

UNITED STATES OF AMERICA
DEPARTMENT OF ENERGY
OFFICE OF FOSSIL ENERGY

JORDAN COVE ENERGY PROJECT L.P.) FE DOCKET NO. 12-32-LNG
)

FINAL OPINION AND ORDER GRANTING LONG-TERM
AUTHORIZATION TO EXPORT LIQUEFIED NATURAL GAS
TO NON-FREE TRADE AGREEMENT NATIONS

DOE/FE ORDER NO. 3413-A

JULY 6, 2020

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FREQUENTLY USED ACRONYMS

AEO	Annual Energy Outlook
APGA	American Public Gas Association
API	American Petroleum Institute
Bcf/d	Billion Cubic Feet per Day
Bcf/yr	Billion Cubic Feet per Year
CO ₂ e	Carbon Dioxide Equivalent
CPP	Clean Power Plan
CZMA	Coastal Zone Management Act
DOE	U.S. Department of Energy
EIA	U.S. Energy Information Administration
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
FE	Office of Fossil Energy, U.S. Department of Energy
FERC	Federal Energy Regulatory Commission
FTA	Free Trade Agreement
GDP	Gross Domestic Product
GHG	Greenhouse Gas
IECA	Industrial Energy Consumers of America
LCA	Life Cycle Analysis
LNG	Liquefied Natural Gas
Mcf	Thousand Cubic Feet
MMBtu	Million British Thermal Units
mtpa	Million Metric Tons per Annum
NEPA	National Environmental Policy Act
NERA	NERA Economic Consulting
NETL	National Energy Technology Laboratory
NGA	Natural Gas Act
ROD	Record of Decision

I. INTRODUCTION

On March 23, 2012, Jordan Cove Energy Project L.P. (Jordan Cove) filed an application (Application)¹ with the Office of Fossil Energy (FE) of the Department of Energy (DOE) under section 3(a) of the Natural Gas Act (NGA).² Jordan Cove requests long-term, multi-contract authorization to export as liquefied natural gas (LNG) both: (i) domestically produced natural gas, and (ii) natural gas produced in Canada and imported into the United States.³ Jordan Cove seeks to export this LNG from its proposed export terminal to be located in unincorporated Coos County, Oregon (Jordan Cove LNG Terminal or Terminal),⁴ to any country with which the United States has not entered into a free trade agreement (FTA) requiring national treatment for trade in natural gas,⁵ and with which trade is not prohibited by U.S. law or policy (non-FTA countries).⁶

Jordan Cove originally requested authority to export LNG to non-FTA countries in a volume of six million metric tons per annum (mtpa), which it stated is equivalent to 292 billion cubic feet per year (Bcf/yr) of natural gas, or 0.8 Bcf per day (Bcf/d).⁷ In both 2015 and 2018, Jordan Cove amended its Application to increase its requested export volume based on adjustments to the proposed Terminal in its application then pending before the Federal Energy

¹ See Jordan Cove Energy Project L.P., Application for Long-Term Authorization to Export Liquefied Natural Gas to Non-Free Trade Agreement Nations, FE Docket No. 12-32-LNG (Mar. 23, 2012) [hereinafter App.].

² 15 U.S.C. § 717b(a). The authority to regulate the imports and exports of natural gas, including liquefied natural gas, under section 3 of the NGA (15 U.S.C. § 717b) has been delegated to the Assistant Secretary for FE in Redelegation Order No. 00-002.04G, issued on June 4, 2019.

³ App. at 4.

⁴ See *Jordan Cove Energy Project L.P. & Pacific Connector Gas Pipeline, LP*, Order Granting Authorizations Under Sections 3 & 7 of the Natural Gas Act, 170 FERC ¶ 61,202, ¶¶ 1, 7 (Mar. 19, 2020) [hereinafter FERC Order].

⁵ The United States currently has FTAs requiring national treatment for trade in natural gas with Australia, Bahrain, Canada, Chile, Colombia, Dominican Republic, El Salvador, Guatemala, Honduras, Jordan, Mexico, Morocco, Nicaragua, Oman, Panama, Peru, Republic of Korea, and Singapore. FTAs with Israel and Costa Rica do not require national treatment for trade in natural gas.

⁶ App. at 1.

⁷ *Id.*

Regulatory Commission (FERC).⁸ In the 2015 Amendment, Jordan Cove requested to export LNG in a volume equivalent to 350 Bcf/yr of natural gas.⁹ In the 2018 Amendment, which superseded the 2015 Amendment, Jordan Cove requests an increase in its proposed exports to 395 Bcf/yr of natural gas.¹⁰ According to Jordan Cove, natural gas will be delivered to the Terminal by a proposed interstate pipeline system, the Pacific Connector Pipeline (or Pipeline), to be constructed by Jordan Cove's affiliate, Pacific Connector Gas Pipeline, LP (Pacific Connector).¹¹

Jordan Cove requests this authorization for a term of 25 years, commencing on the earlier of the date of first export or seven years from the date this authorization is granted.¹² Jordan Cove seeks the authorization on its own behalf and as agent for other entities that hold title to the LNG at the time of export.¹³ Additional procedural history is set forth below.¹⁴

On March 19, 2020, FERC issued an order (FERC Order) authorizing: (i) Jordan Cove to site, construct, and operate the proposed Jordan Cove LNG Terminal with a maximum liquefaction capacity of 7.8 mtpa (equivalent to 395 Bcf/yr of natural gas), and (ii) Pacific Connector to construct and operate the Pacific Connector Pipeline to transport natural gas from interconnections near Malin, Oregon, to the Terminal for liquefaction and export (together, the

⁸ See Jordan Cove Energy Project L.P., Amendment of Application for Long-Term Authorization to Export Liquefied Natural Gas to Non-Free Trade Agreement Nations, FE Docket No. 12-32-LNG, at 3-5 (Oct. 5, 2015) [hereinafter 2015 Amendment]; Jordan Cove Energy Project L.P., Application to Amend Long-Term Authorizations to Export Liquefied Natural Gas to Free Trade Agreement Countries and Non-Free Trade Agreement Countries and Amendment to Application for Long-Term Authorization to Export Liquefied Natural Gas to Non-Free Trade Agreement Countries, FE Docket Nos. 11-127-LNG and 12-32-LNG, at 3-6 (Feb. 6, 2018) [hereinafter 2018 Amendment].

⁹ 2015 Amendment at 5.

¹⁰ 2018 Amendment at 2-4. Although the 2018 Amendment superseded the 2015 Amendment, the record in this proceeding includes the filings received in response to the 2015 Amendment. See *infra* §§ II.A.4, VII.

¹¹ *Id.* at 5; see also App. at 4 n.4.

¹² App. at 3; see also 2018 Amendment at 5.

¹³ App. at 6.

¹⁴ See *infra* § II.A.

Jordan Cove Energy Project, or the Project).¹⁵ Numerous parties to the FERC proceeding filed timely requests for rehearing of the FERC Order. FERC granted rehearing for purposes of further consideration on May 18, 2020, and denied and granted in part the requests for rehearing in an order issued on May 22, 2020 (FERC Rehearing Order).¹⁶ Certain parties subsequently filed petitions for review of the FERC Order and Rehearing Order in the U.S. Court of Appeals for the District of Columbia Circuit, and those proceedings are ongoing.¹⁷

As discussed below, on March 24, 2014, DOE/FE conditionally granted Jordan Cove's Application in DOE/FE Order No. 3413 (Conditional Order).¹⁸ In the Conditional Order, DOE/FE made preliminary findings on all issues except the environmental issues in this proceeding.¹⁹ Although the Conditional Order is still in effect, there have been significant developments since it was issued six years ago. For example, there have been changes to the proposed Jordan Cove Energy Project (including new FERC applications and a new environmental review), developments in the U.S. natural gas market with respect to production and export gains, and updates to DOE/FE's analyses under NGA section 3(a). In 2018, DOE/FE issued a procedural order in which it committed to "conduct[] a public interest review on an updated record prior to issuing any final order in this proceeding."²⁰ Accordingly, although this final Order builds on the Conditional Order, DOE/FE presents its findings and conclusions in

¹⁵ FERC Order at ¶¶ 1-2, 5, 7, 296.

¹⁶ *Jordan Cove Energy Project L.P., et al.*, Order on Rehearing and Stay, 171 FERC ¶ 61,136 (May 22, 2020) [hereinafter FERC Reh'g Order]; *see infra* § IX.D.

¹⁷ *See infra* § IX.E.

¹⁸ *Jordan Cove Energy Project L.P.*, DOE/FE Order No. 3413, FE Docket No. 12-32-LNG, Order Conditionally Granting Long-Term Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from the Jordan Cove LNG Terminal in Coos Bay, Oregon, to Non-Free Trade Agreement Nations (Mar. 24, 2014) [hereinafter Conditional Order].

¹⁹ *See id.* at 15.

²⁰ *Jordan Cove Energy Project L.P.*, Order Dismissing Supplemental Comments, Dismissing Request for Extension of Time, and Dismissing Motion to File Partial Answer, FE Docket No. 12-32-LNG, at 5 (Feb. 1, 2018).

this Order on all issues associated with Jordan Cove’s proposed exports—both environmental and non-environmental.

As the basis for this Order, DOE/FE has reviewed a substantial administrative record including, but not limited to, the following: Jordan Cove’s Application; the 2015 and 2018 Amendments to the Application; the comments, motions to intervene, and protests submitted in response to the Application and Amendments; DOE’s economic and environmental studies; public comments received on DOE/FE’s various analyses; the final environmental impact statement (EIS) for the Jordan Cove Energy Project prepared by FERC staff; the FERC Order and FERC Rehearing Order; and the most recent projections of the U.S. Energy Information Administration (EIA). Based on this record, DOE/FE has determined that it has not been shown that Jordan Cove’s proposed exports will be inconsistent with the public interest, as would be required to deny the Application and 2018 Amendment under NGA section 3(a).²¹ DOE/FE therefore grants the Application, as modified by the 2018 Amendment, in the full volume requested—395 Bcf/yr of natural gas.²²

DOE/FE participated as a cooperating agency in FERC’s environmental review of the Jordan Cove Energy Project under the National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. § 4321 *et seq.* FERC issued the final EIS for the Jordan Cove Energy Project on November 15, 2019.²³ After an independent review, DOE/FE adopted the final EIS on February

²¹ See *infra* § X.

²² See *infra* § XIII (Ordering Para. A).

²³ See Fed. Energy Regulatory Comm’n, *Final Environmental Impact Statement for the Jordan Cove Energy Project*, Docket Nos. CP17-494-000 and CP17-495-000 (Nov. 15, 2019), available at: <https://www.ferc.gov/industries/gas/enviro/eis/2019/11-15-19-FEIS.asp> (follow links to EIS) [hereinafter final EIS]. We note that, as of today’s date, FERC’s eLibrary is not accessible via this link for technical reasons. Should this issue persist, the final EIS will continue to be available via the FERC docket numbers identified above.

13, 2020 (DOE/EIS-0532),²⁴ and the U.S. Environmental Protection Agency (EPA) published a notice of the adoption on February 21, 2020.²⁵ As an Appendix to this Order, DOE/FE is issuing the record of decision (ROD) under NEPA for the proposed Jordan Cove LNG Terminal.²⁶ This Order requires Jordan Cove's compliance with the 133 environmental conditions adopted in the FERC Order, as modified in the Rehearing Order.²⁷

Previously, DOE/FE granted Jordan Cove's separate application, filed in FE Docket No. 11-127-LNG, requesting long-term authority to export LNG from the proposed Terminal to nations with which the United States has, or in the future enters into, a FTA requiring national treatment for trade in natural gas (FTA countries) under NGA section 3(c).²⁸ DOE/FE granted the FTA application in 2011 in DOE/FE Order No. 3041, and subsequently amended the order at Jordan Cove's request in DOE/FE Order No. 3041-A.²⁹ Under DOE/FE Order No. 3041-A, Jordan Cove is authorized to export LNG to FTA countries in a volume equivalent to 395 Bcf/yr

²⁴ Letter from Amy R. Sweeney, DOE/FE, to Julie Roemele, U.S. Env'tl. Prot. Agency (Feb. 13, 2020), *available at*: <https://www.energy.gov/sites/prod/files/2020/02/f71/adoption-letter-eis-0532-jordan-cove-2020-02-13.pdf>.

²⁵ U.S. Env'tl. Prot. Agency, Environmental Impact Statements; Notice of Availability, 85 Fed. Reg. 10,164 (Feb. 21, 2020).

²⁶ See Letter from Amy R. Sweeney, DOE/FE, to John Decker, Counsel for Jordan Cove (Apr. 14, 2020), *available at*: <https://www.energy.gov/sites/prod/files/2020/04/f73/DOE%20Letter%20to%20Jordan%20Cove%20-%20OFD%20April%2014%202020.pdf> (stating that, although the Jordan Cove Energy Project is under the purview of the One Federal Decision process pursuant to Executive Order 13807, DOE/FE will be issuing its own ROD under NEPA for its final action on the Application). Additionally, we note that, in September 2017, Jordan Cove requested approval for the Jordan Cove Energy Project to become a Covered Project under Title 41 of the Fixing America's Surface Transportation (FAST-41) Act, 42 U.S.C. § 4370m. Jordan Cove was formally accepted as a Covered Project in October 2017. See Fed. Infrastructure Permitting Dashboard, *Jordan Cove LNG Terminal & Pacific Connector Gas Pipeline* (last updated June 29, 2020), *available at*: <https://www.permits.performance.gov/permitting-projects/jordan-cove-lng-terminal-and-pacific-connector-gas-pipeline>.

²⁷ Although the final EIS recommended 132 environmental mitigation measures, FERC adopted one additional environmental condition for a total of 133 environmental conditions. See FERC Order at ¶ 247; see also *infra* §§ IX.C and XIII (Ordering Para. H). FERC clarified one environmental condition in the Rehearing Order. See *infra* § IX.D.

²⁸ 15 U.S.C. § 717b(c).

²⁹ *Jordan Cove Energy Project L.P.*, DOE/FE Order No. 3041, Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from the Jordan Cove LNG Terminal to Free Trade Agreement Nations, FE Docket No. 11-127-LNG (Dec. 7, 2011), *amended by* DOE/FE Order No. 3041-A (July 20, 2018).

of natural gas (1.08 Bcf/d) for a 30-year term. Because the export volumes authorized in Jordan Cove's FTA order and this Order each reflect the planned liquefaction capacity of the proposed Terminal as approved by FERC, the FTA and non-FTA volumes are not additive.³⁰

The volume approved in this Order—equivalent to 1.08 Bcf/d—brings DOE/FE's cumulative total of approved non-FTA exports of LNG and compressed natural gas to 45.89 Bcf/d of natural gas.³¹

II. BACKGROUND

A. Jordan Cove's Procedural History

Pertinent aspects of the procedural history are summarized below.

1. 2012 Application Proceeding

DOE/FE published a Notice of Jordan Cove's Application in the *Federal Register* on June 6, 2012.³² The Notice of Application called on interested persons to submit protests, motions to intervene, and comments no later than August 6, 2012. In response, DOE/FE received five motions to intervene and comment and/or protest from the following: American Public Gas Association (APGA); Sierra Club; Citizens Against LNG, Inc.;³³ Landowners United; and, jointly, Rogue Riverkeeper and the Klamath-Siskiyou Wildlands Center (together, KS Wild). Additionally, DOE/FE received 40 comments in support of the Application, five

³⁰ See *infra* § XIII.I.

³¹ See *infra* § X.E.

³² U.S. Dep't of Energy, Jordan Cove Energy Project L.P.; Application for Long-Term Authorization to Export Liquefied Natural Gas Produced from Domestic and Canadian Natural Gas Resources to Non-Free Trade Agreement Countries for a 25-Year Period, 77 Fed. Reg. 33,446 (June 6, 2012) [hereinafter Notice of Application].

³³ We take notice that Citizens Against LNG, Inc. is now part of (or has changed its name to) Citizens for Renewables, Inc. See Citizens for Renewables, Inc., Amended Notice of Intervention, Comment and Protest, FE Docket No. 12-32-LNG, at 1-2 (May 9, 2018). We will use the name of the organization at the time of each filing.

comments opposing the Application,³⁴ and one comment taking no position.³⁵ These filings are summarized below.³⁶

2. Initial FERC Proceeding

In May 2013, Jordan Cove filed an application with FERC for authorization under NGA section 3 to site, construct, and operate the proposed Jordan Cove LNG Terminal as an export terminal.³⁷ In June 2013, Pacific Connector filed an application with FERC for a certificate of public convenience and necessity to construct and operate the Pacific Connector Pipeline.³⁸ During the consolidated proceeding for the applications (in FERC Docket Nos. CP13-483-000 and CP13-492-000), Pacific Connector did not conduct an open season for the proposed Pipeline or submit precedent agreements or contracts to support its application. On March 11, 2016, FERC issued an order denying both applications (2016 FERC Order).³⁹

Specifically, FERC denied Pacific Connector's application on the basis that Pacific Connector "failed to demonstrate sufficient need for its proposal (through failing to provide precedent agreements for the project or presenting sufficient other evidence of need) to justify the adverse impacts associated with the proposal, including the use of eminent domain."⁴⁰ FERC also denied Jordan Cove's application based on its related finding that the proposed Jordan Cove

³⁴ Paula Jones filed both a timely comment against the Application, as well as a late-filed comment against the Application. Both submissions are counted above.

³⁵ Appendix A to this Order lists the persons and organizations that submitted filings in response to the Application.

³⁶ See *infra* § VI.

³⁷ Jordan Cove Energy Project, L.P., Application for Authority to Site, Construct, and Operate a Liquefied Natural Gas Export Terminal, FERC Docket No. CP13-483-000 (May 21, 2013).

³⁸ Pacific Connector Gas Pipeline, LP, Application for Certificate of Public Convenience and Necessity, FERC Docket No. CP13-492-000 (June 6, 2013).

³⁹ *Jordan Cove Energy Project, L.P. & Pacific Connector Gas Pipeline, LP*, Order Denying Applications for Certificate and Section 3 Authorization, Docket Nos. CP13-483-000 and CP13-492-000, 154 FERC ¶ 61,190, ¶¶ 3, 14-18, 38-42 (Mar. 11, 2016) [hereinafter 2016 FERC Order].

⁴⁰ FERC Order at ¶ 6 (citing 2016 FERC Order).

LNG Terminal lacked a source of natural gas (*i.e.*, the Pacific Connector Pipeline). FERC issued both denials without prejudice to the applicants filing new applications in the future.⁴¹

Jordan Cove and Pacific Connector each filed a new application with FERC on September 21, 2017, in Docket Nos. CP17-495-000 and CP17-494-000, respectively.⁴²

3. DOE/FE's Issuance of Conditional Order

On March 24, 2014, in DOE/FE Order No. 3413, DOE/FE conditionally granted Jordan Cove's Application to export LNG to non-FTA countries, pursuant to NGA section 3(a). DOE/FE approved the full volume of exports then requested—292 Bcf/yr of natural gas—for a 20-year term (as opposed to the requested 25-year term).⁴³ At the time that DOE/FE issued the Conditional Order, Jordan Cove's and Pacific Connector's applications were pending before FERC in the initial proceeding.⁴⁴ FERC was the lead agency for purposes of review of the proposed Jordan Cove Energy Project under NEPA, and DOE/FE was participating in that environmental review as a cooperating agency.⁴⁵ Accordingly, in the Conditional Order, DOE/FE made "preliminary findings on all issues except the environmental issues in this proceeding."⁴⁶

DOE/FE found that Jordan Cove's proposed exports "are likely to yield net economic benefits to the United States," and that the opponents of the Application "have not demonstrated that the requested authorization will be inconsistent with the public interest."⁴⁷ DOE/FE explained that, "[w]hen [FERC's] environmental review is complete, DOE/FE will reconsider its

⁴¹ 2016 FERC Order at ¶ 48; *see also* FERC Order at ¶ 6.

⁴² *See infra* § IX.B.

⁴³ Conditional Order at 146-47, 153 (Ordering Para. A).

⁴⁴ *See id.* at 10-11, 13.

⁴⁵ *Id.* at 14.

⁴⁶ *Id.* at 15.

⁴⁷ *See id.* at 5; *see also id.* at 137-41.

public interest determination in light of the information gathered as part of that review.”⁴⁸

DOE/FE further “advised that the issues addressed . . . regarding the export of natural gas will be reexamined at the time of DOE/FE’s review of the FERC environmental analysis.”⁴⁹

DOE/FE also granted the five motions to intervene filed in response to the Notice of Application—submitted by APGA, Sierra Club, Citizens Against LNG, Inc., Landowners United, and KS Wild.⁵⁰

4. 2015 Amendment to Application

On October 5, 2015, Jordan Cove submitted a request to DOE/FE to amend its Application by increasing the requested export volume from 292 Bcf/yr to 350 Bcf/yr of natural gas to reflect an updated Terminal design.⁵¹ On March 3, 2016, DOE/FE published a notice of the Amendment in the *Federal Register*.⁵² DOE/FE invited the public to submit protests, motions to intervene, and comments in response to the 2015 Amendment no later than March 23, 2016.⁵³ DOE/FE received eight timely-filed motions to intervene and/or protests, five timely-filed comments, and one late-filed comment. These filings are summarized below.⁵⁴

5. 2018 Amendment to Application

On September 21, 2017, Jordan Cove and Pacific Connector, respectively, filed new applications with FERC to construct the Jordan Cove LNG Terminal (FERC Docket No. CP17-

⁴⁸ *Id.* at 141.

⁴⁹ Conditional Order at 152 (Term & Condition H).

⁵⁰ *See id.* at 158 (Ordering Para. Q).

⁵¹ *See* 2015 Amendment at 4-5.

⁵² U.S. Dep’t of Energy, Jordan Cove Energy Project, L.P., Amendment of Application for Long-Term Authorization to Export Liquefied Natural Gas to Non-Free Trade Agreement Nations, 81 Fed. Reg. 11,202 (Mar. 3, 2016).

⁵³ *See id.*

⁵⁴ *See infra* § VII. Appendix B to this Order lists the persons and organizations that submitted filings in response to the 2015 Amendment.

