative analysis, for project facility areas and relevant existing and authorized facility areas, to demonstrate that adequate mitigation would be provided for each pressure vessel that could fail within the 4,000 Btu/ft<sup>2</sup>-hr zone from a pool or jet fire; each critical structural component and emergency equipment item that could fail within the 4,900 Btu/ft<sup>2</sup>-hr zone from a pool or jet fire; and each occupied building that could expose unprotected personnel within the 1,600 Btu/ft<sup>2</sup>-hr zone from a pool or jet fire. Trucks at truck transfer stations shall be included in the analysis of potential pressure vessel failures. 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 due to a pool or jet fire.

75. Prior to construction of final design, Applicants shall file calculations to confirm the existing firewater pumps and firewater storage are hydraulically adequate for supporting the firewater demands.

76. Prior to construction of final design, Applicants shall file an evaluation and associated specifications, drawings, and datasheets for transformers and transformer fluid demonstrating prevention of cascading damage of transformers (e.g., fire walls or spacing) in accordance with NFPA 850 or approved equivalent.

77. Prior to construction of final design, Applicants shall file facility plan drawings showing the proposed location of the firewater systems. Plan drawings shall clearly show

the location of firewater piping, post indicator and sectional valves, and the location and area covered by, each monitor, hydrant, hose, water curtain, deluge 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 in accordance with NFPA 24 (2022 edition) or approved equivalent. The drawings shall also demonstrate that firewater coverage is provided by at least two monitors or hydrants with sufficient firewater flow to cool exposed surfaces subjected to a fire, with obstructions to firewater flow path and throw distance taken into account. The drawings shall also demonstrate firewater coverage in areas inaccessible or difficult to access in the event of an emergency by automatic or remotely operated monitors, or fixed fire suppression systems. The drawings shall also include piping and instrumentation diagrams of the firewater systems. Drawings of the sprinkler system design shall show coverage in applicable buildings per NFPA 850 and in applicable closed roofed buildings around the site, per NFPA 13.

78. Prior to commissioning, Applicants 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. Applicants 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.

79. Prior to commissioning, Applicants 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.

80. Prior to commissioning, v shall file the operation and maintenance procedures and manuals, as well as safety procedures, hot work procedures and permits, abnormal operating conditions procedures, simultaneous operations procedures, and management of change procedures and forms. The operational maintenance and testing procedures for fire protection components shall be in accordance with NFPA 59A (2019) or approved equivalent.

81. Prior to commissioning, Applicants 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.

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

83. Prior to commissioning, Applicants shall file a plan to maintain a detailed training log to demonstrate that operating, maintenance, safety, security, and emergency response staff have completed the required training. In addition, Applicants shall file signed documentation that demonstrates training has been conducted, including ESD and response procedures, prior to the respective operation.

84. Prior to commissioning, Applicants shall file an Organizational Chart that denotes the operations and maintenance structure and number of operation and maintenance personnel, including support staff. Applicants shall also conduct periodic monitoring and assessments of the staffing levels that includes plans to reduce human error caused by periods of overtime, address any identified causes of fatigue, and any related lessons learned and deficiencies consistent with API RP 755 or approved equivalent.

85. Prior to commissioning, Applicants shall file the procedures for pressure/leak tests of piping which address the requirements of ASME Boiler and Pressure Vessel Code (BPVC) Section VIII and ASME B31.3. In addition, Applicants shall file a line list of pneumatic and hydrostatic test pressures.

86. Prior to commissioning, Applicants shall file procedures for pressure/leak tests of pressure vessels, which address the requirements of ASME BPVC Section VIII. In addition, Applicants shall file a list of pneumatic and hydrostatic test pressure. Applicants shall demonstrate that the test pressures consistent with ASME BPVC Section VIII (1992) do not exceed the yield strength of the pressure vessels.

87. Prior to introduction of hazardous fluids, Applicants shall complete and document a pre-startup safety review (PSSR) to ensure that installed equipment meets the design and operating intent of the facility. The PSSR 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.

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

89. Prior to introduction of hazardous fluids, Applicants shall file an updated alarm management program to maximize the effectiveness of operator response to alarms in accordance with ISA 18.2 (2016 edition) or approved equivalent.

90. Prior to introduction of hazardous fluids, Applicants shall file documentation demonstrating they have completed clean agent acceptance tests in accordance with NFPA 2001 (2022 edition) or approved equivalent.

91. Prior to introduction of hazardous fluids, Applicants shall complete and document firewater monitor and hydrant coverage tests. The actual coverage area from each monitor and hydrant shall be shown on facility plot plan(s).