495-000) and the Pacific Connector Pipeline (FERC Docket No. CP17-494-000).⁵⁵ Jordan Cove’s FERC application proposed a maximum liquefaction capacity of 7.8 mtpa (equivalent to 395 Bcf/yr of natural gas) for the Jordan Cove LNG Terminal.⁵⁶ On February 6, 2018, Jordan Cove submitted an application to DOE/FE to amend both the Conditional Order and the pending Application by increasing the requested non-FTA export volume to 395 Bcf/yr of natural gas. This 2018 Amendment seeks to align Jordan Cove’s requested non-FTA export volume with the updated design for the Jordan Cove Energy Project.⁵⁷

In the 2018 Amendment, Jordan Cove also asks DOE/FE to grant a new seven-year period by which Jordan Cove must commence exports of LNG under the requested non-FTA authorization.⁵⁸ Under the Conditional Order, Jordan Cove currently is required to commence non-FTA exports by March 24, 2021. Jordan Cove stated, however that it does not expect to commence exports from the Terminal until the first half of 2024—“which would be beyond the period[] currently permitted” under the Conditional Order.⁵⁹ Therefore, Jordan Cove asks DOE/FE to re-set its seven-year commencement period in this requested authorization.⁶⁰

On April 19, 2018, DOE/FE published a notice of the 2018 Amendment in the *Federal Register*.⁶¹ The notice called on interested persons to submit protests, motions to intervene, and comments no later than May 9, 2018.⁶² In response, DOE/FE received 40 pleadings: 29 notices

⁵⁵ See FERC Order at ¶¶ 1-2; see also *infra* § IX.

⁵⁶ See 2018 Amendment at 2.

⁵⁷ *Id.* at 4.

⁵⁸ *Id.* at 5.

⁵⁹ *Id.*

⁶⁰ *Id.*

⁶¹ U.S. Dep’t of Energy, Jordan Cove Energy Project, L.P., Application To Amend Long-Term, Conditional Authorization to Export Liquefied Natural Gas to Non-Free Trade Agreement Nations and to Amend Application for Long-Term Authorization to Export Liquefied Natural Gas to Non-Free Trade Agreement Nations, 83 Fed. Reg. 17,406 (Apr. 19, 2018).

⁶² *Id.*

of interventions (or motions to intervene), comment, and protest (including 27 such pleadings from affected landowners); four protests from existing intervenors; three comments supporting the 2018 Amendment; and four comments opposing the 2018 Amendment. These filings are summarized below.⁶³

B. DOE’s LNG Export Studies

1. 2012 EIA and NERA Studies

In 2011, DOE/FE engaged EIA and NERA Economic Consulting (NERA) to conduct a two-part study of the economic impacts of U.S. LNG exports, which together was called the “2012 LNG Export Study.” The first part, performed by EIA and published in January 2012, assessed how specified scenarios of increased natural gas exports could affect domestic energy markets. Specifically, EIA examined how prescribed levels of natural gas exports (at 6 Bcf/d and 12 Bcf/d) above baseline cases could affect domestic energy markets.

The second part, performed by NERA under contract to DOE, evaluated the macroeconomic impact of LNG exports on the U.S. economy. NERA used a general equilibrium macroeconomic model of the U.S. economy with an emphasis on the energy sector and natural gas in particular. The 2012 NERA Study projected that, across all scenarios studied—assuming either 6 Bcf/d or 12 Bcf/d of LNG export volumes—the United States would experience net economic benefits from allowing LNG exports.

⁶³ See *infra* § VIII. Appendix C lists the persons and organizations that submitted filings in response to the 2018 Amendment.

In December 2012, DOE/FE published a notice of availability of the 2012 LNG Export Study in the *Federal Register* for public comment.⁶⁴ DOE/FE subsequently responded to the public comments in connection with the LNG export proceedings identified in that notice.⁶⁵

2. 2014 and 2015 LNG Export Studies

By May 2014, in light of the volume of LNG exports to non-FTA countries then authorized by DOE/FE and the number of non-FTA export applications still pending, DOE/FE determined that an updated study was warranted to consider the economic impacts of exporting LNG from the lower-48 states to non-FTA countries.⁶⁶ DOE announced plans to undertake new economic studies to gain a better understanding of how higher levels of U.S. LNG exports—at levels between 12 and 20 Bcf/d of natural gas—would affect the public interest.⁶⁷

DOE/FE commissioned two new macroeconomic studies. The first, *Effect of Increased Levels of Liquefied Natural Gas Exports on U.S. Energy Markets*, was performed by EIA and published in October 2014 (2014 LNG Export Study or 2014 Study).⁶⁸ The 2014 Study assessed how specified scenarios of increased natural gas exports could affect domestic energy markets. At DOE's request, this 2014 Study served as an update of EIA's January 2012 study of LNG

⁶⁴ See U.S. Dep't of Energy, Notice of Availability of 2012 LNG Export Study and Request for Comments, 77 Fed. Reg. 73,627 (Dec. 11, 2012), available at: http://energy.gov/sites/prod/files/2013/04/f0/fr_notice_two_part_study.pdf.

⁶⁵ See, e.g., *Freeport LNG Expansion L.P., et al.*, DOE/FE Order No. 3282, FE Docket No. 10-161-LNG, Order Conditionally Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from the Freeport LNG Terminal on Quintana Island, Texas to Non-Free Trade Agreement Nations, at 56-109 (May 17, 2013).

⁶⁶ Because there is no natural gas pipeline interconnection between Alaska and the lower 48 states, DOE/FE generally views those LNG export markets as distinct. Accordingly, DOE/FE focuses on LNG exports from the lower-48 states for purposes of determining macroeconomic impacts.

⁶⁷ See U.S. Dep't of Energy, Office of Fossil Energy, Request for an Update of EIA's January 2012 Study of Liquefied Natural Gas Export Scenarios, available at: <https://www.energy.gov/fe/downloads/request-update-eia-s-january-2012-study-liquefied-natural-gas-export-scenarios> (May 29, 2014) (memorandum from FE to EIA).

⁶⁸ U.S. Energy Info. Admin., *Effect of Increased Levels of Liquefied Natural Gas Exports on U.S. Energy Markets* (Oct. 2014), available at: <https://www.eia.gov/analysis/requests/fe/pdf/lng.pdf>.

export scenarios and used baseline cases from EIA's *Annual Energy Outlook 2014* (AEO 2014).⁶⁹

The second study, *The Macroeconomic Impact of Increasing U.S. LNG Exports*, was performed jointly by the Center for Energy Studies at Rice University's Baker Institute and Oxford Economics under contract to DOE/FE (together, Rice-Oxford) and published in October 2015 (2015 LNG Export Study or 2015 Study).⁷⁰ The 2015 Study was a scenario-based assessment of the macroeconomic impact of levels of U.S. LNG exports, sourced from the lower-48 states, under different assumptions including U.S. resource endowment, U.S. natural gas demand, international LNG market dynamics, and other factors. The 2015 Study considered export volumes ranging from 12 to 20 Bcf/d of natural gas, as well as a high resource recovery case examining export volumes up to 28 Bcf/d of natural gas. The analysis covered the 2015 to 2040 time period.

In December 2015, DOE/FE published a Notice of Availability of the 2014 and 2015 Studies in the *Federal Register*, and invited public comment on those Studies.⁷¹ DOE/FE subsequently responded to the public comments in connection with the LNG export proceedings identified in that notice.⁷²

⁶⁹ Each Annual Energy Outlook (AEO) presents EIA's long-term projections of energy supply, demand, and prices. It is based on results from EIA's National Energy Modeling System (NEMS) model.

⁷⁰ Center for Energy Studies at Rice University Baker Institute and Oxford Economics, *The Macroeconomic Impact of Increasing U.S. LNG Exports* (Oct. 29, 2015), available at:

http://energy.gov/sites/prod/files/2015/12/f27/20151113_macro_impact_of_lng_exports_0.pdf.

⁷¹ U.S. Dep't of Energy, Macroeconomic Impacts of LNG Exports Studies; Notice of Availability and Request for Comments, 80 Fed. Reg. 81,300, 81,302 (Dec. 29, 2015).

⁷² See, e.g., *Sabine Pass Liquefaction, LLC*, DOE/FE Order No. 3792, FE Docket No. 15-63-LNG, Final Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel From the Sabine Pass LNG Terminal Located in Cameron Parish, Louisiana, to Non-Free Trade Agreement Nations, at 66-121 (Mar. 11, 2016).

3. 2018 LNG Export Study

a. Overview

At the time DOE commissioned the 2018 LNG Export Study in 2017, 25 non-FTA applications were pending before DOE/FE.⁷³ In light of both the volume of LNG requested for export in those pending applications and the cumulative volume of non-FTA exports then-authorized (equivalent to 21.35 Bcf/d of natural gas), DOE/FE determined that a new macroeconomic study was warranted.⁷⁴ Accordingly, DOE/FE, through its support contractor KeyLogic Systems, Inc., commissioned NERA to conduct the 2018 LNG Export Study. DOE published the 2018 LNG Export Study on its website on June 7, 2018,⁷⁵ and concurrently provided notice of the availability of the Study, as discussed below.⁷⁶

Like the four prior economic studies, the 2018 Study examines the impacts of varying levels of LNG exports on domestic energy markets. However, the 2018 Study differs from DOE/FE's earlier studies in the following ways:

- (i) Includes a larger number of scenarios (54 scenarios) to capture a wider range of uncertainty in four natural gas market conditions than examined in the previous studies;
- (ii) Includes LNG exports in all 54 scenarios that are market-determined levels, including the three alternative baseline scenarios that are based on the projections in EIA's *Annual Energy Outlook 2017* (AEO 2017);⁷⁷

⁷³ See U.S. Dep't of Energy, Study on Macroeconomic Outcomes of LNG Exports; Notice of Availability of the 2018 LNG Export Study and Request for Comments, 83 Fed. Reg. 27,314 (June 12, 2018) (identifying 25 docket proceedings) [hereinafter 2018 Study Notice].

⁷⁴ Additionally, as of the date of the 2018 Study, DOE/FE had authorized a cumulative total of LNG exports to FTA countries under section 3(c) of the NGA in a volume of 59.33 Bcf/d of natural gas. These FTA volumes are not additive to the authorized non-FTA volumes.

⁷⁵ See NERA Economic Consulting, *Macroeconomic Outcomes of Market Determined Levels of U.S. LNG Exports* (June 7, 2018), available at: <https://www.energy.gov/sites/prod/files/2018/06/f52/Macroeconomic%20LNG%20Export%20Study%202018.pdf> [hereinafter 2018 LNG Export Study or 2018 Study].

⁷⁶ See 2018 Study Notice.

⁷⁷ U.S. Energy Info. Admin., *Annual Energy Outlook 2017* (with projections to 2050) (Jan. 5, 2017), available at: [https://www.eia.gov/outlooks/aeo/pdf/0383\(2017\).pdf](https://www.eia.gov/outlooks/aeo/pdf/0383(2017).pdf).

- (iii) Examines unconstrained LNG export volumes beyond the levels examined in the previous studies;
- (iv) Examines the likelihood of those market-determined LNG export volumes; and
- (v) Provides macroeconomic projections associated with several of the scenarios lying within the more likely range of exports.⁷⁸

b. Methodology and Scenarios

In its Response to Comments published in the *Federal Register* in December 2018, DOE/FE provided a detailed discussion of the methodology and scenarios used in the 2018 Study, including NERA's Global Natural Gas Model (GNGM) and N_{ew}ERA models.⁷⁹ The 2018 Study develops 54 scenarios by identifying various assumptions for domestic and international supply and demand conditions to capture a wide range of uncertainty in natural gas markets. The scenarios include three baseline cases based on EIA's AEO 2017 projections (the most recent EIA projections available at the time), with varying assumptions about U.S. natural gas supply.⁸⁰ The three cases for U.S. natural gas supply derived from AEO 2017 are:

- i. AEO 2017's Reference case, which provides a central estimate of U.S. natural gas production;
- ii. High Oil and Gas Resource and Technology (HOGR) case, which provides more optimistic resource development estimates than the Reference case; and
- iii. Low Oil and Gas Resource and Technology (LOGR) case, which provides less optimistic resource development estimates than the Reference case.⁸¹

⁷⁸ See 2018 Study Notice, 83 Fed. Reg. at 27,316.

⁷⁹ See U.S. Dep't of Energy, Study on Macroeconomic Outcomes of LNG Exports; Response to Comments Received on Study, 83 Fed. Reg. 67,251 (Dec. 28, 2018) [hereinafter 2018 Study Response to Comments].

⁸⁰ 2018 Study Response to Comments, 83 Fed. Reg. at 67,256 (stating that the differences in the natural gas production levels across these cases arise from varying assumptions around unproven offshore resources, onshore shale gas resources, tight gas resources, and conventional and tight oil associated gas resources, as well as the costs of producing these resources).

⁸¹ See *id.*

Alternative scenarios add other assumptions about future U.S. and international demand for natural gas. The three cases for U.S. natural gas demand are:

- i. AEO 2017's Reference case, which provides a central estimate of U.S. natural gas demand;
- ii. A Robust Economic Growth case, which provides a high estimate for U.S. natural gas demand driven by higher levels of gross domestic product (GDP) growth; and
- iii. A Renewables Mandate case, which provides a low estimate for U.S. natural gas demand driven by the imposition of a stringent renewables mandate.⁸²

International assumptions are based on EIA's *International Energy Outlook 2017* (IEO 2017) and the International Energy Agency's (IEA) *World Energy Outlook 2016* (WEO 2016).

As noted above, the 2018 Study also examines the likelihood of conditions leading to various export scenarios. This unique feature provides not only quantification of the effects to the U.S. natural gas market and its overall economy under each of the scenarios outlined, but also an assessment of the probability of each of these scenarios, and thus the probability of the natural gas and macroeconomic outcomes associated with each scenario.⁸³

In developing this aspect of the Study, NERA first developed estimates of the probabilities for the level of U.S. supply and demand, as well as supply and demand in the rest of the world.⁸⁴ DOE/FE and KeyLogic, Inc. contacted a set of independent experts recommended by DOE (referred to as the peer reviewers) to obtain their probability assignments for these same four metrics. After receiving feedback from the peer reviewers, NERA reevaluated the original probability assignments to arrive at the final probabilities. These peer-reviewed probabilities of uncertainties surrounding developments in the international and domestic natural gas markets

⁸² See 2018 Study Response to Comments, 83 Fed. Reg. at 67,256.

⁸³ See *id.*

⁸⁴ See *id.*

were, in turn, combined to develop the 54 export scenarios and their associated macroeconomic impacts.

c. Study Results

The 54 scenarios in the 2018 Study provide a wide range of results. NERA chose to focus on a subset of more likely outcomes, given DOE's assumptions about the probabilities associated with U.S. natural gas production, demand, and supply, as well as demand for natural gas in the rest of the world. NERA's key results include the following:

- The more likely range of LNG exports in the year 2040 was judged to range from 8.7 to 30.7 Bcf/d of natural gas.
- U.S. natural gas prices range from \$5 to approximately \$6.50 per million British thermal unit (MMBtu) in 2040 (in constant 2016 dollars) under Reference case supply assumptions. These central cases have a combined probability of 47%.
- Levels of GDP are most sensitive to assumptions about U.S. supply of natural gas, with high supply driving higher levels of GDP. For each of the supply scenarios, higher levels of LNG exports in response to international demand consistently lead to higher levels of GDP. GDP achieved with the highest level of LNG exports in each group exceeds GDP with the lowest level of LNG exports by \$13 to \$72 billion in 2040 (in constant 2016 dollars).
- About 80% of the increase in LNG exports is satisfied by increased U.S. production of natural gas, with positive effects on labor income, output, and profits in the natural gas production sector.
- Chemical industry subsectors of the economy that rely heavily on natural gas for energy and as a feedstock continue to exhibit robust growth even at higher LNG export levels. This growth is only insignificantly slower than cases with lower LNG export levels.

- Even the most extreme scenarios of high LNG exports outside the more likely probability range (exhibiting a combined probability of less than 3%) show higher overall economic performance in terms of GDP, household income, and consumer welfare than lower export levels associated with the same domestic supply scenarios.⁸⁵

d. DOE/FE Proceeding

On June 12, 2018, DOE published a notice of availability of the 2018 LNG Export Study and a request for comments.⁸⁶ The purpose of the notice of availability was “to enter the 2018 LNG Export Study into the administrative record of the 25 pending non-FTA export proceedings [identified in the notice] and to invite comments on the Study for consideration in the pending and future non-FTA application proceedings.”⁸⁷ DOE received 19 comments on the 2018 LNG Export Study from a variety of sources, including participants in the natural gas industry, environmental organizations, and individuals.⁸⁸ Of those, nine comments supported the Study,⁸⁹ eight comments opposed the 2018 Study and/or exports of LNG,⁹⁰ one comment took no position,⁹¹ and one comment was non-responsive.⁹²

DOE/FE has evaluated the comments to the 2018 Study. DOE/FE summarized and responded to these comments in the Response to Comments document, published on December

⁸⁵ See 2018 Study Response to Comments, 83 Fed. Reg. at 67,255.

⁸⁶ See 2018 Study Notice.

⁸⁷ *Id.* at 27,315.

⁸⁸ The public comments are posted on the DOE/FE website at:

<https://fossil.energy.gov/app/docketindex/docket/index/10>.

⁸⁹ Supporting comments were filed by the Marcellus Shale Coalition; the Center for Liquefied Natural Gas (CLNG); the Pennsylvania Chamber of Business and Industry; the American Petroleum Institute (API); Cheniere Energy, Inc.; Jordan Cove Energy Project L.P. (JCEP); LNG Allies; NextDecade Corp.; and Anonymous. The Anonymous comment is comprised of five comments filed by the same anonymous author.

⁹⁰ Opposing comments were filed by Patricia Weber; Oil Change International; Food & Water Watch; Industrial Energy Consumers of America (IECA); Oregon Wild; Sierra Club; Deb Evans and Ron Schaaf (the Evans Schaaf Family); and Jody McCaffree (individually and as executive director of Citizens for Renewables/Citizens Against LNG). Oil Change International and Food & Water Watch filed identical comments.

⁹¹ Comment of John Young.

⁹² Comment of Vincent Burke.

28, 2018.⁹³ As explained in the Response to Comments, DOE/FE determined that none of the eight comments opposing the 2018 Study provided sufficient evidence to rebut or otherwise undermine the 2018 Study.⁹⁴

DOE/FE incorporates into the record of this proceeding the 2018 LNG Export Study, the 2018 Study Notice, the public comments received on the 2018 Study, and the 2018 Study Response to Comments—which together constitute the full proceeding for the 2018 LNG Export Study.

e. DOE/FE Conclusions

Based upon the record in the 2018 Study proceeding, DOE/FE determined that the 2018 Study provides substantial support for non-FTA applications within the export volumes considered by the 2018 Study—ranging from 0.1 to 52.8 Bcf/d of natural gas.⁹⁵ The principal conclusion of the 2018 LNG Export Study is that the United States will experience net economic benefits from the export of domestically produced LNG.⁹⁶ DOE highlighted the following key findings of the Study:

- “Increasing U.S. LNG exports under any given set of assumptions about U.S. natural gas resources and their production leads to only small increases in U.S. natural gas prices.”⁹⁷
- “Increased exports of natural gas will improve the U.S. balance of trade and result in a wealth transfer into the United States.”⁹⁸
- “Overall [U.S.] GDP improves as LNG exports increase for all scenarios with the same U.S. natural gas supply condition.”⁹⁹

⁹³ See 2018 Study Response to Comments, 83 Fed. Reg. at 67,260-72.

⁹⁴ See *id.* at 67,272.

⁹⁵ See *id.*

⁹⁶ See *id.*

⁹⁷ *Id.* (quoting 2018 LNG Export Study at 55).

⁹⁸ 2018 Study Response to Comments, 83 Fed. Reg. at 67,273 (quoting 2018 LNG Export Study at 64).

⁹⁹ *Id.* (quoting 2018 LNG Export Study at 67).

- “There is no support for the concern that LNG exports would come at the expense of domestic natural gas consumption.”¹⁰⁰
- “[A] large share of the increase in LNG exports is supported by an increase in domestic natural gas production.”¹⁰¹
- “Natural gas intensive [industries] continue to grow robustly at higher levels of LNG exports, albeit at slightly lower rates of increase than they would at lower levels.”¹⁰²

DOE/FE also observed that EIA’s projections in *Annual Energy Outlook 2018* (AEO 2018) showed market conditions that will accommodate increased exports of natural gas.¹⁰³ DOE/FE concluded that, when compared to prior AEO Reference cases—including AEO 2017’s Reference case used in the 2018 Study—the AEO 2018 Reference case projected increases in domestic natural gas production in excess of what is required to meet projected increases in domestic consumption.¹⁰⁴

For all of these reasons, DOE/FE found that “the 2018 LNG Export Study is fundamentally sound and supports the proposition that exports of LNG from the lower-48 states, in volumes up to and including 52.8 Bcf/d of natural gas, will not be inconsistent with the public interest.”¹⁰⁵ DOE stated, however, that it will consider each application to export LNG as required under the NGA and NEPA based on the administrative record compiled in each individual proceeding.¹⁰⁶

C. DOE’s Environmental Studies

On June 4, 2014, DOE/FE issued two notices in the *Federal Register* proposing to evaluate different environmental aspects of the LNG production and export chain. First,

¹⁰⁰ *Id.* (quoting 2018 LNG Export Study at 77).

¹⁰¹ *Id.*

¹⁰² *Id.* (quoting 2018 LNG Export Study at 70).

¹⁰³ U.S. Energy Info. Admin., *Annual Energy Outlook 2018* (with projections to 2050) (Feb. 6, 2018), available at: <https://www.eia.gov/outlooks/aeo/pdf/AEO2018.pdf>.

¹⁰⁴ 2018 Study Response to Comments, 83 Fed. Reg. at 67,273.

¹⁰⁵ *Id.* (citing 2018 LNG Export Study at 63 & App’x F).

¹⁰⁶ *See* 2018 Study Response to Comments, 83 Fed. Reg. at 67,273.

DOE/FE announced that it had conducted a review of existing literature on potential environmental issues associated with unconventional natural gas production in the lower-48 states. The purpose of this review was to provide additional information to the public concerning the potential environmental impacts of unconventional natural gas exploration and production activities, including hydraulic fracturing. DOE/FE published its draft report for public review and comment, entitled *Draft Addendum to Environmental Review Documents Concerning Exports of Natural Gas from the United States* (Draft Addendum).¹⁰⁷ DOE/FE received public comments on the Draft Addendum, and on August 15, 2014, issued the final Addendum with its response to the public comments contained in Appendix B.¹⁰⁸

Second, DOE/FE commissioned the National Energy Technology Laboratory (NETL), a DOE applied research laboratory, to conduct an analysis calculating the life cycle greenhouse gas (GHG) emissions for LNG exported from the United States. DOE commissioned this life cycle analysis (LCA) to inform its public interest review of non-FTA applications, as part of its broader effort to evaluate different environmental aspects of the LNG production and export chain.

DOE sought to determine: (i) how domestically-produced LNG exported from the United States compares with regional coal (or other LNG sources) for electric power generation in Europe and Asia from a life cycle GHG perspective, and (ii) how those results compare with natural gas sourced from Russia and delivered to the same markets via pipeline. In June 2014,

¹⁰⁷ U.S. Dep't of Energy, Draft Addendum to Environmental Review Documents Concerning Exports of Natural Gas From the United States, 79 Fed. Reg. 32,258 (June 4, 2014). DOE/FE announced the availability of the Draft Addendum on its website on May 29, 2014.

¹⁰⁸ U.S. Dep't of Energy, Addendum to Environmental Review Documents Concerning Exports of Natural Gas From the United States, 79 Fed. Reg. 48,132 (Aug. 15, 2014) [hereinafter Addendum]; *see also* <http://energy.gov/fe/addendum-environmental-review-documents-concerning-exports-natural-gas-united-states>.

DOE/FE published NETL's report entitled, *Life Cycle Greenhouse Gas Perspective on Exporting Liquefied Natural Gas from the United States* (2014 LCA GHG Report or 2014 Report).¹⁰⁹

DOE/FE also received public comments on the LCA GHG Report and responded to those comments in prior orders.¹¹⁰ DOE has relied on the 2014 Report in its review of all subsequent applications to export LNG to non-FTA countries.¹¹¹

Most recently, in 2018, DOE commissioned NETL to conduct an update to the 2014 LCA GHG Report, entitled *Life Cycle Greenhouse Gas Perspective on Exporting Liquefied Natural Gas From the United States: 2019 Update* (LCA GHG Update or 2019 Update).¹¹² As with the 2014 Report, the LCA GHG Update compared life cycle GHG emissions of exports of domestically produced LNG to Europe and Asia, compared with alternative fuel sources (such as regional coal and other imported natural gas) for electric power generation in the destination countries. Although core aspects of the analysis—such as the scenarios investigated—were the same as the 2014 Report, the LCA GHG Update contained the following three changes:

- Incorporated NETL's most recent characterization of upstream natural gas production, set forth in NETL's April 2019 report entitled, *Life Cycle Analysis of*

¹⁰⁹ U.S. Dep't of Energy, *Life Cycle Greenhouse Gas Perspective on Exporting Liquefied Natural Gas From the United States*, 79 Fed. Reg. 32,260 (June 4, 2014) [hereinafter 2014 LCA GHG Report]. DOE/FE announced the availability of the LCA GHG Report on its website on May 29, 2014.

¹¹⁰ See, e.g., *Magnolia LNG, LLC*, DOE/FE Order No. 3909, FE Docket No. 13-132-LNG, Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel From the Proposed Magnolia LNG Terminal to be Constructed in Lake Charles, Louisiana, to Non-Free Trade Agreement Nations, at 95-121 (Nov. 30, 2016) (description of LCA GHG Report and response to comments).

¹¹¹ See, e.g., *Venture Global Plaquemines LNG, LLC*, DOE/FE Order No. 4446, FE Docket No. 16-28-LNG, Opinion and Order Granting Long-Term Authorization to Export Liquefied Natural Gas to Non-Free Trade Agreement Nations, at 14-15, 38-41 (Oct. 16, 2019).

¹¹² Nat'l Energy Tech. Lab., *Life Cycle Greenhouse Gas Perspective on Exporting Liquefied Natural Gas from the United States: 2019 Update* (DOE/NETL 2019/2041) (Sept. 12, 2019), available at: <https://www.energy.gov/sites/prod/files/2019/09/f66/2019%20NETL%20LCA-GHG%20Report.pdf>. Although the LCA GHG Update is dated September 12, 2019, DOE announced the availability of the LCA GHG Update on its website and in the *Federal Register* on September 19, 2019.

Natural Gas Extraction and Power Generation (April 2019 LCA of Natural Gas Extraction and Power Generation);¹¹³

- Updated the unit processes for liquefaction, ocean transport, and regasification characterization using engineering-based models and publicly-available data informed and reviewed by existing LNG export facilities, where possible; and
- Updated the 100-year global warming potential (GWP) for methane (CH₄) to reflect the current Intergovernmental Panel on Climate Change's Fifth Assessment Report.¹¹⁴

In all other respects, the LCA GHG Update was unchanged from the 2014 Report.¹¹⁵

The LCA GHG Update demonstrated that the conclusions of the 2014 LCA GHG Report remained the same. Specifically, the 2019 Update concluded that the use of U.S. LNG exports for power production in European and Asian markets will not increase global GHG emissions from a life cycle perspective, when compared to regional coal extraction and consumption for power production.¹¹⁶ On this basis, DOE/FE found that the 2019 Update supports the proposition that exports of LNG from the lower-48 states will not be inconsistent with the public interest.¹¹⁷ Additional details are discussed below,¹¹⁸ and in DOE's Response to Comments on the 2019 Update.

With respect to the Addendum, the 2014 LCA GHG Report, and the 2019 LCA GHG Update, DOE/FE takes all public comments into consideration in this decision and makes those comments, as well as the underlying studies, part of the record in this proceeding.

¹¹³ Nat'l Energy Tech. Lab., *Life Cycle Analysis of Natural Gas Extraction and Power Generation* (DOE/NETL-2019/2039) (Apr. 19, 2019), available at: <https://www.netl.doe.gov/energy-analysis/details?id=3198>.

¹¹⁴ See U.S. Dep't of Energy, Life Cycle Greenhouse Gas Perspective on Exporting Liquefied Natural Gas From the United States; Notice of Availability of Report Entitled Life Cycle Greenhouse Gas Perspective on Exporting Liquefied Natural Gas From the United States: 2019 Update and Request for Comments, 84 Fed. Reg. 49,278, 49,279 (Sept. 19, 2019).

¹¹⁵ See U.S. Dep't of Energy, Life Cycle Greenhouse Gas Perspective on Exporting Liquefied Natural Gas From the United States: 2019 Update – Response to Comments, 85 Fed. Reg. 72, 75 (Jan. 2, 2020) [hereinafter DOE Response to Comments on 2019 Update].

¹¹⁶ See *id.* at 78, 85.

¹¹⁷ See *id.* at 86.

¹¹⁸ See *infra* § X.C.3.

D. Judicial Decisions Upholding DOE's Non-FTA Authorizations

In 2015 and 2016, Sierra Club petitioned the U.S. Court of Appeals for the District of Columbia Circuit (D.C. Circuit) for review of five long-term LNG export authorizations issued by DOE/FE under the standard of review discussed below. Sierra Club challenged DOE/FE's approval of LNG exports from projects proposed or operated by the following authorization holders: Freeport LNG Expansion, L.P., *et al.*; Dominion Cove Point LNG, LP; Sabine Pass Liquefaction, LLC; and Cheniere Marketing, LLC, *et al.* The D.C. Circuit subsequently denied four of the five petitions for review: one in a published decision issued on August 15, 2017 (*Sierra Club I*),¹¹⁹ and three in a consolidated, unpublished opinion issued on November 1, 2017 (*Sierra Club II*).¹²⁰ Sierra Club did not seek further judicial review of either decision. In January 2018, Sierra Club voluntarily withdrew its fifth and remaining petition for review.¹²¹

In *Sierra Club I*, the D.C. Circuit concluded that DOE/FE had complied with both section 3(a) of the NGA and NEPA in issuing the challenged non-FTA authorization to Freeport LNG Expansion, L.P. and its related entities (collectively, Freeport). DOE/FE had granted the Freeport application in 2014 in a volume equivalent to 0.4 Bcf/d of natural gas, finding that Freeport's proposed exports were in the public interest under NGA section 3(a). DOE/FE also considered and disclosed the potential environmental impacts of its decision under NEPA. Sierra Club petitioned for review of the Freeport authorization, arguing that DOE fell short of its obligations under both the NGA and NEPA. The D.C. Circuit rejected Sierra Club's arguments

¹¹⁹ *Sierra Club v. U.S. Dep't of Energy*, 867 F.3d 189 (D.C. Cir. 2017) [hereinafter *Sierra Club I*] (denying petition for review of the LNG export authorization issued to Freeport LNG Expansion, L.P., *et al.*).

¹²⁰ *Sierra Club v. U.S. Dep't of Energy*, 703 Fed. App'x 1 (D.C. Cir. Nov. 1, 2017) [hereinafter *Sierra Club II*] (denying petitions for review in Nos. 16-1186, 16-1252, and 16-1253 of the LNG export authorizations issued to Dominion Cove Point LNG, LP, Sabine Pass Liquefaction, LLC, and Cheniere Marketing, LLC, *et al.*, respectively).

¹²¹ See *Sierra Club v. U.S. Dep't of Energy*, No. 16-1426, Per Curiam Order (D.C. Cir. Jan. 30, 2018) (granting Sierra Club's opposed motion for voluntary dismissal).

in a unanimous decision, holding that, “Sierra Club has given us no reason to question the Department’s judgment that the [Freeport] application is not inconsistent with the public interest.”¹²²

First, the Court rejected Sierra Club’s principal NEPA argument concerning the alleged indirect effects of LNG exports, such as the effects related to the likely increase in natural gas production and usage that would result from the Freeport export authorization.¹²³ The Court found that DOE “offered a reasonable explanation as to why it believed the indirect effects pertaining to increased [natural] gas production were not reasonably foreseeable.”¹²⁴ The Court thus held that, “[u]nder our limited and deferential review, we cannot say that the Department failed to fulfill its obligation under NEPA by declining to make specific projections about environmental impacts stemming from specific levels of export-induced [natural] gas production.”¹²⁵

Second, the Court rejected Sierra Club’s challenge to DOE’s examination of the potential “downstream” GHG emissions resulting from the indirect effects of exports—*i.e.*, those resulting from the transport and usage of U.S. LNG abroad.¹²⁶ The Court pointed to DOE’s 2014 LCA GHG Report, finding there was “nothing arbitrary” about the scope of DOE’s analysis of GHG emissions in that Report.¹²⁷

Third, in reviewing Sierra Club’s claims under the NGA, the Court found that Sierra Club “repeats the same argument it made to support its NEPA claim—namely, that the Department arbitrarily failed to evaluate foreseeable indirect effects of exports.”¹²⁸ Having “already rejected

¹²² *Sierra Club I*, 867 F.3d at 203.

¹²³ *Id.* at 192.

¹²⁴ *Id.* at 198.

¹²⁵ *Id.* at 201.

¹²⁶ *Id.*

¹²⁷ *Id.* at 202.

¹²⁸ *Sierra Club I*, 867 F.3d at 203.

this argument” under NEPA, the Court determined that “Sierra Club offers no basis for reevaluating the scope of DOE’s evaluation for purposes of the Natural Gas Act.”¹²⁹

Subsequently, in the consolidated *Sierra Club II* opinion issued on November 1, 2017, the D.C. Circuit ruled that “[t]he court’s decision in [*Sierra Club I*] largely governs the resolution of the [three] instant cases.”¹³⁰ Upon its review of the remaining “narrow issues” in those cases, the Court again rejected Sierra Club’s arguments under the NGA and NEPA, and upheld DOE/FE’s actions in issuing the non-FTA authorizations in those proceedings.¹³¹

The D.C. Circuit’s decisions in *Sierra Club I* and *II* continue to guide DOE’s review of applications to export LNG to non-FTA countries.

III. PUBLIC INTEREST STANDARD

Section 3(a) of the NGA sets forth the standard for review of the Application, as amended:

[N]o person shall export any natural gas from the United States to a foreign country or import any natural gas from a foreign country without first having secured an order of the [Secretary of Energy¹³²] authorizing it to do so. The [Secretary] shall issue such order upon application, unless after opportunity for hearing, [he] finds that the proposed exportation or importation will not be consistent with the public interest. The [Secretary] may by [the Secretary’s] order grant such application, in whole or part, with such modification and upon such terms and conditions as the [Secretary] may find necessary or appropriate.¹³³

¹²⁹ *Id.*

¹³⁰ *Sierra Club II*, 703 Fed. App’x 1, at *2.

¹³¹ *Id.*

¹³² The Secretary’s authority was established by the Department of Energy Organization Act, 42 U.S.C. § 7172, which transferred jurisdiction over imports and export authorizations from the Federal Power Commission to the Secretary of Energy.

¹³³ 15 U.S.C. § 717b(a).

DOE, as affirmed by the D.C. Circuit, has consistently interpreted NGA section 3(a) as creating a rebuttable presumption that a proposed export of natural gas is in the public interest.¹³⁴

Accordingly, DOE will conduct an informal adjudication and grant a non-FTA application unless DOE finds that the proposed exportation will not be consistent with the public interest.¹³⁵ Before reaching a final decision, DOE must also comply with NEPA.¹³⁶

Although NGA section 3(a) establishes a broad public interest standard and a presumption favoring export authorizations, the statute does not define “public interest” or identify criteria that must be considered in evaluating the public interest. In prior decisions, DOE has identified a range of factors that it evaluates when reviewing an application for export authorization. These factors include economic impacts, international impacts, security of natural gas supply, and environmental impacts, among others. To conduct this review, DOE looks to record evidence developed in the application proceeding.

DOE’s prior decisions have also looked to certain principles established in its 1984 Policy Guidelines.¹³⁷ The goals of the Policy Guidelines are to minimize federal control and involvement in energy markets and to promote a balanced and mixed energy resource system. The Guidelines provide that:

¹³⁴ See *Sierra Club I*, 867 F.3d at 203 (“We have construed [NGA section 3(a)] as containing a ‘general presumption favoring [export] authorization.’”) (quoting *W. Va. Pub. Serv. Comm’n v. U.S. Dep’t of Energy*, 681 F.2d 847, 856 (D.C. Cir. 1982)).

¹³⁵ See *id.* (“there must be ‘an affirmative showing of inconsistency with the public interest’ to deny the application” under NGA section 3(a)) (quoting *Panhandle Producers & Royalty Owners Ass’n v. Econ. Regulatory Admin.*, 822 F.2d 1105, 1111 (D.C. Cir. 1987)). As of August 24, 2018, qualifying small-scale exports of natural gas to non-FTA countries are deemed to be consistent with the public interest under NGA section 3(a). See 10 C.F.R. § 590.102(p); 10 C.F.R. § 590.208(a); see also U.S. Dep’t of Energy, Small-Scale Natural Gas Exports; Final Rule, 83 Fed. Reg. 35,106 (July 25, 2018).

¹³⁶ See *Sierra Club I*, 867 F.3d at 192.

¹³⁷ U.S. Dep’t of Energy, New Policy Guidelines and Delegations Order Relating to Regulation of Imported Natural Gas, 49 Fed. Reg. 6684 (Feb. 22, 1984) [hereinafter 1984 Policy Guidelines].

The market, not government, should determine the price and other contract terms of imported [or exported] natural gas The federal government's primary responsibility in authorizing imports [or exports] will be to evaluate the need for the gas and whether the import [or export] arrangement will provide the gas on a competitively priced basis for the duration of the contract while minimizing regulatory impediments to a freely operating market.¹³⁸

While the Policy Guidelines are nominally applicable to natural gas import cases, DOE subsequently held in Order No. 1473 that the same Policy Guidelines should be applied to natural gas export applications.¹³⁹

In Order No. 1473, DOE stated that it was guided by DOE Delegation Order No. 0204-111.¹⁴⁰ That delegation order directed the regulation of exports of natural gas “based on a consideration of the domestic need for the gas to be exported and such other matters as the Administrator [of the Economic Regulatory Administration] finds in the circumstances of a particular case to be appropriate.”¹⁴¹

Although DOE Delegation Order No. 0204-111 is no longer in effect,¹⁴² DOE's review of export applications has continued to focus on: (i) the domestic need for the natural gas proposed to be exported, (ii) whether the proposed exports pose a threat to the security of domestic natural gas supplies, (iii) whether the arrangement is consistent with DOE's policy of

¹³⁸ *Id.* at 6685.

¹³⁹ *Phillips Alaska Natural Gas Corp., et al.*, DOE/FE Order No. 1473, FE Docket No. 96-99-LNG, Order Extending Authorization to Export Liquefied Natural Gas from Alaska (Apr. 2, 1999), at 14 (citing *Yukon Pacific Corp.*, DOE/FE Order No. 350, Order Granting Authorization to Export Liquefied Natural Gas from Alaska, 1 FE ¶ 70,259, at 71,128 (1989)).

¹⁴⁰ *See id.* at 13 and n.45.

¹⁴¹ DOE Delegation Order No. 0204-111 (Feb. 22, 1984), at 1 (¶ (b)); *see also* 1984 Policy Guidelines, 49 Fed. Reg. at 6690 (incorporating DOE Delegation Order No. 0204-111). In February 1989, the Assistant Secretary for Fossil Energy assumed the delegated responsibilities of the Administrator of the Economic Regulatory Administration. *See Applications for Authorization to Construct, Operate, or Modify Facilities Used for the Export or Import of Natural Gas*, 62 Fed. Reg. 30,435, 30,437 n.15 (June 4, 1997) (citing DOE Delegation Order No. 0204-127, 54 Fed. Reg. 11,436 (Mar. 20, 1989)).

¹⁴² DOE Delegation Order No. 0204-111 was later rescinded by DOE Delegation Order No. 00-002.00 (¶ 2) (Dec. 6, 2001), and DOE Redelegation Order No. 00-002.04 (¶ 2) (Jan. 8, 2002).

promoting market competition, and (iv) any other factors bearing on the public interest, as determined by DOE.

IV. DESCRIPTION OF REQUEST

A. Description of Applicant

Jordan Cove is a Delaware limited partnership with its primary place of business in Houston, Texas.¹⁴³ In the years since the Application was filed, Jordan Cove has informed DOE/FE of various changes to its ownership.¹⁴⁴ Currently, Jordan Cove is a wholly-owned subsidiary of Jordan Cove LNG L.P., which is an indirect, wholly-owned subsidiary of Pembina Pipeline Corporation (Pembina).¹⁴⁵ Pembina is a publicly-traded Canadian corporation listed on the New York Stock Exchange and the Toronto Stock Exchange.¹⁴⁶

Like Jordan Cove, Pacific Connector is a wholly-owned subsidiary of Jordan Cove LNG L.P., and its ultimate parent company is Pembina.¹⁴⁷

B. The Jordan Cove LNG Terminal

Jordan Cove states that the proposed Jordan Cove LNG Terminal will be located on the bay side of the North Spit of Coos Bay in unincorporated Coos County, Oregon.¹⁴⁸ Jordan Cove states that the Terminal site is approximately 7.5 miles up the existing Coos Bay navigation channel in Coos County, Oregon.¹⁴⁹ Construction of the Jordan Cove LNG Terminal is expected to affect approximately 577 acres of land.¹⁵⁰ Once construction is complete, operation of the

¹⁴³ FERC Order at ¶ 4.

¹⁴⁴ *See, e.g.*, U.S. Dep't of Energy, Response to Notice of Change in Control (Jordan Cove Energy Project L.P.), FE Dockets Nos. 11-127-LNG & 12-32-LNG (July 20, 2018).

¹⁴⁵ *See id.* at 2; *see also* 2018 Amendment at 4-5; FERC Order at ¶ 4.

¹⁴⁶ 2018 Amendment at 5.

¹⁴⁷ FERC Order at ¶ 4.

¹⁴⁸ *Id.* at ¶ 7.

¹⁴⁹ 2018 Amendment at 5.

¹⁵⁰ FERC Order at ¶ 12 (noting that mitigation associated with the Jordan Cove Energy Project is expected to impact approximately 778 additional acres of land).

Terminal will require the use of approximately 200 acres across two parcels.¹⁵¹ Fort Chicago LNG II U.S. L.P., an affiliate of Jordan Cove, currently owns 295 acres of land at the site.¹⁵² Jordan Cove intends to acquire the use of the remaining lands through easements or leases.¹⁵³

As approved by FERC, the proposed Terminal will be capable of receiving natural gas, liquefying the natural gas, storing the LNG, and loading it onto ocean-going LNG vessels.¹⁵⁴ Natural gas delivered to the Terminal will be liquefied in one of five liquefaction trains. Each liquefaction train will have a maximum capacity of 1.56 mtpa of LNG, for a total maximum capacity of 7.8 mtpa of LNG for export.¹⁵⁵ LNG produced by the five trains will be stored in two full-containment storage tanks, each designed to store up to 160,000 cubic meters (m³) of LNG.¹⁵⁶ Other features of the Terminal approved by FERC include gas inlet and gas conditioning facilities, LNG loading and marine facilities, and support systems and buildings.¹⁵⁷

C. The Pacific Connector Pipeline

Jordan Cove's affiliate, Pacific Connector, plans to construct and operate a new interstate natural gas transmission system to transport natural gas to the proposed Jordan Cove LNG Terminal.¹⁵⁸ The Pacific Connector Pipeline, as approved by FERC, will consist of a 229-mile long, 36-inch-diameter pipeline extending from proposed interconnects with the Ruby Pipeline and the Gas Transmission Northwest Pipeline near Malin, Klamath County, Oregon, to the proposed Jordan Cove LNG Terminal for liquefaction and export. Pacific Connector plans to

¹⁵¹ FERC Order at ¶ 12; *see also* final EIS at 2-43.

¹⁵² FERC Order at ¶ 12; *see also* 2018 Amendment at 5.

¹⁵³ FERC Order at ¶ 12.

¹⁵⁴ 2018 Amendment at 6.

¹⁵⁵ FERC Order at ¶ 8; *see also* 2018 Amendment at 6.

¹⁵⁶ FERC Order at ¶ 8.

¹⁵⁷ *Id.* at ¶¶ 7-11; *see also* 2018 Amendment at 6.

¹⁵⁸ FERC Order at ¶ 15; *see also* 2018 Amendment at 5.

install a compressor station at the eastern end of the Pipeline, as well as other associated facilities.¹⁵⁹

D. Source of Natural Gas

Jordan Cove requests authorization to export LNG from natural gas produced in the United States, as well as natural gas produced in Canada and imported into the United States.¹⁶⁰ Specifically, Jordan Cove anticipates that the Pacific Connector Pipeline will connect to the market hub at Malin, Oregon, providing access to natural gas supplies from supply basins in the U.S. Rocky Mountains and western Canada.¹⁶¹ According to Jordan Cove, two large under-utilized pipeline systems—the Ruby Pipeline and the Gas Transmission Northwest Pipeline—already exist to transport natural gas from these large supply basins to southern Oregon.¹⁶² Jordan Cove states that the Pacific Connector Pipeline will be able to access these supplies and transport them to the proposed Terminal.¹⁶³

E. Business Model

Jordan Cove requests this authorization on its own behalf and as agent for other parties who will hold title to the LNG at the time of export.¹⁶⁴ Jordan Cove plans to execute commercial arrangements in the form of liquefaction tolling agreements (LTAs), under which an individual customer that holds title to natural gas will have the right to deliver the natural gas to the Jordan Cove LNG Terminal for liquefaction services and to receive LNG in exchange for a processing fee paid to Jordan Cove.¹⁶⁵

¹⁵⁹ FERC Order at ¶ 15; *see also* final EIS at 1-4.