92. After production of first LNG, Applicants shall file weekly reports on the commissioning of the proposed systems that detail the progress toward demonstrating the facilities can safely and reliably operate at or near the design production rate. The reports shall include a summary of activities, problems encountered, and remedial actions taken. The weekly reports shall also include the latest commissioning schedule, including projected and actual LNG production by each liquefaction train, LNG storage inventories in each storage tank, and the number of anticipated and actual LNG commissioning cargoes, along with the associated volumes loaded or unloaded. Further, the weekly reports shall include a status and list of all planned and completed safety and reliability tests, work authorizations, and punch list items. Problems of significant magnitude shall be reported to the FERC within 24 hours.

93. Prior to commencement of service, Applicants shall file a request for written authorization from the Director of OEP. Such authorization would only be granted

following a determination by the Coast Guard, under its authorities under the Ports and Waterways Safety Act, the Magnuson Act, the Maritime Transportation Security Act (MTSA) 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 Applicants or other appropriate parties.

94. Prior to commencement of service, Applicants shall file any proposed revisions to the security plan and physical security of the plant.

95. Prior to commencement of service, Applicants shall label piping with fluid service and direction of flow in the field, consistent with ASME A13.1 (2016 edition) or approved equivalent, in addition to the pipe labeling requirements of NFPA 59A (2001).

96. Prior to commencement of service, Applicants shall file a written management system that it would implement to document and track process safety metrics consistent with API RP 754 or approved equivalent, including site-specific Tier 4 metrics that include, but are not limited to, whether personnel are involved in the development of procedures they are assigned, whether supervisors are using only qualified personnel for carrying out procedures, whether personnel are adhering to procedures, whether deviations from procedures are investigated, and whether procedural and organizational changes are subjected to management of change requirements.

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

98. Prior to commencement of service, Applicants shall file procedures for offsite contractors' responsibilities, restrictions, monitoring, training, and limitations and for supervision of these contractors and their tasks by Applicants' 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.

In addition, the following measures shall apply throughout the life of the CCL Midscale Trains 8 & 9 Project.

99. The facility shall be subject to regular FERC staff technical reviews and site inspections on at least an annual basis or more frequently as circumstances indicate. Prior to each FERC staff technical review and site inspection, Applicants 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.

100. 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, higher than predicted boil off rates, storage tank pressure excursions (high or low), negative pressure (vacuum) within a storage tank, relative movement of storage tank inner vessels, cold spots on the storage tanks, storage tank vibrations and/or vibrations in associated cryogenic piping, storage tank settlement, pipe movement including spring hanger position indicator(s) outside of normal range, significant equipment or instrumentation malfunctions or failures, non-scheduled maintenance or repair (and reasons therefore), leaking or inoperative isolation valves, hazardous fluids releases, and fires involving hazardous fluids and/or from other sources. 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.

101. 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 5 minutes or more;
- f. unintended movement or abnormal loading by environmental causes, such as an earthquake, landslide, or flood, that impairs the serviceability, structural integrity, or reliability of an LNG facility that contains, controls, or processes hazardous fluids;
- g. any crack or other material defect that impairs the structural integrity or reliability of an LNG facility that contains, controls, or processes hazardous fluids;
- h. any malfunction or operating error that causes the pressure of a pipeline or LNG facility that contains or processes hazardous fluids to rise above its maximum allowable operating pressure (or working pressure for LNG facilities) plus the build-up allowed for operation of pressure-limiting or control devices;
- i. a leak in an LNG facility that contains or processes hazardous fluids that constitutes an emergency;
- j. inner tank leakage, ineffective insulation, or frost heave that impairs the structural integrity of an LNG storage tank;
- k. any safety-related condition that could lead to an imminent hazard and cause (either directly or indirectly by remedial action of the operator), for purposes other than abandonment, a 20 percent reduction in operating pressure or shutdown of operation of a pipeline or an LNG facility that contains or processes hazardous fluids;
- l. safety-related incidents from hazardous fluids transportation occurring at or en route to and from the LNG facility; or
- m. an event that is significant in the judgment of the operator and/or management even though it did not meet the above criteria or the guidelines set forth in an LNG facility's incident management plan.

In the event of an incident, the Director of OEP has delegated authority to take whatever steps are necessary to ensure operational reliability and to protect human life, health, property, or the environment, including authority to direct the LNG facility to cease operations. Following the initial company notification, the FERC staff would determine the need for a separate follow-up report or follow up in the upcoming semi-annual operational report. All company follow-up reports shall include investigation results and recommendations to minimize a reoccurrence of the incident.

Document Content (s)

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