¹⁶⁰ App. at 4.

¹⁶¹ *Id.* at 4-5.

¹⁶² 2018 Amendment at 9.

¹⁶³ *Id.*; *see also* App. at 4-5.

¹⁶⁴ App. at 6.

¹⁶⁵ *Id.* at 5; *see also* Conditional Order at 12-13.

Jordan Cove states that it will file all long-term, binding contracts associated with the long-term supply of natural gas to, and export of LNG from, the Jordan Cove LNG Terminal, once executed, in accordance with established policy and precedent.¹⁶⁶ Jordan Cove further states that, when acting as agent, it will register with DOE/FE each LNG title holder for which it seeks to export LNG as agent, and will comply with other registration requirements.¹⁶⁷

V. APPLICANT’S PUBLIC INTEREST ANALYSIS

A. 2012 Application

In the Application, Jordan Cove asserted that its requested non-FTA authorization was consistent with the public interest under NGA section 3(a).¹⁶⁸ In support of this argument, Jordan Cove stated that its proposed exports would not pose a threat to the security of domestic natural gas supplies, would result in significant benefits for the U.S. economy, would create jobs and produce revenues to the benefit of local and regional economies, and would have positive international trade impacts for the United States, among other public interest impacts.¹⁶⁹ Jordan Cove also submitted six studies that it commissioned to examine the various public interest benefits associated with its proposed exports.¹⁷⁰

In the Conditional Order, DOE/FE summarized Jordan Cove’s public interest arguments and supporting studies in the following categories: (i) domestic natural gas supplies, (ii) domestic natural gas demand, (iii) impact of the proposed exports on domestic prices of natural gas, (iv) impact of LNG exports on natural gas markets, (v) local, regional, and national

¹⁶⁶ App. at 5.

¹⁶⁷ *Id.* at 6.

¹⁶⁸ App. at 7-8.

¹⁶⁹ *Id.* at 8-28.

¹⁷⁰ *Id.* at 9-10 (listing studies).

economic benefits, (vi) balance of trade, (vii) international benefits, and (viii) additional considerations.¹⁷¹ DOE/FE incorporates by reference these sections of the Conditional Order.

B. 2018 Amendment¹⁷²

Jordan Cove asserts that a grant of the 2018 Amendment—specifically, increasing the requested export volume from 292 Bcf/yr to 395 Bcf/yr of natural gas—will not change the basis for DOE/FE’s conclusion in the Conditional Order that the non-FTA exports are in the public interest.¹⁷³ Jordan Cove points to DOE/FE’s conclusion in the Conditional Order that “the proposed exports [authorized at 292 Bcf/yr] would yield regional economic benefits, that ‘the United States will experience net economic benefits’ from LNG exports, and that exports will improve energy security for allies and other trading partners.”¹⁷⁴ According to Jordan Cove, all of these conclusions will remain true if the amendment to the Conditional Order is granted.¹⁷⁵

1. Impact of LNG Exports on Domestic Natural Gas Supply

Jordan Cove notes that, since issuing the Conditional Order in 2014, DOE/FE has continued to grant additional non-FTA export authorizations, finding that the exports in those proceedings are not inconsistent with the public interest.¹⁷⁶ Jordan Cove points to DOE/FE Order No. 4010, issued to Lake Charles LNG Export Company, LLC in June 2017.¹⁷⁷ Jordan Cove states that, in Order No. 4010, DOE/FE analyzed EIA’s *Annual Energy Outlook 2017*

¹⁷¹ Conditional Order at 15-26.

¹⁷² As noted above, the 2018 Amendment superseded the 2015 Amendment, and therefore we are summarizing Jordan Cove’s public interest arguments in the 2018 Amendment only.

¹⁷³ 2018 Amendment at 4, 7-8.

¹⁷⁴ *Id.* at 7 (quoting Conditional Order at 137-42).

¹⁷⁵ *Id.*

¹⁷⁶ *Id.*

¹⁷⁷ *Id.* at 7 & n.11 (citing *Lake Charles LNG Export Co., LLC*, DOE/FE Order No. 4010, FE Docket No. 16-109-LNG, Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel From the Lake Charles Terminal in Lake Charles, Louisiana, to Free Trade Agreement and Non-Free Trade Agreement Nations (June 29, 2017)).

(AEO 2017)¹⁷⁸ and compared it to *Annual Energy Outlook 2014*.¹⁷⁹ DOE/FE concluded that the market conditions examined in AEO 2017 “would be even more supportive of LNG exports” than those examined in AEO 2014.¹⁸⁰ Jordan Cove states that this comparison—and DOE/FE’s favorable conclusion in Order No. 4010—apply equally to this proceeding.¹⁸¹

Next, citing the 2014 and 2015 LNG Export Studies, Jordan Cove states that its proposed exports “will produce net economic benefits for the United States and will not adversely affect the U.S. [natural] gas supply.”¹⁸²

2. Local and Regional Economic Benefits

Jordan Cove identifies different economic benefits that it contends will accrue to both southern Oregon and natural gas production areas in the U.S. Rocky Mountains from the construction and operation of the Jordan Cove Energy Project.¹⁸³

Jordan Cove asserts that a decline in the timber and wood products industries has had a significant negative impact on the local economy in Coos County, Oregon, and nearby towns. Jordan Cove argues that the construction of the Project will facilitate the rebuilding of the industrial and property tax base of the region. Jordan Cove states that, “excluding finance costs, the investment in the Jordan Cove Energy Project is estimated to be 90 percent U.S. content.”¹⁸⁴

According to Jordan Cove, the construction of the Project will result in the creation of 6,147 peak monthly jobs (1,996 peak monthly jobs for the Terminal and 4,151 for the Pipeline).¹⁸⁵ During operation, the Project will employ 215 workers (200 for the Terminal and

¹⁷⁸ See *supra* note 77.

¹⁷⁹ See 2018 Amendment at 7.

¹⁸⁰ *Id.* (quoting *Lake Charles LNG Export Co., LLC*, DOE/FE Order No. 4010, at 29).

¹⁸¹ *Id.* at 8.

¹⁸² *Id.*

¹⁸³ *Id.*

¹⁸⁴ *Id.*

¹⁸⁵ 2018 Amendment at 8.

15 for the Pipeline).¹⁸⁶ Jordan Cove estimates that the Project will result in direct compensation to Oregon resident workers of approximately \$1.5 billion. Additionally, through the Project’s annual purchases of goods and services from Oregon businesses and household spending by employees, Jordan Cove states that the Project will support approximately \$96 million in additional labor income and approximately \$235 million in additional output for Oregon businesses.¹⁸⁷

Next, Jordan Cove states the Project will result in “significant investment and modernization of the Port of Coos Bay.”¹⁸⁸ Both Jordan Cove and Pacific Connector would directly invest in improving marine-related infrastructure and capability at the Port. These improvements would include procurement of four state-of-the-art tractor tugs with fire-fighting, active ship escort, and emergency towing and rescue capability; procurement and set-up of a private vessel traffic information system; and the installation of three meteorological ocean data collection buoys.¹⁸⁹

Jordan Cove also asserts that the Project enjoys strong support from the local community. Jordan Cove states that it has agreed to execute a Community Enhancement Plan, under which property tax benefits available at the site would be returned to Coos County, local communities, and the Port of Coos Bay.¹⁹⁰ According to Jordan Cove, this will result in Jordan Cove’s payment of over \$40 million per year during operations of the Terminal—half allocated to local education programs, and half directed to local development programs.¹⁹¹

¹⁸⁶ *Id.*

¹⁸⁷ *Id.* at 9.

¹⁸⁸ *Id.*

¹⁸⁹ *Id.*

¹⁹⁰ *Id.*

¹⁹¹ 2018 Amendment at 9.

Finally, Jordan Cove contends that the Project will provide new market access for natural gas producers in the U.S. Rocky Mountains and western Canada. Jordan Cove states that natural gas producers have seen their access to markets in the eastern and central regions of the United States and Canada erode due to increased natural gas output from the Marcellus and Utica shales.¹⁹² Jordan Cove further states that the existing Ruby Pipeline and the Gas Transmission Northwest Pipeline are under-utilized and available to transport natural gas from the eastern and central regions to southern Oregon. According to Jordan Cove, the proposed Pacific Connector Pipeline would be able to access these supplies and transport them to the Terminal for export.¹⁹³

3. International Benefits

Jordan Cove contends that LNG exports from the Terminal will benefit major U.S. trading partners in Asia, resulting in improved energy security. Jordan Cove states that it has finalized the key commercial terms for liquefaction service with two Japanese entities, JERA Company, Inc. and ITOCHU Corporation.¹⁹⁴

4. Environmental Benefits

Jordan Cove asserts that its proposed exports will provide environmental benefits by bringing clean-burning natural gas to Japan and other Asian markets. According to Jordan Cove, U.S. natural gas will reduce the amount of coal and oil currently being burned in these markets for both electric power generation and nuclear-powered generation. Jordan Cove states that, as a result, its proposed exports will provide cleaner-burning energy to commercial and residential markets in the importing countries.¹⁹⁵

¹⁹² *Id.*

¹⁹³ *Id.* at 9.

¹⁹⁴ *Id.* at 10.

¹⁹⁵ *Id.*

VI. DOE/FE PROCEEDINGS – 2012 APPLICATION

In response to the Notice of Application,¹⁹⁶ DOE/FE received 35 timely-filed and five late-filed comments in support of the Application; three timely-filed and two late-filed comments opposing the Application; one comment raising environmental concerns but taking no position on the merits of the Application; and five timely-filed motions to intervene and comment or protest from the American Public Gas Association (APGA), Sierra Club, Citizens Against LNG, Landowners United, and KS Wild. No party opposed the submission of the late-filed pleadings, and in the Conditional Order, DOE/FE accepted the late-filed pleadings.¹⁹⁷ On August 29, 2012, Jordan Cove filed an “Answer to Protests.”¹⁹⁸ On September 13, 2012, Citizens Against LNG filed a response to Jordan Cove’s Answer.¹⁹⁹

In the Conditional Order, DOE/FE made preliminary findings on all issues except the environmental issues in this proceeding.²⁰⁰ Therefore, the Conditional Order summarized the non-environmental arguments submitted in response to the Notice of Application, which we incorporate by reference into this Order.²⁰¹ To ensure a complete review, DOE/FE re-examines below the environmental arguments from those filings, as well as Jordan Cove’s response.

A. Environmental Issues Raised in 2012 Pleadings

Several commenters and intervenors raise safety and environmental concerns associated with the Jordan Cove Energy Project. For example, Paula Jones and Wim de Vriend emphasize

¹⁹⁶ See *supra* § II.A.1.

¹⁹⁷ Conditional Order at § VII.A.

¹⁹⁸ Answer of Jordan Cove Energy Project, L.P. to Protests, FE Docket No. 12-32-LNG (Aug. 29, 2012) [hereinafter Jordan Cove Answer I]. DOE/FE issued a letter order on August 17, 2012 (reissued August 20, 2012) providing Jordan Cove until August 29, 2012, to submit its Answer to the protests.

¹⁹⁹ Citizens Against LNG, Response to Answer of Jordan Cove Energy Project, L.P. to Protests, FE Docket 12-32-LNG (Sept. 13, 2012). In the Conditional Order, DOE/FE accepted this document for filing and summarized it. See Conditional Order at 73 n.83.

²⁰⁰ See *supra* §§ I, II.A.3; see also Conditional Order at 14-15.

²⁰¹ See Conditional Order at § VII.

that the Terminal will be built in an earthquake and tsunami zone, thereby placing nearby residents in danger of a LNG leak.²⁰² Jan Dilley contends that the Project should not be approved until Jordan Cove fully complies with NEPA.²⁰³ Derrick Hindery, while not expressly supporting or opposing the Project, concurs.²⁰⁴ Mr. de Vriend also expresses environmental concerns with the Project and states that a similar past pipeline project in the area turned into an environmental disaster.²⁰⁵

In addition, Sierra Club asserts a number of environmental concerns, in which Landowners United²⁰⁶ and KS Wild²⁰⁷ joined. Sierra Club maintains that DOE/FE's analysis must not be confined only to the local, direct effects of the Application, but must also consider the indirect and cumulative effects from Jordan Cove's proposal and all other LNG export proposals currently pending before DOE/FE and FERC.²⁰⁸ Sierra Club asserts that the analysis should weigh, among other factors, the upstream impacts of the Terminal and the Pacific Connector Pipeline, and consider a full range of alternatives, including not exporting LNG from Coos Bay and not exporting LNG to any non-FTA country.²⁰⁹

²⁰² Comment of Paula A. Jones, FE Docket No. 12-32-LNG (July 23, 2012); Comment of Wim de Vriend, FE Docket No. 12-32-LNG (Aug. 6, 2012).

²⁰³ Comment of Jan Dilley, FE Docket No. 12-32-LNG (Aug. 7, 2012).

²⁰⁴ Comment of Derrick Hindery, FE Docket No. 12-32-LNG (Aug. 3, 2012).

²⁰⁵ Comment of Wim de Vriend, FE Docket No. 12-32-LNG (Aug. 6, 2012).

²⁰⁶ Landowners United, Notice of Intervention and Protest, FE Docket No. 12-32-LNG, at 2 (Aug. 6, 2012) [hereinafter Landowners United Mot.]. Although Landowners United's pleading—as well as pleadings by many other intervenors—is labeled a “Notice of Intervention,” only a state commission may intervene by notice. *See* 10 C.F.R. § 590.303(a). Because none of these intervenors are state commissions, each of submissions will be construed as a motion to intervene for purposes of this proceeding only. *Id.* § 590.303(b).

²⁰⁷ KS Wild, Comments in Opposition of Application and Motion to Intervene, FE Docket No. 12-32-LNG, at 2 (Aug. 6, 2012).

²⁰⁸ Sierra Club, Motion to Intervene, Protest, and Comments, FE Docket No. 12-32-LNG, at 15-18 (Aug. 6, 2012) [hereinafter Sierra Club Mot.].

²⁰⁹ Sierra Club identifies several other alternatives which, it insists, at a minimum should be considered. *See id.* at 13-15.

Sierra Club asserts that Jordan Cove's proposed Terminal will impose a range of significant local environmental impacts, including water and air pollution, disruption of aquatic habitat, and impacts on fish and wildlife.²¹⁰ Sierra Club highlights concerns that dredging from the Jordan Cove project will affect the salinity of the bay, negatively affecting fish and shellfish distribution.²¹¹ Ships' water intake and discharge, according to Sierra Club, also pose risks to fish and can harmfully raise the temperature of the surrounding bay waters.²¹² Sierra Club additionally argues that storm water runoff from the Terminal site will adversely affect Coos Bay by polluting the water with harmful materials that are deleterious to fish and their habitat.²¹³ Sierra Club asserts that ship traffic will cause further environmental harm through resuspension of sediment and will significantly disrupt other users of the Bay, including fishermen and recreational boaters.²¹⁴ Sierra Club contends that ship traffic and operation of liquefaction and other facilities will adversely affect air quality.²¹⁵

Sierra Club also argues that construction of the Pacific Connector Pipeline required for Jordan Cove's proposed exports will adversely affect water, wildlife, and habitat.²¹⁶ Sierra Club notes that the Pipeline risks harming water quality and would cross 218 water bodies, including 34 water bodies listed as impaired under the Clean Water Act.²¹⁷ Sierra Club also asserts that hydrostatic testing of the Pipeline leads to negative impacts associated with water withdrawal and disposal, including inter-basin transfer of non-native species and contamination.²¹⁸ Sierra

²¹⁰ *Id.* at 48-50.

²¹¹ *Id.* at 49.

²¹² Sierra Club Mot. at 49.

²¹³ *Id.* at 50.

²¹⁴ *Id.*

²¹⁵ *Id.* at 50 & Ex. 6 (incorporating by reference comments submitted in FERC Docket No. CP11-72-000, involving Sabine Pass Liquefaction Project).

²¹⁶ *Id.* at 43.

²¹⁷ *Id.* at 45.

²¹⁸ Sierra Club Mot. at 47.

Club contends that the Pipeline will impose other impacts on habitat and wildlife, including loss of habitat caused by clearing timber, noise pollution, and increased fire hazards.²¹⁹

Additionally, Sierra Club argues that Jordan Cove’s proposal will have significant adverse environmental impacts because the planned exports will induce additional natural gas production in the United States.²²⁰ Sierra Club states that NEPA and applicable case law call for DOE/FE to consider the environmental effects of induced natural gas production because such production is the proffered “justification for Jordan Cove’s proposal, and is a reasonably foreseeable result of Jordan Cove’s exports.”²²¹

Sierra Club contends that “[n]atural gas production—from both conventional and unconventional sources—is a significant air pollution source, can disrupt ecosystems and watersheds, leads to industrialization of entire landscapes, and presents challenging waste disposal issues.”²²² Sierra Club further argues that Jordan Cove’s proposed exports aggravate these harms, emphasizing that additional production is a key premise underlying Jordan Cove’s application.²²³

According to Sierra Club, Jordan Cove’s proposal will contribute to significant production-related air emissions. Specifically, Sierra Club asserts that the new natural gas demand caused by the requested authorization allegedly will be responsible for an increase in emissions of methane, volatile organic compounds, nitrogen oxides, sulfur dioxide, hydrogen sulfide, and particulate matter.²²⁴ Sierra Club further contends that the EPA’s new source

²¹⁹ *Id.* at 47-48.

²²⁰ *Id.* at 20.

²²¹ *Id.* at 16.

²²² Sierra Club Mot. at 20.

²²³ *Id.* at 21.

²²⁴ *Id.* at 21-22.

performance standards and standards for hazardous air pollutants do not fully address these air quality issues and that DOE/FE may not rely on such standards in its analysis.²²⁵

Sierra Club argues that natural gas production also poses risks to ground and surface water. Sierra Club notes that most of the increased production will involve hydraulic fracturing, a process of injecting various chemicals into gas-bearing formations at high pressures to fracture rock and release natural gas. According to Sierra Club, each step of this process requires large quantities of water that could drastically impact aquatic ecosystems and human communities. Sierra Club also contends that hydraulic fracturing poses a serious risk of groundwater contamination from the chemicals added to the drilling mud and fracturing fluid and from naturally occurring chemicals in deeper formations mobilized during the hydraulic fracturing process. Sierra Club asserts that hydraulic fracturing has resulted in groundwater contamination in numerous documented instances.²²⁶

Sierra Club states that natural gas production, particularly hydraulic fracturing, produces liquid and solid wastes, including drilling mud, drill cuttings, “flowback,” and produced water. Sierra Club states that these wastes are often stored on site in open pits that can have harmful air emissions and can leach into shallow groundwater. Sierra Club also notes that flowback and produced water must be disposed offsite, with a common method being underground injection wells. Sierra Club also argues that produced water can have high levels of radioactive materials, which have been shown to be much higher than the concentration considered safe for drinking.²²⁷

²²⁵ *Id.* at 32-33.

²²⁶ *Id.* at 35-41.

²²⁷ *Id.* at 41-43.

In addition to expressing its concerns over alleged air and water pollution impacts, Sierra Club argues that increased natural gas production will transform the landscape of regions overlying shale gas plays, bringing industrialization to previously rural landscapes and significantly affecting ecosystems, plants, and animals.²²⁸ Sierra Club further asserts that, in addition to the above-described production-related impacts, exports from the Jordan Cove project will increase air pollution by increasing the amount of coal used for domestic electricity production.²²⁹

Additionally, Sierra Club argues that LNG exports will increase GHG emissions both domestically and globally. Sierra Club contends that a 2012 study by the International Energy Agency predicts that international trade in LNG will lead many countries to use natural gas in place of renewable energy (instead of displacing fossil fuels).²³⁰ Even assuming importing countries substitute natural gas for coal or fuel oil, Sierra Club claims that the liquefaction, transportation, and regasification process is energy intensive and increases the lifecycle GHG emissions of LNG compared to methods of consumption where the natural gas remains in a gaseous phase. Sierra Club argues that, for these reasons, U.S. LNG has little, if any, advantage over coal, and thus it is unlikely that LNG exports will reduce global GHG emissions.²³¹

Citizens Against LNG also raises several environmental issues, which Landowners United²³² joins in support. First, Citizens Against LNG shares the concern that supplies of water across the United States are not adequate to sustain the practice of hydraulic fracturing used to

²²⁸ Sierra Club Mot. at 33-35.

²²⁹ *Id.* at 51-52.

²³⁰ *Id.* at 53.

²³¹ *Id.* at 53-56

²³² Landowners United Mot. at 2.

produce large quantities of natural gas.²³³ According to Citizens Against LNG, by creating demand for more natural gas, the Jordan Cove Energy Project will indirectly exacerbate water scarcity.²³⁴

Citizens Against LNG also charges that the process of liquefying natural gas and shipping the LNG from the United States to foreign destinations is costly and will have negative environmental impacts in terms of GHG emissions. According to Citizens Against LNG, the environmental benefits of natural gas fade away when the GHG emissions associated with the export and import of LNG are taken into account.²³⁵

Citizens Against LNG additionally asserts that Jordan Cove's proposed pipeline construction will destroy restored fish runs in Southern Oregon, damage oyster beds, and harm timber production.²³⁶

Finally, Citizens Against LNG argues that the Jordan Cove proposal would create substantial risks to public safety. Citizens Against LNG states that, although the Terminal would be built in an extreme tsunami inundation and earthquake subduction zone, Jordan Cove has not shown that the Terminal would be capable of withstanding an earthquake or tsunami event. Citizens Against LNG also argues that the Terminal poses spill and fire hazards and would negatively impact the airspace near the local Southwest Oregon Regional Airport. In sum, Citizens Against LNG maintains that the proposed Jordan Cove facility does not follow safety guidelines and does not have an adequate emergency response plan or resources to address the safety hazards posed.²³⁷

²³³ Citizens Against LNG, Notice of Intervention, Protest, and Comments, FE Docket No. 12-32-LNG, at 10 (Aug. 6, 2012) [hereinafter Citizens Against LNG Mot.].

²³⁴ Citizens Against LNG Mot. at 5-6.

²³⁵ *Id.* at 8-9.

²³⁶ *Id.* at 14-17.

²³⁷ *Id.* at 20-24.

B. Answer of Jordan Cove to Protests

In its Answer, Jordan Cove argues that opponents to its Application have failed to overcome the statutory presumption that the proposal is consistent with the public interest under NGA section 3(a).²³⁸ Insofar as Sierra Club and other opponents of the proposal have submitted arguments related to the environmental review and potential environmental impacts of the proposal, Jordan Cove submits that the arguments are not properly raised in the DOE/FE proceeding and should be addressed through FERC's EIS process (which was then-ongoing).²³⁹

VII. DOE/FE PROCEEDINGS – 2015 AMENDMENT

Jordan Cove's 2018 Amendment requests an increase to the export volume originally requested in the Application (from 292 Bcf/yr to 395 Bcf/yr), thereby superseding the export volume requested in the 2015 Amendment (350 Bcf/yr). Nevertheless, to ensure a thorough review of the public interest, DOE/FE summarizes below the filings submitted in response the 2015 Amendment.

DOE/FE received eight timely-filed motions to intervene (or "notices of intervention")²⁴⁰ and/or protests from the following: Sierra Club;²⁴¹ Craig and Stacey McLaughlin (the McLaughlins); Wim de Vriend; American Petroleum Institute (API); Industrial Energy Consumers of America (IECA); Jody McCaffree and Citizens Against LNG (together, McCaffree/CALNG);²⁴² the Evans Schaaf Family, LLC, Deborah Evans, and Ron Schaaf

²³⁸ Jordan Cove Answer I at 2.

²³⁹ *Id.* at 2-5.

²⁴⁰ As explained above, DOE/FE will construe each pleading entitled a "notice of intervention" as a motion to intervene.

²⁴¹ Sierra Club's filing is entitled "Sierra Club's Answer to Amendment to Application and Protest." We characterize it as a protest for purposes of this summary. Sierra Club previously was granted intervention in this proceeding. *See* Conditional Order at 158 (Ordering Para. Q).

²⁴² McCaffree/CALNG filed two documents on the same day (docketed as documents #97 and #101, respectively), which appear to be duplicates attached in a different order. Therefore, we construe them as a single filing and will refer to document #97 herein.

(together, the Evans Schaaf Family); and Oregon Women’s Land Trust.²⁴³ DOE/FE also received five timely-filed comments opposing the 2015 Amendment.²⁴⁴

DOE/FE received one comment by Alan Journet for Southern Oregon Climate Action Now (SOCAN) on April 2, 2016—nine days after the deadline established in the Notice of Application. SOCAN did not request an extension of time to file its comment, nor did it provide an explanation for its delay. Therefore, we decline to accept SOCAN’s late-filed comment in this proceeding.²⁴⁵

On April 14, 2016, Jordan Cove filed an “Answer to Protests.”²⁴⁶

A. Comments Opposing the 2015 Amendment

The six commenters oppose the 2015 Amendment in part because of concerns about the asserted environmental impacts and safety risks associated with the proposed Jordan Cove Energy Project. Oregon Wild asserts that a variety of environmental concerns “become more significant as the size of the project increases.”²⁴⁷ Oregon Wild points to potential increases in LNG tanker traffic in Coos Bay, navigational conflicts and shipping accidents, exposure to natural hazards (*e.g.*, earthquakes and tsunamis), water pollution, ocean acidification, and air quality impacts, including GHG emissions.²⁴⁸ MA Rohrer also questions the wisdom of locating

²⁴³ See *infra* App’x B.

²⁴⁴ Opposing comments were filed by Oregon Wild, Toni Woolsey, Kathy Dodds, MA Rohrer, and Katy Eymann. See *infra* App’x B.

²⁴⁵ See 10 C.F.R. § 590.105(b).

²⁴⁶ Jordan Cove Energy Project L.P., Answer to Protests, FE Docket No. 12-32-LNG (Apr. 14, 2016) [hereinafter Jordan Cove Answer II]. DOE/FE issued an order on April 1, 2016, providing Jordan Cove until April 14, 2016, to submit its Answer.

²⁴⁷ Comment of Oregon Wild, FE Docket No. 12-32-LNG, at 1 (Mar. 23, 2016).

²⁴⁸ See *id.* at 1-2.

the Project “near [an] earthquake subduction and tsunami zone.”²⁴⁹ Kathy Dodds adds that the proposed export activity will strain local waterways.²⁵⁰

Commenters also highlight economic concerns. For example, Katy Eymann asserts that increased natural gas exports from the Project will harm the U.S. economy by reducing the supply of natural gas available to domestic consumers.²⁵¹ MA Rohrer contends that any jobs associated with the Project will be short-term, rather than permanent.²⁵²

B. Sierra Club’s Protest

Sierra Club, already an intervenor in this proceeding, opposes the 2015 Amendment on the same grounds that it opposed the 2012 Application—namely, that exporting LNG in the requested volume from the proposed Terminal will have “severe environmental consequences” and will cause “significant economic harm to the majority of Americans.”²⁵³ Sierra Club adds that more recent studies and developments have added to the evidence demonstrating that Jordan Cove’s proposed exports are not in the public interest.²⁵⁴

C. The McLaughlins’ Motion to Intervene, Comment, and Protest

In support of their motion to intervene, the McLaughlins assert that they are private landowners affected by the proposed Jordan Cove Energy Project.²⁵⁵ They state that the Pacific Connector Pipeline would cross over one mile of their 337-acre forested property, such that they would be subject to eminent domain if FERC were to authorize the Pipeline. They argue that

²⁴⁹ Comment of MA Rohrer, FE Docket No. 12-32-LNG, at 2 (Mar. 23, 2016).

²⁵⁰ Comment of Kathy Dodds, FE Docket No. 12-32-LNG, at 1 (Mar. 23, 2016).

²⁵¹ Comment of Katy Eymann, FE Docket No. 12-32-LNG, at 2 (Mar. 23, 2016).

²⁵² Comment of MA Rohrer at 2.

²⁵³ Sierra Club, Answer to Amendment to Application and Protest, FE Docket No. 12-32-LNG, at 1 (Mar. 23, 2016).

²⁵⁴ *Id.* at 2-4 (citing, *e.g.*, the 2014 LNG Export Study and 2014 LCA GHG Report).

²⁵⁵ Craig and Stacy McLaughlin, Motion to Intervene, Comment, and Protest, FE Docket No. 12-32-LNG, at 1 (Mar. 23, 2016).

DOE's consideration of Jordan Cove's Application and the 2015 Amendment affects the viability and operation of the proposed Project.²⁵⁶

The McLaughlins argue that DOE should deny Jordan Cove's requested authorization because it is contrary to the public interest under NGA section 3(a). According to the McLaughlins, there is a lack of "proven demand" for the Project.²⁵⁷ They contend that Jordan Cove's parent company has entered into a preliminary agreement for a "minor portion" of the Terminal's LNG output, which they allege is not sufficient evidence of demand for the Project to be in the public interest. The McLaughlins also assert that Jordan Cove and Pacific Connector have failed "to take reasonable actions that would mitigate the impacts of eminent domain on the Intervenor and hundreds of other landowners along the proposed Pacific Connector route."²⁵⁸

D. Wim de Vriend's Notice of Intervention, Protest, and Comments

In support of his motion to intervene, Wim de Vriend states that he owns property, lives, works, socializes, and recreates within three miles of the proposed Jordan Cove LNG Terminal, and thus within its projected hazardous burn zones.²⁵⁹

Mr. de Vriend argues that, from its inception, the Terminal "has posed multiple risks to life, health and property, in exchange for negligible benefits to Coos Bay and ... the United States."²⁶⁰ According to Mr. de Vriend, the Terminal will pose an extreme fire hazard, will be a prodigious source of air pollution, will endanger air traffic around the local airport, will harm recreational and commercial opportunities (including oyster farming, fishing, and crabbing), and will harm private landowners through the process of eminent domain.²⁶¹ Mr. de Vriend also

²⁵⁶ *Id.* at 1-2.

²⁵⁷ *Id.* at 2.

²⁵⁸ *Id.*

²⁵⁹ Wim de Vriend, Motion to Intervene, Comment, and Protest, FE Docket No. 12-32-LNG, at 1 (Mar. 23, 2016).

²⁶⁰ *Id.* at 2.

²⁶¹ *Id.*

criticizes economic aspects of the Jordan Cove LNG Project, stating that it is both a “very low-employment project” and is unlikely to garner sufficient demand for the volume of exports proposed.²⁶² Mr. de Vriend attaches a study that he authored entitled, “A Golden Age of Gas – the Making of the LNG Glut.”²⁶³ In the study, he argues that the global LNG market does not have high enough demand for all of the existing and proposed LNG projects in the United States (and other countries), including the proposed Jordan Cove Energy Project.²⁶⁴

E. American Petroleum Institute’s Motion to Intervene

API states that it is a national trade association representing more than 650 member companies involved in all aspects of the oil and natural gas industry in the United States.²⁶⁵ API states that its members have extensive experience with the drilling and completion techniques used in shale gas development and in producing America’s natural gas resources in a safe and environmentally responsible manner.²⁶⁶ For these reasons, API asserts that it has a direct and immediate interest in this proceeding.²⁶⁷ API takes no position on the merits of this proceeding.

F. Industrial Energy Consumers of America’s Notice of Intervention, Protest, and Comment

IECA states that it wishes to intervene in this proceeding, although it does not provide a description of its organization or its interest in this proceeding.²⁶⁸ In protesting the 2015 Amendment, IECA challenges Jordan Cove’s proposed exports, in part, on the basis of FERC’s 2016 order denying the initial applications for the Jordan Cove Energy Project.²⁶⁹ Citing that

²⁶² *Id.* at 2-3.

²⁶³ *See id.* (Attachment).

²⁶⁴ *See id.*

²⁶⁵ American Petroleum Institute, Motion to Intervene, FE Docket No. 12-32-LNG, at 2 (Mar. 23, 2016).

²⁶⁶ *Id.*

²⁶⁷ *Id.* at 2-3.

²⁶⁸ Industrial Energy Consumers of America, Notice of Intervention, Protest, and Comment, FE Docket No. 12-32-LNG (Mar. 23, 2016) [hereinafter IECA Mot.].

²⁶⁹ *Id.* at 1-2.

order favorably, IECA asserts that “multiple studies” have reported a worldwide glut of LNG, such that it could take until the year 2030 for global supplies of LNG to “balance.”²⁷⁰

Next, IECA challenges the application of DOE’s 1984 Policy Guidelines to LNG exports and argues that “DOE needs to conduct a rulemaking to establish public interest guidelines for LNG exports.”²⁷¹ IECA states that its members “are against excessive exports” which, IECA alleges, will drive up prices of U.S. LNG.²⁷² According to IECA, higher prices of LNG will cause U.S. manufacturers to lose their competitive advantage, creating long-term implications for a viable manufacturing sector in the United States. IECA thus maintains that DOE must develop “appropriate consumer focused ‘public interest’ guidelines.”²⁷³

IECA also contends that DOE’s public interest determinations are no longer valid if approved LNG export terminals are not constructed “near-term.” In IECA’s view, any long-term macroeconomic studies, such as the LNG export studies commissioned by DOE/FE, will be “incorrect” due to changing facts and “volatile swings” in the oil and gas markets.²⁷⁴ Lastly, IECA states its disagreement with the analysis and conclusions set forth in DOE’s 2015 LNG Export Study.²⁷⁵

G. Jody McCaffree’s and Citizens Against LNG’s Notice of Intervention, Protest, and Comments

In support of her motion to intervene, Jody McCaffree states she lives, works, socializes, and recreates within two miles of the proposed Jordan Cove LNG Terminal, and thus within its projected hazardous burn zones.²⁷⁶ She states that the proposed Terminal poses safety and

²⁷⁰ *Id.* at 1.

²⁷¹ *Id.* at 2.

²⁷² *Id.*

²⁷³ IECA Mot. at 2.

²⁷⁴ *Id.* at 2-3.

²⁷⁵ *Id.* at 3-4.

²⁷⁶ Jody McCaffree, Notice of Intervention, Comment, and Protest, FE Docket No. 12-32-LNG, at 1 (Mar. 23, 2016).

security risk, airport hazards, fire hazards, air quality hazards, and a loss of recreational opportunities including cultural resources, wildlife observation, commercial oyster farming, and timber production.²⁷⁷ According to Ms. McCaffree, Jordan Cove’s request to export a higher volume of LNG would mean more shipments of LNG in and out of Coos Bay and other increased risks and hazards, including additional GHG emissions. Ms. McCaffree argues that, for these reasons, the Jordan Cove Energy Project is not in the public interest.²⁷⁸

Ms. McCaffree attaches comments from herself and Citizens Against LNG, which is already an intervenor in this proceeding. They reiterate their prior comments opposing the Project, and cite the 2016 FERC order, in stating that “this project will only get worse with this increase” in export volume.²⁷⁹ They assert that DOE/FE cannot increase the volume amount of LNG exports without a properly completed NEPA process.²⁸⁰ Finally, they argue that DOE/FE should deny the amendment because the international LNG market is oversupplied and “it will be increasingly unlikely that new liquefaction projects will be financed.”²⁸¹

H. The Evans Schaaf Family’s Motion to Intervene, Comment, and Protest

In support of their motion to intervene, the Evans Schaaf Family states that the Pacific Connector Pipeline would cross 0.45 miles of the family’s 157-acre forested property, which would be subject to eminent domain should FERC approve the pipeline.²⁸² The Family states that the Pacific Connector Pipeline would result in forest being clear-cut from the Family’s property—50 feet of which would be permanently removed from timber production.²⁸³

²⁷⁷ *Id.*

²⁷⁸ *Id.* at 1-2.

²⁷⁹ *Id.* at 3 [2].

²⁸⁰ *Id.* at 5-8 [3-6].

²⁸¹ *Id.* at 8-9 [6-7].

²⁸² Evans Schaaf Family LLC, Deborah Evans, and Ron Schaaf, Motion to Intervene, Comment, and Protest, FE Docket No. 12-32-LNG, at 1 (Mar. 23, 2016).

²⁸³ *Id.*

The Family asserts that the Pipeline “would result in substantial long-term management impacts due restrictions on tree planting within the pipeline right of way, limitations on heavy equipment movement over the right of way, and disturbance from right of way management activities such as herbicide spraying and vegetation clearing.”²⁸⁴ According to the Family, safety concerns related to the Pipeline would also prevent them from proceeding with planned improvements to their property, including a residential structure.²⁸⁵

The Family argues that the lack of proven market demand²⁸⁶ and failure of the Project’s backers to mitigate the impacts of eminent domain on affected landowners demonstrate that the Jordan Cove Project is not in the public interest.²⁸⁷ The Family also raises environmental concerns, arguing that promoting the use of LNG escalates GHG pollution and worsens the impact of climate change.²⁸⁸

I. Oregon Women’s Land Trust Motion to Intervene, Comment, and Protest

In support of its motion to intervene, the Oregon Women’s Land Trust (the Trust) states that it is a private organization that holds land on the Pacific Connector Pipeline’s proposed route.²⁸⁹ The Trust states that the Pacific Connector Pipeline would affect more than eight acres of its members’ property, clearcutting a 100-foot wide swath through the oldest forest. The Trust asserts that, in return for this land, it has been “offered a one-time payment of only \$2,292.48.”²⁹⁰

²⁸⁴ *Id.* at 2.

²⁸⁵ *Id.*

²⁸⁶ *Id.* at 2, Ex. B [2-3].

²⁸⁷ *Id.*

²⁸⁸ *Id.* at Ex. B [2-3].

²⁸⁹ Oregon Women’s Land Trust, Motion to Intervene, Comment, and Protest, FE Docket No. 12-32-LNG, at 1 (Mar. 23, 2016) [hereinafter Oregon Women’s Land Trust Mot.].

²⁹⁰ *Id.*

The Oregon Women’s Land Trust further argues that its property has been classified as “Class I”—requiring the lowest safety standards—when it believes its property qualifies for full Class 4 safety precautions. The Trust states that an increase in natural gas through the Pipeline—as proposed in the 2015 Amendment—would decrease its safety by, among other things, increasing the risk of forest fires on their land.²⁹¹ Pointing to FERC’s 2016 order denying the initial applications for Jordan Cove Energy Project, the Trust argues that “DOE can not authorize increased gas in a pipeline that is not in the public interest.”²⁹²

J. Answer of Jordan Cove to Protests of 2015 Amendment

In its Answer, Jordan Cove did not oppose any of the motions to intervene. However, Jordan Cove challenges the arguments made in the protests to its Amendment.²⁹³

First, Jordan Cove argues that the protests fail to focus on the proposed Terminal’s maximum production capacity—*i.e.*, the purpose of the 2015 Amendment—and instead oppose the Jordan Cove Energy Project and LNG exports in general. Jordan Cove asserts that, in doing so, the protests “focus on matters that are for FERC, not DOE/FE, and on matters that either FERC or DOE/FE has already definitively addressed.”²⁹⁴ Specifically, Jordan Cove argues that, in pointing to the 2016 FERC order to support their arguments, their protesters “crisscross[] the roles of DOE/FE and FERC under the NGA, and ignore[] the distinctions between the statutory standard applied by DOE/FE when authorizing LNG exports and the statutory standard that was applied by FERC in the [2016] FERC order.”²⁹⁵ Jordan Cove notes that, in the 2016 order, “FERC did not make any findings with respect to the export of LNG.”²⁹⁶

²⁹¹ *Id.* at 1-2.

²⁹² *Id.* at 2.

²⁹³ *See* Jordan Cove Answer II at 6-19.

²⁹⁴ *Id.* at 2.

²⁹⁵ *Id.* at 6.

²⁹⁶ *Id.* at 7.

Next, Jordan Cove disputes the protestors' arguments concerning LNG market conditions and the alleged global oversupply, as well as the relevance of those arguments to this proceeding. According to Jordan Cove, "DOE/FE is not charged with determining the market for LNG exports" under NGA section 3(a), and thus these arguments urging DOE/FE to "second guess" the LNG market are "wrong."²⁹⁷

Finally, Jordan Cove disputes various arguments by the protestors addressing the NEPA review process and original EIS for the Project, the 2015 LNG Export Study, and the LCA GHG Report. Jordan Cove contends that the protests fail to identify any new concerns, evidence, or analysis that would give DOE/FE any reason not to grant the Application, as modified by the 2015 Amendment.²⁹⁸

VIII. DOE/FE PROCEEDINGS – 2018 AMENDMENT

DOE/FE received 40 timely-filed pleadings in response to the 2018 Amendment. These include:

- Three comments in support;
- Four comments in opposition;
- Four protests by the following existing intervenors: Jody McCaffree; Sierra Club; the Evans Schaaf Family LLC, Ronald Schaaf, and Deborah Evans (together, the Evans Schaaf Family); and Stacy and Craig McLaughlin (the McLaughlins); and
- 29 motions to intervene (or notices of intervention), comment, and protest in opposition, including 27 such pleadings based on a form letter employing substantially similar language.²⁹⁹

²⁹⁷ *Id.* at 9-10.

²⁹⁸ *Id.* at 10-19.

²⁹⁹ *See infra* at App'x. C.

On May 24, 2018, Jordan Cove filed an “Answer to Protests.”³⁰⁰ On the same day, Jody McCaffree filed a “Motion to File Answer to Intervention Notices, Comments and Protests Filed by May 9, 2018.”³⁰¹

A. Comments Supporting the 2018 Amendment

Three anonymous comments support the 2018 Amendment, focusing broadly on the economic and international benefits of U.S. LNG exports.³⁰² The comments assert that LNG exports are beneficial for job creation in the United States, as well as for improving the U.S. trade balance. They assert that natural gas demand will continue to grow globally, and they encourage the United States to enhance its position as the world’s largest producer of oil and gas. They further state that exports can increase the accessibility of U.S. LNG for new and expanding natural gas markets. They discuss the potential for increased LNG demand in countries in Europe and Asia—noting, for example, “European concerns about becoming overly dependent on [natural] gas exports from Russia.”³⁰³ Finally, the comments urge DOE/FE to fast track approval of LNG exports.³⁰⁴

³⁰⁰ Jordan Cove Energy Project L.P., Answer to Protests, FE Docket No. 12-32-LNG (May 24, 2018) [hereinafter Jordan Cove Answer III].

³⁰¹ Jody McCaffree, Motion to File Answer to Intervention Notices, Comments and Protests Filed by May 9, 2018, FE Docket No. 12-32-LNG (May 24, 2018) [hereinafter McCaffree Answer].

³⁰² Comment from Anonymous, FE Docket No. 12-32-LNG (Apr. 24, 2018); Comment from Anonymous, FE Docket No. 12-32-LNG (Apr. 30, 2018); Comment from Anonymous, FE Docket No. 12-32-LNG (May 3, 2018).

³⁰³ Anonymous Comment at 2 (Apr. 30, 2018).

³⁰⁴ *Id.*

B. Comments Opposing the 2018 Amendment

DOE/FE received comments opposing the 2018 Amendment from Whale and Dolphin Conservation (WDC),³⁰⁵ Umpqua Watersheds, Inc. (Umpqua Watersheds),³⁰⁶ Nicholas Garcia,³⁰⁷ and Roben White.³⁰⁸

WDC, an organization dedicated to the conservation and protection of whales, dolphins, and their habitats worldwide, urges DOE/FE to deny the 2018 Amendment.³⁰⁹ WDC maintains that the construction of the proposed Pacific Connector Pipeline will have negative impacts on the critically-endangered Southern Resident killer whale (orca) population, as well as salmon habitat and river systems in Oregon. WDC expresses concern that increased ship traffic associated with Jordan Cove's proposed exports will increase the risk of acoustic and physical disturbance, ship strikes, and other harassment in the killer whales' habitat. WDC challenges the 2018 Amendment on grounds that it does not specify the additional number or increased size of vessels needed to accommodate Jordan Cove's proposed increase in export volumes.³¹⁰ WDC also asserts that the Project will have far-reaching impacts to salmon populations and habitat in Oregon—in part because the Project allegedly would require nearly 400 waterway crossings in Oregon, including in significant salmon rivers. WDC requests that the staff at FERC fully consider these ecosystem impacts.³¹¹

³⁰⁵ Comment of Whale & Dolphin Conservation, FE Docket No. 12-32-LNG (May 3, 2018).

³⁰⁶ Comment of Umpqua Watersheds, Inc., FE Docket No. 12-32-LNG (May 4, 2018).

³⁰⁷ Comment of Nicholas Garcia, FE Docket No. 12-32-LNG (May 9, 2018).

³⁰⁸ Comment and Protest of Roben White, FE Docket No. 12-32-LNG (May 8, 2018). Although this pleading was entitled "Comment and Protest," there was no certificate of service attached, as is required for protests. *See* 10 C.F.R. § 590.304(d). Therefore, we construe this filing as a comment only.

³⁰⁹ Comment of Whale & Dolphin Conservation at 1.

³¹⁰ *Id.* at 1-2.

³¹¹ *Id.* at 2-3.

Umpqua Watersheds likewise argues that the Project will cause a variety of negative environmental impacts, including accelerated climate change due to the increased extraction and burning of natural gas, damage to valuable watersheds, and the alleged certainty of an 8.5 to 9.5 rupture of the Cascadia Fault with a resulting tsunami.³¹² Roben White adds that the increased volume of LNG under the 2018 Amendment would increase damage to aquifers, forest ecosystems, and fisheries, as well as increase safety and health risks to the people of Oregon and the rest of the world. Mr. White also maintains that the increased volume of LNG exports is unfair to projects promoting alternative energy sources, such as solar and wind power.³¹³

The commenters also raise concerns about economic harms associated with the Jordan Cove Energy Project and the 2018 Amendment. Both Umpqua Watersheds and Mr. White contend that the proposed Pacific Connector Pipeline would unjustly intrude upon many landowners' property, solely for the economic benefit of a foreign company that (according to Mr. White) will invoke eminent domain on U.S. citizens.³¹⁴ Umpqua Watersheds asserts that U.S. natural gas should remain in the United States to maintain "current levels of prosperity."³¹⁵ Umpqua Watersheds argues that exporting U.S. LNG will increase both volatility to natural gas markets and natural gas prices domestically, to the detriment of domestic residential and industrial consumers.³¹⁶ Umpqua Watersheds also maintains that, by benefitting Canadian economic interests, Jordan Cove's proposed exports will not improve the negative trade balance between the United States and its "East Asian competitors."³¹⁷

³¹² Comment of Umpqua Watersheds, Inc. at 2-3.

³¹³ Comment of Roben White at 1.

³¹⁴ *Id.*

³¹⁵ Comment of Umpqua Watersheds, Inc. at 1.

³¹⁶ *Id.*

³¹⁷ *Id.* at 2.

Nicholas Garcia states that he is a landowner who would be affected by the construction of the proposed Pipeline—specifically, by the placement of an easement on his property that allegedly would make his property “virtually worthless” and impossible to sell.³¹⁸ Mr. Garcia also claims that possible leaks from the proposed Pipeline would threaten the Rogue River. Lastly, Mr. Garcia argues that exporting natural gas is unnecessary, and that Jordan Cove has no foreign buyers for its LNG.³¹⁹

C. Protests Opposing the 2018 Amendment

1. Jody McCaffree’s Protest

Jody McCaffree, already an intervenor in this proceeding,³²⁰ submitted a comment and protest in response to the 2018 Amendment.³²¹ This pleading is the latest in a series of oppositional submissions Ms. McCaffree has filed in this proceeding, both in her individual capacity and on behalf of Citizens Against LNG, Inc. (now called Citizens for Renewables, Inc.). Ms. McCaffree asks DOE/FE to give full consideration to these previous submissions and to deny the 2018 Amendment with prejudice.³²²

Ms. McCaffree contends that Jordan Cove’s request in the 2018 Amendment to increase the export of “hydro-fracked Canadian gas” is not in the public interest under NGA section 3(a).³²³ Ms. McCaffree points out that Jordan Cove’s parent entity, Pembina Pipeline Corporation, is a Canadian corporation. Citing various articles, Ms. McCaffree argues that Pembina desires only “to get Canadian hydrocarbons to the rest of the world” through a project

³¹⁸ Comment of Nicholas Garcia at 1.

³¹⁹ *Id.*

³²⁰ *See supra* § VII.G.

³²¹ Jody McCaffree, Comment and Protest of February 6, 2018 Amendment of Application of Jordan Cove Energy Project, L.P. for Long-Term Authorization to Export Liquefied Natural Gas to Non-Free Trade Agreement Nations, FE Docket No. 12-32-LNG (May 9, 2018) [hereinafter McCaffree Protest].

³²² McCaffree Protest at 4-6, 17.

³²³ *Id.* at 9.

based in the United States.³²⁴ She contends that this Project would be in “direct competition with U.S. Gulf Coast LNG terminals that are already in operation.”³²⁵

Ms. McCaffree argues that the increase in GHG emissions that would result from Jordan Cove’s proposed exports would not be in the public interest. Ms. McCaffree refers to a January 2018 report by Oil Change International (OCI Briefing Paper)³²⁶ which, she claims, found that the Jordan Cove Energy Project would result in more than 36.8 million metric tons of carbon dioxide equivalent (CO₂e) per year—making it the largest source of GHG emissions in Oregon by 2020.³²⁷ According to Ms. McCaffree, these emissions would be 15.4 times the emissions from Oregon’s last remaining coal-fired power plant, the Boardman Coal plant.³²⁸

Ms. McCaffree also disputes the assumption that LNG will replace coal in global markets.³²⁹ She contends that a peer-reviewed study published in 2017 found that LNG exports from the United States could raise GHG emissions in destination markets by triggering additional energy demand rather than displacing coal, and by diverting capital from renewable energy development.³³⁰ She further states that, according to the OCI Briefing Paper, new natural gas capacity “often displaces new wind and solar rather than old coal,” due to pricing.³³¹ She argues that such a result would not be in the public interest.

³²⁴ *Id.*

³²⁵ *Id.*

³²⁶ *Id.* at 10 (citing Oil Change Int’l, *Jordan Cove LNG and Pacific Connector Pipeline Greenhouse Gas Emissions Briefing* (Jan. 2018), available at: http://priceofoil.org/content/uploads/2018/01/JCEP_GHG_Final-Screen.pdf).

³²⁷ *Id.*

³²⁸ See McCaffree Protest at 10.

³²⁹ *Id.*

³³⁰ *Id.* (citing Alexander Q. Gilbert & Benjamin K. Sovacool, *U.S. Liquefied Natural Gas (LNG) Exports: Boom or Bust for the Global Climate?*, 141 *Energy* 1671-80 (2017), available at:

<https://www.sciencedirect.com/science/article/pii/S0360544217319564?via%3Dihub>).

³³¹ *Id.*

Turning to impacts from the transportation of LNG, Ms. McCaffree states that Jordan Cove's LNG ships and support vessels would contribute to a significant additional air pollution impact and an increase in the risk of LNG hazards to local residents in the North Bend/Coos Bay area.³³² Specifically, Ms. McCaffree claims that particulate emissions from the Project would increase respiratory and immune health problems in the local community, placing children and elders at special risk.³³³ Ms. McCaffree also contends that the increase in GHG emissions from the Project would increase climate impacts, droughts, and ocean acidification which, in turn, would damage shellfish industries and lead to job losses in Oregon and Washington.³³⁴

Next, Ms. McCaffree argues that Jordan Cove and Pacific Connector have not provided proof of market demand for the Jordan Cove Energy Project, which she states is the same problem that led to FERC denying their initial applications in 2016. Citing a 2017 World LNG Report from the International Gas Union, Ms. McCaffree maintains that the international market does not support the Project because there is a "glut" of LNG in world markets.³³⁵ Ms. McCaffree also suggests that the Project could involve existing contracts between Jordan Cove and a foreign government or person concerning natural gas that "may restrict or prevent" U.S. companies from operating in the same area.³³⁶

Finally, Ms. McCaffree asserts that, if the total volumes of LNG approved by DOE/FE for export are considered, a 2017 EIA report (discussing Australia's experience) indicates that

³³² *Id.* at 11.

³³³ *Id.*

³³⁴ McCaffree Protest at 11-12.

³³⁵ *Id.* at 13-14, Ex. 7.

³³⁶ *Id.* at 13.

exports of U.S. LNG will lead to shortages of natural gas and higher natural gas prices for domestic consumption in the United States, and will adversely impact manufacturing plants.³³⁷

2. Sierra Club's Protest

Sierra Club, already an intervenor in this proceeding,³³⁸ protests the 2018 Amendment on several grounds.³³⁹ Sierra Club renews its arguments, as set forth in its 2012 motion to intervene, protest, and comments, that Jordan Cove's Application is contrary to the public interest.³⁴⁰

First, Sierra Club contends that the Notice of 2018 Amendment, as published in the *Federal Register*, inappropriately limited the scope of public comment to issues bearing on Jordan Cove's request to increase the authorized export volume, while excluding comment on Jordan Cove's requested re-set of the deadline for commencement of non-FTA exports.³⁴¹ Sierra Club asserts that DOE may not extend the deadline for Jordan Cove's commencement of non-FTA export operations without re-visiting the Conditional Order in light of current facts—including domestic natural gas supply, consumption, and prices; global natural gas markets; domestic economic conditions; questions of international policy; and environmental impacts.³⁴²

Sierra Club further contends that, in evaluating Jordan Cove's Application, DOE must consider the cumulative impact of all previously issued export authorizations, as well as the likelihood of whether Jordan Cove will find market support for its proposed exports. According to Sierra Club, "Jordan Cove is unlikely to find market support" for its exports, in light of both:

³³⁷ *Id.* at 14-16.

³³⁸ *See supra* § VII.B.

³³⁹ Protest of Sierra Club, FE Docket No. 12-32-LNG (May 9, 2018) [hereinafter Sierra Club Protest].

³⁴⁰ *See supra* § VI.

³⁴¹ Sierra Club Protest at 1-2; *see supra* § II.A.5 (discussing Jordan Cove's request to amend the date by which it must commence the requested non-FTA exports).

³⁴² Sierra Club Protest at 2-4.

(i) the volume of exports previously authorized by DOE/FE, totaling 23 Bcf/d as of the date of Sierra Club’s protest; and (ii) the volume of LNG export capacity that already exists or is under construction in the United States, totaling 12 Bcf/d as of the date of Sierra Club’s protest (with more capacity approved by FERC).³⁴³ Sierra Club contends that DOE must consider the necessary market conditions that would need to exist to support Jordan Cove’s ability to conduct the proposed export operations.³⁴⁴ For example, Sierra Club cautions that the global LNG market might only be able to “support exports from Jordan Cove (on top of other already-approved U.S. exports) in the case of a severe global supply shock or surge in demand.”³⁴⁵

Sierra Club adds that DOE must consider the change in Jordan Cove’s ownership since 2012 in evaluating the public interest.³⁴⁶ Specifically, Sierra Club maintains that the positive impacts of the proposed exports on the domestic economy (as found in the Conditional Order) have changed in light of the fact that “Jordan Cove is now entirely owned by a foreign country”—whereas, in 2012, it was only 25% foreign-owned.³⁴⁷ Similarly, Sierra Club claims that much, if not all, of the feed gas to be exported from the Jordan Cove LNG Terminal now will be produced in Canada, rather than in the United States. According to Sierra Club, “[t]his foreign ownership distinguishes many of the conclusions in the macroeconomic analysis regarding purported benefits to the United States.”³⁴⁸ In addition, Sierra Club maintains that

³⁴³ *Id.* at 4-5.

³⁴⁴ *Id.*

³⁴⁵ *Id.* at 5.

³⁴⁶ Sierra Club Protest at 6; *see supra* § IV.A.

³⁴⁷ Sierra Club Protest at 6.

³⁴⁸ *Id.* (also arguing that, if DOE considers that benefits to foreign entities “indirectly benefit[] the United States,” DOE/FE must also consider adverse environmental impacts occurring outside of the United States, such as effects of climate change).

there is no support in the record for Jordan Cove’s assertion of local community support for its Application.³⁴⁹

3. The Evans Schaaf Family’s Protest and Comments

The Evans Schaaf Family (or the Family), already intervenors in this proceeding,³⁵⁰ submitted a joint protest and comments in opposition to the 2018 Amendment.³⁵¹ The Family also identifies other landowners that it states have signed on to its Protest, many of whom who also filed individual pleadings in this proceeding.³⁵²

The Family contends that the 2012 Application and the 2018 Amendment should be denied. As a starting point, the Family argues that it is inconsistent with the public interest for Jordan Cove to export LNG derived from natural gas produced in Canada.³⁵³ The Family asserts that it “now see[s] a very real possibility that a very high percentage or perhaps 100% of [the] gas may be Canadian.”³⁵⁴ In support of this statement, the Family quotes a sentence from Pacific Connector’s Resource Report dated September 2017, which states that “[e]ach meter station [at the Klamath Compressor Station] will be capable of receiving up to 100 percent of the Pipeline design capacity ...”³⁵⁵

The Family also points to several other factors to support its view that Jordan Cove will use Canadian-sourced natural gas export for most, if not all, of the requested LNG volume. The Family notes that the proposed Terminal, if constructed, would be the only LNG terminal located

³⁴⁹ *Id.*

³⁵⁰ *See supra* § VII.H.

³⁵¹ Evans Schaaf Family LLC, Ronald Schaaf, and Debra Evans, Protest and Comment, FE Docket No. 12-32-LNG (May 9, 2018) [hereinafter Evans Schaaf Family Protest].

³⁵² Evans Schaaf Family Protest at 1, Ex. T.

³⁵³ *See id.* at 1-2, 29.

³⁵⁴ *Id.* at 29.

³⁵⁵ *Id.* at 16 (quoting Pacific Connector Gas Pipeline, *Resource Report No. 1*, at 22 (Sept. 2017), available at: <https://www.jordancovelng.com/pdf/FERC-Filing-Public-Only/PCGP/2.-Volume-II-Public/2.1-RR1/2.1.2-PCGP-RR1-Text-Figures-App-A.1-F.1.pdf>).

on the West Coast of the United States, a location accessible for supplies that come from both Canada and the Rocky Mountains. The Family states that Jordan Cove’s parent company, Pembina Pipeline Corporation, has touted the opportunity to export Canadian natural gas through the proposed Terminal.³⁵⁶

The Family further contends that prevailing market conditions in the United States and Canada favor the export of Canadian production from the Jordan Cove LNG Terminal to markets in Asia. The Family cites, for example, the availability of ample supplies of Canadian natural gas, and the high demand for LNG in Asia (as compared to European markets).³⁵⁷ The Family also states that LNG exported from the West Coast can reach Asian markets in eight days, while LNG from U.S. terminals on the East Coast and the Gulf Coast will require 16 days to reach those markets.³⁵⁸ The Family argues that these market conditions “will work directly against U.S. domestically-sourced natural gas Gulf Coast projects”—thus giving Canadian interests a distinct advantage vis-à-vis the Jordan Cove LNG Terminal.³⁵⁹

Next, the Family argues that “increasing [Jordan Cove’s] export quantities absent any limits on the percentage of gas that would come from Canada undermines any assumption that such exports would provide a public benefit in the United States.”³⁶⁰ The Family states that Jordan Cove’s primary claimed benefits from LNG exports stem from assumptions of U.S.-sourced gas (from the Rocky Mountains), but that such benefits are “non-existent in the likely scenario that a vast majority, if not all, of the exported volume would be from Canada.”³⁶¹ The

³⁵⁶ *Id.* at 13-14 (citations omitted).

³⁵⁷ *See id.* at 11-13.

³⁵⁸ Evans Schaaf Family Protest at 11.

³⁵⁹ *Id.*; *see also id.* 13-15.

³⁶⁰ *Id.* at 1-2.

³⁶¹ *Id.* at 2.

Family further argues that determinations in earlier DOE studies and DOE/FE orders that exports yielded net public benefits were based on the assumption of U.S.-sourced natural gas, which would not apply in this proceeding.³⁶² The Family states that, although DOE’s studies projected that net public benefits would materialize in the form of improvements to the gross domestic product (GDP) from increased investments in the U.S. natural gas industry, no such investments will follow if Jordan Cove’s LNG exports are produced from Canadian natural gas.³⁶³ The Family also contends that DOE’s prior studies and orders found that the net public benefits were only marginal in nature,³⁶⁴ therefore, the introduction of any non-U.S. production in the mix of exported LNG is likely to significantly, if not entirely, eliminate any public benefits to the United States from the proposed exports.³⁶⁵ For this reason, the Family asserts that it is “misleading[.]” for Jordan Cove to rely on DOE/FE’s prior studies and AEO 2017 to support its public interest arguments.³⁶⁶

The Family also asserts that the Conditional Order “was premised on a speculative prediction of upstream and LNG terminal economic benefits based on 50% U.S.-sourced gas and 50% Canadian-sourced gas over the life of the project.”³⁶⁷ The Family suggests that this “presumption” is no longer supported by the facts.³⁶⁸

The Family states that, contrary to providing economic benefits to the United States, the Jordan Cove Energy Project will result in negative economic impacts for the following three

³⁶² *Id.* at 3-6. The Family refers to the 2014 EIA LNG Export Study, the 2015 LNG Export Study, and AEO 2017

³⁶³ *Id.* at 3, Ex. Q & Ex. R.

³⁶⁴ The Family points to modeling used in the 2015 LNG Export Study, arguing that substituting even a portion of Canadian-sourced gas into the model calls into question Jordan Cove’s claim of “net U.S. benefits.” Evans Schaaf Family Protest at 3, 23.

³⁶⁵ *Id.*

³⁶⁶ *Id.* at 5-6.

³⁶⁷ *Id.* at 7 (citing a 2012 Navigant Study commissioned by Jordan Cove).

³⁶⁸ *Id.*

reasons: (i) Jordan Cove’s exports will displace U.S.-sourced natural gas opportunities in the overall LNG global market, and thus, will negatively impact net U.S. economic benefit;³⁶⁹ (ii) because Jordan Cove has stated that the marketable natural gas liquids found in “wet” gas will be removed prior to the import of natural gas from Canada, the proposal will deprive United States natural gas producers of economic benefits associated with the marketing of natural gas liquids;³⁷⁰ and (iii) Jordan Cove will be competing with Gulf Coast projects that, by exporting U.S.-sourced natural gas, support the employment of U.S. workers.³⁷¹

Finally, the Family raises several environmental matters. The Family contends that, in evaluating Jordan Cove’s export proposal, DOE/FE has an obligation to compare Jordan Cove’s proposal to other proposals and to select the “least impactful” project—which it defines as a project that sources U.S. natural gas “from the most efficient basins and through existing brownfield facilities.”³⁷²

The Family also urges DOE/FE to weigh the “full life cycle greenhouse gas emissions” related to the approval of Jordan Cove’s Project.³⁷³ Like the McCaffree Protest (discussed *supra*), the Family refers to the OCI Briefing Paper to allege that exports of LNG from the Jordan Cove Terminal will release 36.8 million metric tons of CO₂e per year into the atmosphere. The Family also states “there is a growing amount of evidence that suggests that externalities of GHG-induced climate change will need to be internalized” through, for example, the social cost of carbon, if DOE/FE wishes to accurately assess the public interest under NGA

³⁶⁹ *Id.* at 6.

³⁷⁰ Evans Schaaf Family Protest at 8.

³⁷¹ *Id.* at 10.

³⁷² *Id.* at 18.

³⁷³ *Id.* at 19-20.

section 3(a).³⁷⁴ For these reasons, the Evans Schaaf Family asks DOE/FE to reject Jordan Cove’s Application and 2018 Amendment, and to rescind the Conditional Order.³⁷⁵

4. The McLaughlins’ Protest and Comment

The McLaughlins, already intervenors in this proceeding,³⁷⁶ reiterate their opposition to the Jordan Cove Energy Project.³⁷⁷ The McLaughlins contend that their property would be subject to eminent domain if the Pacific Connector Pipeline is constructed.³⁷⁸ In addition to making the same arguments raised by the group of landowners who oppose the 2018 Amendment (discussed *infra*), the McLaughlins assert that, as U.S. citizens, they “are entitled to assurances and security that [their] private property rights will not be sacrificed in order to facilitate the profit of a private Canadian corporation over [their] wellbeing as Americans.”³⁷⁹

D. Landowners’ Notice of Intervention, Comments, and Protests

Of the 29 new motions to intervene (or “notices of intervention”),³⁸⁰ comments, and protests filed in response to the 2018 Amendment, 27 such pleadings were filed by landowners who oppose the 2018 Amendment using a similar format.³⁸¹ In addition, Citizens for Renewables, Inc. (formerly known as Citizens Against LNG) filed an amended notice of

³⁷⁴ *Id.* at 20.

³⁷⁵ *Id.* at 29-30.

³⁷⁶ *See supra* § VII.C.

³⁷⁷ Craig and Stacey McLaughlin, Protest and Comment, FE Docket No. 12-32-LNG (May 9, 2018).

³⁷⁸ *Id.* at 3-4.

³⁷⁹ *Id.* at 3.

³⁸⁰ As explained above, DOE/FE will construe each pleading entitled a “notice of intervention” as a motion to intervene.

³⁸¹ The landowners who filed a Notice of Intervention, Comment, and Protest are: Barbara Brown; Pamela Brown Ordway; John Clarke Family – Oregon Trust; Russell Lyon; Reggie and Renee Alvey; Brad Royal; Landowners United and Clarence Adams; Kenneth and Kristine Cates; Curtis and Melissa Pallin; James Dahlman; James and Archina Davenport; Larry and Sylvia Mangan; James R. Coonan, C2 Cattle Co.; Keri Wu; Linda Craig; Lorraine Spurlock; Nikki Amos; Bob Barker; Judy Faye Whitson; Marcella and Alan Laudani; Juanita Saul; Bill Gow, Gow Ranch; Chris Press; Alisa Acosta; William McKinley; Gerald and Robin Wisdom; and Oregon Women’s Land Trust. Although Landowners United is already an intervenor in this proceeding, it filed a Motion to Intervene, Protest, and Comment with Clarence Adams in this proceeding on May 9, 2018. Additionally, Oregon Women’s Land Trust is already an intervenor in this proceeding, but it filed a new Notice of Intervention, Comment, and Protest on May 9, 2018.

intervention, comment, and protest that follows the same format.³⁸² We summarize these pleadings below.

In support of the motions to intervene, each of the landowners identifies their unique property and personal interests that would be affected by the Jordan Cove Energy Project and, specifically, the construction and operation of the Pacific Connector Pipeline. The landowners argue that the Pipeline poses current and future harm to their property interests—including economic harms and environmental and safety risks. They maintain that, since the viability of the Pipeline is linked to Jordan Cove’s export proposal, a denial of Jordan Cove’s requested authorization would negate the threat to their property interests.

The landowners express particular concern that, should FERC authorize the proposed Pipeline, their property will be subject to eminent domain. Alicia Acosta, for example, states that 40 acres of her property would be subject to “the use of eminent domain by a foreign commercial venture.”³⁸³

The landowners also allege the Pipeline would be “devastating” to their respective property holdings in several ways. Ms. Acosta asserts, for example, that the impact of a temporary construction easement would eliminate approximately 200 large trees and ruin irrigated fields on her property.³⁸⁴ She states that the location of the Pipeline would negatively impact an active airport and runway, destroy a grove of walnut trees, destroy a fruit orchard, impose substantial restrictions on their own management activities, and cause disturbances from right-of-way management activities supporting the Pipeline, among other harms to her

³⁸² Citizens for Renewables, Inc., Amended Notice of Intervention, Comment, and Protest, FE Docket No. 12-32-LNG (May 9, 2018).

³⁸³ Alicia Acosta, Notice of Intervention, Comment, and Protest, FE Docket No. 12-32-LNG, at 2 (May 9, 2018).

³⁸⁴ *Id.*

property.³⁸⁵ Likewise, Barbara L. Brown states that the proposed temporary and permanent right-of-way would cross two fish-bearing waterways and require the removal of old hardwood trees on her property, while the planned route of the Pipeline means that her family cemetery “is potentially in the blast zone of a pipeline explosion.”³⁸⁶

The landowners also allege a variety of environmental and safety concerns unique to their property. Chris Press is concerned that the pipeline route will run along a ridge of volcanic remains where there is a substantial risk that an earthquake will cause trees to fall on pipeline block valves, rendering the valves inoperable and unable to stop the flow of gas in an emergency. Mr. Press is also concerned that heavy logging of the ridge area could result in a devastating accident involving the proposed Pipeline.³⁸⁷

Landowners United and Clarence Adams (filing jointly) assert that the volumetric increase in LNG exports requested in the 2018 Amendment will require an increase in the pressure of natural gas in the Pipeline from 1480 pounds per square inch (psi) up to 1900 psi.³⁸⁸ They argue that this increased pressure raises safety concerns, given that proposed Pipeline will pass within 200 feet or less of family residences and will be built using “the lowest construction/safety standards allowed.”³⁸⁹ They further assert that the various safety issues are exacerbated by the terrain of the Pipeline route, which includes 70% slopes in some areas. They allege that the cleared ground for the Pipeline’s right-of way will create a substantial risk of

³⁸⁵ *Id.*

³⁸⁶ Barbara L. Brown, Notice of Intervention, Comment, and Protest, FE Docket No. 12-32-LNG, at 2 (May 7, 2018).

³⁸⁷ Chris Press, Notice of Intervention, Comment, and Protest, FE Docket No. 12-32-LNG, at 2 (May 8, 2018).

³⁸⁸ Landowners United and Clarence Adams, Notice of Intervention, Comment, and Protest, FE Docket No. 12-32-LNG, at 1 (May 8, 2018) [hereinafter Landowners United and Adams Mot.].

³⁸⁹ *Id.* at 1-2.

landslides that will threaten homes located at the bottom of the slopes.³⁹⁰ These property and safety concerns are representative of the concerns raised in other landowner pleadings.

Next, the landowners argue that Jordan Cove’s Application and 2018 Amendment are not in the public interest and are not supported factually.³⁹¹ They assert that the “premise” of the Conditional Order—that 50% of the natural gas to be exported through the Jordan Cove LNG Terminal will be U.S.-sourced natural gas—is no longer valid. They further state that Jordan Cove’s parent company, Pembina Pipeline Corporation, “controls large quantities of Canadian gas and has openly stated [it] will export that gas through Jordan Cove.”³⁹² For these reasons, the landowners argue that the economic analyses supporting the Conditional Order are invalid because “they do not consider that effects of exporting Canadian gas through U.S. ports benefiting Canada over U.S.-sourced gas interests,” nor do they consider “the effects of international trading on domestic gas prices.”³⁹³ The landowners also point out that market dynamics have changed dramatically since DOE’s 2015 LNG Export Study was issued.³⁹⁴

The landowners allege the following additional impacts if Canadian natural gas is exported through the Jordan Cove LNG Terminal: (i) there will be no benefit to the U.S. trade balance, (ii) there will be negative impacts to American jobs and U.S. gross domestic product; (iii) there will be competition for U.S. LNG plants, and (iv) the use of eminent domain authority by a Canadian company will “subvert American private property rights.”³⁹⁵

³⁹⁰ *Id.*

³⁹¹ *See, e.g.*, Reggie and Renee Alvey, Notice of Intervention Comment and Protest, FE Docket No. 12-32-LNG, at 3 (May 9, 2018).

³⁹² *See, e.g.*, Kenneth and Kristine Cates, Notice of Intervention Comment and Protest, FE Docket No. 12-32-LNG, at 3 (May 9, 2018).

³⁹³ *Id.*

³⁹⁴ *Id.*

³⁹⁵ *See, e.g.*, Marcella and Alan Laudani, Notice of Intervention Comment and Protest, FE Docket No. 12-32-LNG, at 3 (May 9, 2018).

The landowners ask DOE/FE to deny Jordan Cove’s request to re-set the seven-year commencement date for its exports set forth in the Conditional Order.³⁹⁶ According to the landowners, there is “no sufficient basis to prolong the harm and uncertainty” associated with the Project “for the benefit of foreign interests,” and any such extension in the commencement date would constitute a “taking” under the Fifth Amendment to the U.S. Constitution.³⁹⁷

The landowners also contend that, contrary to assertions made by Jordan Cove, the Project will not provide natural gas through the Grants Pass Lateral for local consumption.³⁹⁸ They maintain that, despite Jordan Cove’s representations that natural gas will be provided to a small community along the pipeline route, they believe that Jordan Cove “will merely provide a tap,” but will not develop the distribution system needed to use the natural gas.³⁹⁹

Finally, several landowners request that DOE/FE, in addition to denying the Application and the 2018 Amendment, take other action such as rescinding the Conditional Order,⁴⁰⁰ and suspending the Application and declaring a moratorium on approvals for natural gas exports until DOE/FE can analyze the effects of exporting Canadian natural gas.⁴⁰¹

³⁹⁶ See *supra* § II.A.5.

³⁹⁷ See, e.g., Juanita Saul, Notice of Intervention Comment and Protest, FE Docket No. 12-32-LNG, at 3 (May 9, 2018).

³⁹⁸ Northwest Pipeline GP’s “Grants Pass Lateral” is a 131-mile long pipeline system extending from Eugene to Grants Pass, Oregon. We take administrative notice that Pacific Connector previously represented that the Pipeline, in addition to delivering natural gas to the Jordan Cove LNG Terminal, would deliver natural gas in Southern Oregon through an interconnection with the Grants Pass Lateral. See 2016 FERC Order at ¶ 10.

³⁹⁹ See, e.g., Pamela Brown Ordway, Notice of Intervention Comment and Protest, FE Docket No. 12-32-LNG, at 3 (May 7, 2018).

⁴⁰⁰ See, e.g., Alisa R. Acosta, Notice of Intervention Comment and Protest, at 4.

⁴⁰¹ Citizens for Renewables Amended Mot. at 3.

E. Confederated Tribes of the Coos, Lower Umpqua, and Siuslaw Indians’ Motion to Intervene and Comments

The Confederated Tribes of the Coos, Lower Umpqua, and Siuslaw Indians (the Tribe) submitted a motion to intervene and comments in response to the 2018 Amendment.⁴⁰² In support of its motion to intervene, the Tribe states that it is a federally recognized Indian tribe with headquarters in Coos Bay, Oregon. It further states that Jordan Cove’s proposed site, the Coos River Estuary, and the surrounding areas lie squarely within its aboriginal territory.⁴⁰³ According to the Tribe, approval of the Jordan Cove Energy Project will directly impact the Tribe’s numerous cultural resources, as evidenced by the Tribe’s pursuit of a Traditional Cultural Property determination for Coos Bay under the National Historic Preservation Act (NHPA), Pub. L. No. 89-665 (1966) (codified as amended at 16 U.S.C. §§ 470 *et seq.*).⁴⁰⁴

The Tribe contends that the cumulative impacts of the 2018 Amendment and the proposed Terminal trigger protections under various federal laws. In particular, the Tribe asserts that the 2018 Amendment is subject to review under section 106 of NHPA, which expressly affords the Tribe the right to participate in the assessment of the Project’s impacts on NHPA-listed or eligible resources.⁴⁰⁵

Additionally, the Tribe states that DOE’s policy, set forth in the Department of Energy American Indian and Alaska Natives Tribal Government Policy (Jan. 20, 2006), recognizes DOE’s trust responsibility and consultation obligation to the Tribe.⁴⁰⁶

⁴⁰² Confederated Tribes of the Coos, Lower Umpqua, and Siuslaw Indians, Motion to Intervene and Comments, FE Docket No. 12-32-LNG (May 9, 2018) [hereinafter Tribe Mot.].

⁴⁰³ *Id.* at 2.

⁴⁰⁴ *Id.*

⁴⁰⁵ *Id.* at 3 (citing 36 C.F.R. Part 800 and 43 C.F.R. § 10).

⁴⁰⁶ *Id.* at 4-6.

Addressing the 2018 Amendment, the Tribe asserts that DOE has an obligation to consult with the Tribe and a trust obligation to ensure that the Tribe's members are not adversely affected by DOE's action on the Amendment. The Tribe requests "full, fair, and meaningful government-to-government consultation" concerning the Project's impacts on tribal cultural resources and other tribal interests.⁴⁰⁷ The Tribe states that DOE has a duty under NEPA to adequately consider the cumulative impacts of the proposed Amendment, together with other proposed LNG facilities before FERC and other fossil fuel proposals in the Pacific Northwest.⁴⁰⁸ The cumulative impacts identified by the Tribe include, for example, impacts on cultural and archaeological resources, impacts to tribal health and economy, increase in vessel traffic, impacts to tribal fishermen, and GHG emissions.⁴⁰⁹

F. Answer of Jordan Cove to Protests of 2018 Amendment

Jordan Cove urges DOE/FE to reject the arguments contained in the various protests to the 2018 Amendment. Jordan Cove submits that its Application, as submitted in 2012, clearly indicated that the natural gas destined for export from its proposed Terminal could come either from U.S. Rocky Mountain production or Canadian production. Furthermore, irrespective of whether the LNG to be exported from the proposed Terminal originates from Canadian or U.S. natural gas production, Jordan Cove maintains that the United States economy will benefit in terms of both jobs and infrastructure investment.⁴¹⁰

Jordan Cove asserts that DOE/FE considered the possibility that the proposed exports would include Canadian production when it determined in the Conditional Order that the exports

⁴⁰⁷ *Id.* at 6.

⁴⁰⁸ Tribe Mot. at 7.

⁴⁰⁹ *Id.* at 7-8.

⁴¹⁰ Jordan Cove Answer III at 3.

were consistent with the public interest. The basis for this determination, according to Jordan Cove, is the fact that the 2012 NERA Study accounted for imports of Canadian pipeline gas.⁴¹¹ Further, contrary to the implications drawn by some of the protestors, Jordan Cove maintains that neither it nor its parent company, Pembina, nor any of Pembina's subsidiaries are likely to play a significant role in determining the source of feed gas that reaches the Terminal. Jordan Cove states that Pembina is not a natural gas producer, and that neither Pembina nor any of its subsidiaries own any natural gas reserves. Although Jordan Cove acknowledges that it likely will obtain a small amount of feed gas to support liquefaction operations, the source of the natural gas feeding the Terminal will be determined largely by Jordan Cove's customers based on prevailing market conditions. This, according to Jordan Cove, is the consequence of its business model, which is based on tolling agreements wherein the customer provides its own natural gas supply and acquires its own upstream gas pipeline transportation capacity.⁴¹²

Even assuming that most of the LNG exported from the Terminal is the product of Canadian natural gas production, Jordan Cove maintains that the United States will realize economic benefits. Jordan Cove asserts that Jordan Cove and Pacific Connector will invest a total of \$9.8 billion to construct the Jordan Cove Energy Project, \$2.88 billion of that total will be spent on local Oregon businesses. In addition, Jordan Cove states that, during construction of the Project, Oregon resident workers will receive approximately \$1.5 billion and non-resident workers will receive approximately \$650 million. Jordan Cove asserts that the Project will employ approximately 200 employees for operations, and those employees will receive approximately \$44.8 million. Jordan Cove further states that the Terminal, its supporting marine operations, and office will spend approximately \$99.1 million annually for goods and services—

⁴¹¹ *Id.* at 4 (citing Conditional Order at 44).

⁴¹² *Id.* at 4-5.

thereby supporting an additional 1,567 jobs in Oregon, \$95.8 million in additional labor income, and \$235.2 million in additional output for Oregon businesses. Jordan Cove submits that it is better for the United States to capture the above-listed benefits, even if Canada is the source of the natural gas for the proposed exports.⁴¹³ Jordan Cove further observes that the export of Canadian-sourced natural gas will benefit U.S. consumers because those exports will not lead to increases in domestic gas prices in the United States.⁴¹⁴

Jordan Cove also asserts that more recent data support a conclusion that its proposed exports will generate net economic benefits in the United States. Specifically, Jordan Cove maintains that the net benefits from LNG exports identified in the 2012 LNG Export Study, the 2014 EIA LNG Export Study, and the 2015 LNG Export Study are reinforced by EIA's AEO 2018.⁴¹⁵ Jordan Cove maintains that AEO 2018 shows that LNG exports can occur "without triggering the primary cost of LNG exports—increased gas costs for U.S. consumers."⁴¹⁶

Although Jordan Cove acknowledges that it has competitive advantages in being able to serve major markets in Asia from a West Coast terminal and from a mix of low-cost Rocky Mountain and Canadian production, it urges DOE/FE to continue to apply a market-oriented policy of not picking economic winners and losers among companies wishing to export LNG.⁴¹⁷

Jordan Cove also responds to the protests to the 2018 Amendment regarding the environmental impacts of the proposed Terminal and Pipeline. First, Jordan Cove contests the claims in the McCaffree and Evans Schaaf Family Protests that the proposed exports will result in the release over 36.8 million mtpa of CO₂e per year into the atmosphere. As described above,

⁴¹³ *Id.* at 5-6.

⁴¹⁴ *Id.* at 6.

⁴¹⁵ *Id.* at 7-9; *see supra* § II.B.3 (discussing AEO 2018).

⁴¹⁶ Jordan Cove Answer III at 8.

⁴¹⁷ *Id.* at 9.

this estimate of CO₂e emissions is based on findings contained in the OCI Briefing Paper. Jordan Cove maintains that the OCI estimate is “unreasonably high because it ignores net reductions in GHGs attributable to displacing other sources of energy to meet the same needs, and relies on several biased assumptions that conflict with customary practices” of the U.S. Environmental Protection Agency and other agencies to estimate GHG emissions.⁴¹⁸

Jordan Cove identifies several alleged flaws in the OCI Briefing Paper. Jordan Cove states that OCI used a 20-year instead of the internationally accepted standard 100-year global warming potential (GWP) timeframe to estimate the CO₂e associated with methane leaks from gas production for the Project. Jordan Cove notes that 10.9 of the OCI’s projected 36.8 mtpa of GHG emissions is associated with these methane leaks. By using a 20-year GWP timeframe, according to Jordan Cove, the OCI Briefing Paper greatly increased the projected emissions due to methane leaks. Jordan Cove states that OCI assumes that natural gas produced and shipped via the proposed Terminal will leak at a rate that is nearly twice the national average reported by the EPA. Furthermore, Jordan Cove states that OCI incorrectly assumes that the exported LNG that is combusted as natural gas for energy production will not result in any emissions reductions as a result of displacing other sources of energy and that all of the LNG exported from the Terminal will be combusted for energy production.⁴¹⁹

Jordan Cove rejects Ms. McCaffree’s comparison of emissions projected in the OCI Briefing Paper for the Jordan Cove Energy Project to emissions from the Boardman Coal Plant. Ms. McCaffree maintains (as described in *supra* § VIII.C.1) that the Project will emit 15.4 times the emissions of the Boardman Coal Plant. However, Jordan Cove contends that the comparison is flawed because the estimate for the Terminal: (i) purports to include the entire life cycle of the

⁴¹⁸ *Id.*

⁴¹⁹ *Id.* at 10-12.

natural gas delivered to the Terminal and subsequently exported as LNG, whereas the estimate for the Boardman Coal Plant only includes actual emissions from the plant itself, and (ii) assumes that the Terminal is running at full capacity, while the Boardman Coal Plant's emissions rate reflects actual emissions for the plant (which generally runs at less than full capacity).⁴²⁰

Jordan Cove further contends that the protestors have misconstrued the findings in the LCA GHG Report.⁴²¹ In particular, Jordan Cove rejects Ms. McCaffree's claim that the LCA GHG Report found that exporting LNG was more harmful, from a GHG perspective, than China's construction and operation of a new coal-fired power plant. In fact, according to Jordan Cove, the LCA GHG Report found that exporting LNG from the United States for power production in European and Asian markets will not increase GHGs as compared to regional coal extraction and consumption for power production. Jordan Cove maintains that the U.S. Court of Appeals for the District of Columbia specifically noted this finding of the LCA GHG Report when it upheld the agency in the *Sierra Club I* decision.⁴²²

Jordan Cove additionally disputes Ms. McCaffree's reliance on a 2017 study published in the academic journal *Energy*.⁴²³ For example, Jordan Cove asserts that Ms. McCaffree's comments ignore the article's observation that additional energy demand is only one among an "extremely wide range of potential outcomes" the study produces.⁴²⁴

In response to Sierra Club's protest, Jordan Cove addresses questions regarding the legal authority of DOE/FE to grant the requests in the 2018 Amendment. Jordan Cove contests Sierra Club's argument that, because the Notice of the 2018 Amendment did not specifically ask for

⁴²⁰ *Id.* at 13.

⁴²¹ *See supra* §§ II.C (discussing the 2014 LCA GHG Report and the 2019 LCA GHG Update).

⁴²² *Id.* at 14; *see also Sierra Club I*, discussed *supra* § II.D.

⁴²³ *Id.* at 15; *see supra* § VIII.C.1.

⁴²⁴ Jordan Cove Answer III at 15.

comments on the request to extend the deadline, DOE/FE does not have legal authority to grant the amendment.⁴²⁵ Jordan Cove counters that the Notice of the 2018 Amendment described the request to extend the commencement date in detail, included an electronic link to the 2018 Amendment, and solicited public comment on the 2018 Amendment without foreclosing comment on any particular aspect of the filing. In light of these circumstances, Jordan Cove contends that DOE/FE has the authority to grant the requested extension.⁴²⁶

Jordan Cove also argues that DOE/FE does not need to consider environmental impacts of the Jordan Cove Energy Project as part of its review of the 2018 Amendment. Jordan Cove observes that FERC, not DOE, has exclusive jurisdiction over the siting, construction, and operation of the Terminal, and FERC likewise is the lead agency for conducting an environmental review of the Project under NEPA. Consequently, according to Jordan Cove, the environmental issues associated with the Project will be decided in the related FERC proceedings.⁴²⁷ Further, although a large number of protestors have raised concerns over the use of eminent domain authority in connection with the Jordan Cove Energy Project, Jordan Cove points out that DOE/FE has no power to grant eminent domain authority when it acts on a LNG export application under NGA section 3. Consequently, Jordan Cove asserts that eminent domain concerns are not relevant to this proceeding.⁴²⁸

Lastly, Jordan Cove disputes the assertions made by some protestors that the conditional nature of Order No. 3413 and the termination of the FERC proceedings in Docket Nos. 13-483-000 and 13-492-000 require DOE/FE to abandon the current proceeding. Jordan Cove submits that DOE/FE is authorized to participate as a cooperating agency in the environmental review of

⁴²⁵ *Id.* at 17-19; *see supra* § VIII.C.2.

⁴²⁶ Jordan Cove Answer III at 17-19.

⁴²⁷ *Id.* at 19.

⁴²⁸ *Id.* at 19-20.

the Jordan Cove Energy Project conducted by FERC in the current proceedings (FERC Docket Nos. 17-494-000 and 17-495-000) and to use the results of that environmental review to meet its NEPA obligations in this proceeding.⁴²⁹

G. Jody McCaffree’s Motion to File Answer to Interventions, Comments, and Protests

Ms. McCaffree seeks leave to file an answer to the motions to intervene, comments, and protests submitted in response to the 2018 Amendment. Ms. McCaffree submits that there is good cause for DOE/FE to grant her request.⁴³⁰ Ms. McCaffree makes various requests related to the filing of documents in this proceeding, including asking DOE/FE to allow service by electric mail in this proceeding under 10 C.F.R. § 590.107.⁴³¹

IX. FERC PROCEEDING

A. FERC’s Pre-Filing Procedures

Authorizations issued by FERC permitting the siting, construction, and operation of LNG export terminals are reviewed under NGA section 3(a) and (e), 15 U.S.C. § 717b(a), (e). FERC’s approval process for such an application consists of a mandatory pre-filing process during which the environmental review required by NEPA commences,⁴³² and a formal application process that starts no sooner than 180 days after issuance of a notice that the pre-filing process has commenced.⁴³³

On January 23, 2017, Jordan Cove and Pacific Connector filed a request to implement FERC’s pre-filing process for the Jordan Cove Energy Project.⁴³⁴ FERC granted this request on

⁴²⁹ *Id.* at 20.

⁴³⁰ McCaffree Mot. to Answer at 1.

⁴³¹ *See infra* § X.A.

⁴³² 18 C.F.R. § 157.21.

⁴³³ 18 C.F.R. § 157.21(a)(2).

⁴³⁴ Final EIS at 1-15.

February 10, 2017, and established pre-filing Docket No. PF17-4-000 to place information related to the Project into the public record.⁴³⁵ On June 9, 2017, FERC issued a Notice of Intent to Prepare an Environmental Impact Statement for the Project.⁴³⁶ DOE participated as a cooperating agency in FERC's environmental review.⁴³⁷

B. FERC's Environmental Review

On September 21, 2017, Jordan Cove filed an application with FERC under NGA section 3 to site, construct, and operate the Jordan Cove LNG Terminal.⁴³⁸ Pacific Connector also filed a request for a certificate of public convenience and necessity under NGA section 7(c) to construct and operate the associated Pacific Connector Pipeline.⁴³⁹ FERC assigned Docket No. CP17-495-000 to Jordan Cove's proposal and Docket No. CP17-494-000 to Pacific Connector's proposal.⁴⁴⁰

In compliance with NEPA, FERC staff issued a Notice of Availability of the Draft Environmental Impact Statement on March 29, 2019, and placed the draft EIS into the public record.⁴⁴¹ On November 15, 2019, FERC staff issued the final EIS for the Jordan Cove Energy Project.⁴⁴² The final EIS responded to comments received on the draft EIS, and addressed

⁴³⁵ Fed. Energy Regulatory Comm'n, *Jordan Cove Energy Project L.P. & Pacific Connector Gas Pipeline LP*, Approval of Pre-Filing Request, FERC Docket No. PF17-4-000 (Feb. 10, 2017); Final EIS at 1-16.

⁴³⁶ See Fed. Energy Regulatory Comm'n, *Jordan Cove Energy Project, L.P., Pacific Connector Gas Pipeline, L.P.*; Notice of Intent to Prepare an Environmental Impact Statement for the Planned Jordan Cove LNG Terminal and Pacific Connector Pipeline Projects, Request for Comments on Environmental Issues, and Notice of Public Scoping Sessions, FERC Docket No. PF17-4-000, 82 Fed. Reg. 27,473 (June 15, 2017).

⁴³⁷ FERC Order at ¶ 152.

⁴³⁸ *Jordan Cove Energy Project L.P.*, Application for Authorizations Under Section 3 of the Natural Gas Act, FERC Docket No. CP17-495-000 (Sept. 21, 2017).

⁴³⁹ *Pacific Connector Gas Pipeline, LP*, Abbreviated Application for Certificate of Public Convenience and Necessity and Related Authorizations, FERC Docket No. CP17-494-000 (Sept. 21, 2017).

⁴⁴⁰ FERC Order at ¶¶ 1-2.

⁴⁴¹ Fed. Energy Regulatory Comm'n, *Jordan Cove Energy Project LP, Pacific Connector Gas Pipeline L.P.*; Notice of Availability of the Draft Environmental Impact Statement for the Proposed Jordan Cove Energy Project, 84 Fed. Reg. 13,648 (Apr. 5, 2019); see also FERC Order at ¶ 153.

⁴⁴² Fed. Energy Regulatory Comm'n, *Jordan Cove Energy Project LP; Pacific Connector Gas Pipeline L.P.*; Notice of Availability of the Final Environmental Impact Statement for the Proposed Jordan Cove Energy Project, 84 Fed. Reg. 64,315 (Nov. 21, 2019); see also FERC Order ¶ 154.

numerous potential impacts of the Project, including (but not limited to) water resources and wetlands, geological resources, air quality and noise, and cumulative impacts.⁴⁴³

Based on its environmental analysis, FERC staff concluded that “constructing and operating the Project would result in temporary, long-term, and permanent impacts on the environment.”⁴⁴⁴ As described in the final EIS, however, “[m]any of these impacts would not be significant or would be reduced to less than significant levels with the implementation of proposed and/or recommended impact avoidance, minimization, and mitigation measures.”⁴⁴⁵ The final EIS contained 132 site-specific environmental mitigation measures, which FERC staff recommended that FERC attach as conditions to any authorization of the Project.⁴⁴⁶

C. FERC’s Order Granting Authorization

On March 19, 2020, FERC issued its Order authorizing Jordan Cove to site, construct, and operate the Jordan Cove LNG Terminal with a liquefaction capacity up to 7.8 mtpa of LNG for export.⁴⁴⁷ FERC also authorized Pacific Connector to construct and operate the Pacific Connector Pipeline.⁴⁴⁸

In granting these authorizations, FERC cited the final EIS in stating that the Jordan Cove LNG Terminal would result in “temporary, long-term, and permanent impacts on the environment, some of which would be significant.”⁴⁴⁹ FERC further stated that “constructing the Jordan Cove LNG Terminal would temporarily but significantly impact housing in Coos Bay, and constructing and operating the terminal would permanently and significantly impact the

⁴⁴³ See final EIS at ES-4 to ES-7; FERC Order at ¶ 154.

⁴⁴⁴ Final EIS at ES-6.

⁴⁴⁵ *Id.*; see also *id.* at 1; FERC Order at ¶ 155.

⁴⁴⁶ Final EIS at ES-7; see also Final EIS at 5-12 to 5-34 (list of mitigation measures).

⁴⁴⁷ FERC Order at ¶¶ 1, 7, 181 and Ordering Para. A.

⁴⁴⁸ *Id.* at Ordering Para. C.

⁴⁴⁹ *Id.* at ¶ 40.

visual character of Coos Bay.”⁴⁵⁰ FERC concluded, however, that “most impacts would be reduced to less-than-significant levels if the projects are constructed and operated in accordance with applicable laws and regulations and the environmental mitigation measures recommended in the final EIS and adopted by this order.”⁴⁵¹ FERC also pointed to the economic and public benefits from the proposal, “including benefits to the local and regional economy and the provision of new market access for natural gas producers.”⁴⁵² On this basis, FERC found that the arguments in opposition to the Jordan Cove LNG Terminal did not overcome the presumption that the Terminal was consistent with the public interest under NGA section 3.⁴⁵³ FERC adopted the 132 mitigation measures recommended in the final EIS as environmental conditions of the Order (with some slight modifications), and added one condition for a total of 133 environmental conditions set forth in the Appendix to the Order.⁴⁵⁴

FERC reviewed and addressed each of the major environmental issues addressed in the final EIS.⁴⁵⁵ In addressing greenhouse gas emissions (GHGs), for example, FERC pointed to the estimate in the final EIS that operation of the Jordan Cove Energy Project (*i.e.*, both the proposed Terminal and the Pipeline) may result in emissions of up to 2,145,387 metric tons per year of carbon dioxide equivalent (CO₂e).⁴⁵⁶ FERC further stated that the direct and indirect

⁴⁵⁰ *Id.*

⁴⁵¹ *Id.*; *see also id.* at ¶ 155.

⁴⁵² *Id.* at ¶ 40.

⁴⁵³ FERC Order at ¶ 40.

⁴⁵⁴ FERC added Environmental Condition 39, requiring that, prior to receiving LNG carriers, Jordan Cove must file an affirmative statement indicating that it has signed and executed a Letter of Agreement with the Southwest Oregon Regional Airport as stipulated by the Federal Aviation Authority’s determination for temporary structures. *See id.* at ¶ 247.

⁴⁵⁵ *See generally id.* at ¶¶ 193-272.

⁴⁵⁶ *Id.* at ¶ 259 (citing final EIS at Tables 4.12.1.3-1, 4.12.1.3-2, 4.12.1.4-1, and 4.12.1.4-2).

“operational emissions of these facilities could potentially increase annual CO₂e emissions based on the 2017 levels by approximately 0.0374 percent at the national level.”⁴⁵⁷

FERC acknowledged the finding in the final EIS that “the quantified GHG emissions from the construction and operation of the projects will contribute incrementally to climate change.”⁴⁵⁸ FERC stated, however, that it has “neither the tools nor the expertise to determine whether project-related GHG emissions will have a significant impact on climate change and any potential resulting effects.”⁴⁵⁹ Therefore, FERC concluded that “it could not determine whether a project’s contribution to climate change would be significant.”⁴⁶⁰

Additionally, FERC considered the cumulative impacts of the Jordan Cove Energy Project with other projects or actions in the same geographic and temporal scope.⁴⁶¹ In the final EIS, FERC staff considered: (i) projects that could potentially contribute to cumulative impacts, such as U.S. Army Corps of Engineers permits and mitigation projects, and (ii) a variety of other potential impacts, including non-jurisdictional utilities at the terminal site, the use of LNG carriers, and the potential removal of four dams on the Klamath River.⁴⁶² Citing this analysis, FERC stated that, for the majority of resources where a level of impact could be ascertained, the Project’s contribution to cumulative impacts on affected resources “would not be significant.”⁴⁶³ Likewise, the potential cumulative impacts of the Project and other projects considered would not be significant.⁴⁶⁴ FERC concluded, however, that the Jordan Cove LNG Terminal and the

⁴⁵⁷ *Id.* (citing, e.g., EPA, Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2017, at ES-6 to ES-8 (2019)).

⁴⁵⁸ *Id.* at ¶ 262 (citing final EIS at 4-850).

⁴⁵⁹ *Id.* (citing *Rio Grande LNG, LLC*, 170 FERC ¶ 61,046, at ¶ 108 (2020)).

⁴⁶⁰ *Id.*

⁴⁶¹ *Id.* at ¶ 267 (citing final EIS 4-822 to 4-852).

⁴⁶² FERC Order at ¶ 267 (citing final EIS at 4-825, 4-828).

⁴⁶³ *Id.* at ¶ 268 (citing final EIS at 4-852).

⁴⁶⁴ *Id.*

Pacific Connector Pipeline “would have significant cumulative impacts on housing availability in Coos Bay, the visual character of Coos Bay, and noise levels in Coos Bay.”⁴⁶⁵

Turning to land use, FERC stated that the Jordan Cove LNG Terminal and a portion of the Pacific Connector Pipeline would be located within a designated coastal zone.⁴⁶⁶ According to FERC, the Terminal and Pipeline projects are therefore subject to a consistency review under the Coastal Zone Management Act (CZMA), which is undertaken by the Oregon Department of Land Conservation and Development.⁴⁶⁷ On February 19, 2020, the Oregon Department of Land Conservation and Development completed its federal consistency review of Jordan Cove and Pacific Connector’s joint CZMA certifications,⁴⁶⁸ which it filed in the FERC dockets. Specifically, the Oregon Department of Land Conservation and Development formally objected to Jordan Cove’s and Pacific Connector’s CZMA federal consistency certification.⁴⁶⁹ As a condition of the Order, FERC ordered that “Jordan Cove and Pacific Connector shall not begin construction of the Project until they file ... a copy of the determination of consistency with the Coastal Zone Management Plan issued by the State of Oregon.”⁴⁷⁰ FERC also observed that the Oregon Department of Land Conservation and Development’s decision can be appealed to the U.S. Secretary of Commerce.⁴⁷¹ We take administrative notice that, on March 19, 2020, Jordan Cove and Pacific Connector submitted a notice of appeal to the U.S. Secretary of Commerce

⁴⁶⁵ *Id.*

⁴⁶⁶ FERC Order at ¶ 230.

⁴⁶⁷ *Id.* at ¶ 230; Final EIS at 5-6; *see also* 16 U.S.C. § 1456(c)(3)(A) (CZMA section 307(c)(3)(A)).

⁴⁶⁸ *See* Oregon Dep’t of Land Conservation & Dev., Jordan Cove Energy Project L.P. & Pacific Connector Gas Pipeline, LP, Federal Consistency Determination, at 1 (Feb. 19, 2020), *available at*:

https://www.oregon.gov/lcd/OCMP/FCDocuments/FINAL-CZMA-OBJECTION_JCEP-DECISION_2.19.2020.pdf.

⁴⁶⁹ *See id.* (objecting on the basis that Jordan Cove and Pacific Connector have not “established consistency with specific enforceable policies” of the Oregon Coastal Management Program, and that the consistency certification “is not supported by adequate information”); *see also* FERC Order at ¶ 231.

⁴⁷⁰ FERC Order at App’x (Environmental Condition 27).

⁴⁷¹ FERC Order at ¶ 231.

requesting an override of the Oregon Department of Land Conservation and Development's federal consistency objection.⁴⁷² That proceeding is ongoing.

Based on its review of these and other environmental issues, FERC found that, "if the [Jordan Cove LNG Terminal and Pacific Connector Pipeline] are constructed and operated as described in the final EIS, the environmental impacts associated with the projects are acceptable considering the public benefits that will be provided by the projects."⁴⁷³ FERC noted the importance of compliance with the environmental recommendations contained in the final EIS and included, as modified, as conditions to its Order.⁴⁷⁴ FERC stated that "Commission staff will only issue a construction notice to proceed with an activity when satisfied that the applicant has complied with all applicable conditions."⁴⁷⁵ FERC further emphasized that it "has the authority to take whatever steps are necessary to ensure the protection of environmental resources during construction and operation of the projects," including the authority to impose any additional measures deemed necessary to ensure compliance with the intent of the conditions of the FERC Order.⁴⁷⁶

FERC also addressed a variety of non-environmental issues, including arguments by commenters that it is inappropriate for Pacific Connector to obtain property for the proposed Pipeline through eminent domain.⁴⁷⁷ In rejecting the eminent domain arguments, FERC stated that it does not confer eminent domain powers.⁴⁷⁸ Rather, under NGA section 7(c), FERC

⁴⁷² See U.S. Dep't of Commerce, Nat'l Oceanic & Atmospheric Admin., Federal Consistency Appeal by Jordan Cove Energy Project, L.P. and Pacific Connector Gas Pipeline, LP; Notice of Appeal, 85 Fed. Reg. 21,834 (Apr. 20, 2020); see also Jordan Cove Energy Project L.P. & Pacific Connector Gas Pipeline, LP, Notice of Appeal of Oregon's Coastal Zone Management Act Consistency Objection (Mar. 19, 2020), available at: https://www.oregon.gov/lcd/OCMP/FCDocuments/PEMBINA_NoticeofAppeal_3.19.2020.pdf.

⁴⁷³ FERC Order at ¶ 294.

⁴⁷⁴ *Id.* at ¶ 293.

⁴⁷⁵ *Id.*

⁴⁷⁶ *Id.*

⁴⁷⁷ See *id.* at ¶ 95.

⁴⁷⁸ *Id.* at ¶ 97.

determines if the construction and operation of proposed interstate pipeline facilities are in the public convenience and necessity. FERC explained that, once it makes that determination and issues a certificate of public convenience and necessity to a natural gas company, NGA section 7(h) authorizes the certificate holder to acquire the necessary land or property to construct the approved facilities by exercising the right of eminent domain if it cannot acquire the easement by an agreement with the landowner.⁴⁷⁹ FERC concluded that, “[t]he power of eminent domain conferred by NGA section 7(h) is a Congressionally mandated part of the statutory scheme to regulate the transportation and sale of natural gas in interstate commerce.”⁴⁸⁰ FERC further noted that Pacific Connector will be required to compensate landowners for any property rights it acquires.⁴⁸¹

In sum, FERC found that the proposed Jordan Cove LNG Terminal is not inconsistent with the public interest under NGA section 3, and that the Pacific Connector Pipeline is required by the public convenience and necessity under NGA section 7(c).⁴⁸²

D. FERC’s Rehearing Order

Numerous parties to the FERC proceeding filed timely requests for rehearing of the FERC Order. FERC granted rehearing for purposes of further consideration on May 18, 2020, and denied and granted in part the requests for rehearing on May 22, 2020.⁴⁸³ Specifically, FERC: (i) granted rehearing and approved Pacific Connector’s proposal regarding the timing of its open season procedures for services on the Pacific Connector Pipeline,⁴⁸⁴ (ii) granted Jordan

⁴⁷⁹ *Id.* (citing 15 U.S.C. § 717f(h)).

⁴⁸⁰ *Id.* at ¶ 99; *see also generally id.* at ¶¶ 95-101.

⁴⁸¹ *Id.* at ¶ 101.

⁴⁸² *Id.*

⁴⁸³ FERC Reh’g Order at ¶ 3.

⁴⁸⁴ *See id.* at ¶¶ 49-52 (approving Pacific Connector’s proposed General Terms and Conditions (GT&C) section 10.4 of its *pro forma* tariff).

Cove's and Pacific Connector's request for clarification of Environmental Condition No. 34 regarding certain noise controls,⁴⁸⁵ and (iii) denied or dismissed all other requests for rehearing.⁴⁸⁶

E. D.C. Circuit Proceedings

The following parties to the FERC proceeding have filed petitions for review of the FERC Order and Rehearing Order in the U.S. Court of Appeals for the District of Columbia Circuit: Deborah Evans, *et al.* (collectively, Landowner Petitioners) (Case No. 20-1161); Jordan Cove and Pacific Connector (Case No. 20-1170); Rogue Riverkeeper, *et al.* (Case No. 20-1171); Confederated Tribes of the Coos, *et al.* (Case No. 20-1172); and Natural Resource Defense Council, Inc. (Case No. 20-1180). These proceedings are ongoing.

X. DISCUSSION AND CONCLUSIONS

In reviewing Jordan Cove's Application, as amended, DOE/FE has considered its obligations under NGA section 3(a) and NEPA. To accomplish these purposes, DOE/FE has examined a wide range of information addressing environmental and non-environmental factors, including but not limited to:

- Jordan Cove's Application, 2015 Amendment, and 2018 Amendment; and the filings submitted in response;
- FERC's final EIS, the FERC Order (including the 133 environmental conditions adopted in that Order), and the FERC Rehearing Order;
- The Draft Addendum, comments received in response to the Draft Addendum, and the final Addendum;
- The 2014 LCA GHG Report and the 2019 LCA GHG Update, including comments submitted in response to those documents; and

⁴⁸⁵ See *id.* at ¶¶ 146-48.

⁴⁸⁶ See *id.* at ¶ 3; see also *id.* at Ordering Paras. A-E.

- The 2018 LNG Export Study, including comments received in response to that Study.

A. Procedural Matters

In response to both the 2015 and 2018 Amendments, numerous parties moved to intervene in this proceeding. Although Jordan Cove filed an answer in response to the related protests, Jordan Cove did not oppose any of the motions to intervene.⁴⁸⁷ Therefore, all of the motions to intervene filed in response to the 2015 and 2018 Amendments were granted by operation of law under 10 C.F.R. § 590.303(g).⁴⁸⁸

We note that DOE/FE previously granted the requests made by Ms. McCaffree in her pleading entitled, “Jody McCaffree Motion to File Answer to Intervention Notices, Comments, and Protests filed by May 9, 2018” (discussed *supra* § VIII.G). For example, on August 10, 2018, DOE/FE issued an order allowing electronic service by all parties in this proceeding.⁴⁸⁹

To the extent that parties have asked DOE/FE to take other action in their pleadings—such as rescinding the Conditional Order, suspending the Application, and declaring a moratorium on approvals for natural gas exports—those requests have been denied by operation of law.⁴⁹⁰

⁴⁸⁷ See Jordan Cove Answer II & III, discussed *supra* §§ VII.J & VIII.F.

⁴⁸⁸ See *supra* §§ VII, VIII, and Appendices B and C identifying the movants; see also *infra* § XIII (Ordering Paras. Q & R).

⁴⁸⁹ *Jordan Cove Energy Project L.P.*, FE Docket No. 12-32-LNG, Order Allowing Electronic Service in Proceeding (Aug. 10, 2018). DOE/FE issued this order in response to Ms. McCaffree’s request, even though technically the motion had been denied by operation of law. See *id.* at 4.

⁴⁹⁰ See 10 C.F.R. § 590.302.

B. Non-Environmental Issues

1. Public Interest Standard

a. Standards Applicable to DOE and FERC

We find it necessary to review DOE/FE's statutory standard in this proceeding.

Numerous intervenors and commenters opposing the Application and Amendments appear to conflate the statutory standards applicable to FERC and DOE under NGA section 3 and to FERC under NGA section 7. They argue, for example, that DOE must deny the Application and Amendments as inconsistent with the public interest because Jordan Cove and Pacific Connector allegedly have not provided sufficient proof of market demand for the Pipeline (and thus for the Jordan Cove Energy Project generally)—which was, in part, the basis of FERC's denial of the initial project applications in 2016.⁴⁹¹ Other intervenors claim that DOE cannot authorize increased volumes of natural gas in a pipeline that is not in the public interest.⁴⁹² These arguments misstate DOE/FE's standard of review in this proceeding.

Section 3 of the NGA provides for two independent public interest determinations: one, applicable to DOE, for the import or export of natural gas (including LNG);⁴⁹³ and the other, applicable to FERC, for the LNG terminal facilities used for that import or export.⁴⁹⁴

Additionally, under NGA section 7, FERC has exclusive authority over the construction and

⁴⁹¹ See FERC Order at ¶¶ 5-6 (explaining basis for denying Pacific Connector's proposal in 2016, and its related denial of Jordan Cove's proposal); see also, e.g., Notice of Intervention, Comment, and Protest of Barbara L. Brown, FE Docket No. 12-32-LNG (May 7, 2018) (asserting that the 2018 Amendment is not in the public interest because "[t]here is no market for the additional amount" of LNG requested by Jordan Cove).

⁴⁹² See, e.g., Oregon Women's Land Trust Mot. at 2.

⁴⁹³ See *supra* § III (citing *Sierra Club I*, 867 F.3d at 203); see also *Sierra Club v. Fed. Energy Regulatory Comm'n*, 827 F.3d 36, 40-41 (D.C. Cir. 2016).

⁴⁹⁴ In 1977, Congress transferred the regulatory functions of NGA section 3 to DOE. See 42 U.S.C. § 7151(b). DOE, in turn, delegated to FERC the authority to approve or deny an application for the siting, construction, expansion, or operation of a LNG terminal, 15 U.S.C. § 717b(e), while retaining authority over the export of natural gas as a commodity, *id.* § 717b(a). See *EarthReports, Inc. v. Fed. Energy Regulatory Comm'n*, 828 F.3d 949, 952-53 (D.C. Cir. 2016); see also FERC Order at ¶ 29 & n.38.

operation of interstate natural gas pipelines and related facilities, such as the proposed Pacific Connector Pipeline.⁴⁹⁵ Under this provision, FERC will grant a certificate of public convenience and necessity upon a finding that the proposal “is or will be required by the present or future public convenience and necessity.”⁴⁹⁶

FERC’s pipeline analysis under NGA section 7 is separate and distinct from DOE/FE’s analysis of exports under NGA section 3(a) in this proceeding. Accordingly, we find that, to the extent the intervenors’ arguments concerning market demand for the Project are relevant to this proceeding, those arguments do not overcome the statutory presumption favoring LNG exports.⁴⁹⁷ Additionally, as discussed herein, DOE’s long-standing regulatory approach under NGA section 3(a) minimizes DOE’s involvement in energy markets. DOE/FE does not “play referee” among LNG export projects, as some protestors urge DOE to do.⁴⁹⁸

b. DOE’s Regulatory Framework

IECA asserts that DOE/FE may not rely on the 1984 Policy Guidelines in evaluating the public interest in this proceeding, as those Guidelines were promulgated for natural gas imports rather than exports. IECA further contends that DOE/FE must conduct a rulemaking to “define the public interest” under NGA section 3(a).⁴⁹⁹ We disagree with IECA’s arguments regarding the public interest standard in NGA section 3(a) and the 1984 Policy Guidelines. We begin by noting that, in *Sierra Club I*, the D.C. Circuit observed that “Congress enacted the Natural Gas Act with the ‘principal purpose’ of ‘encourag[ing] the orderly development of plentiful supplies

⁴⁹⁵ 15 U.S.C. §§ 717f(c), (e).

⁴⁹⁶ 15 U.S.C. § 717f(e); *see also EarthReports, Inc.*, 828 F.3d at 953.

⁴⁹⁷ *See* Jordan Cove Answer II at 9-10.

⁴⁹⁸ *See, e.g.*, Evans Schaaf Family Protest at 17.

⁴⁹⁹ *See* IECA Mot. at 2.

of . . . natural gas at reasonable prices.”⁵⁰⁰ Further, we understand that a public interest standard in a statute is an “instrument for the exercise of discretion by the expert body which Congress has charged to carry out its legislative policy.”⁵⁰¹

In dozens of LNG export proceedings to date, DOE/FE has reasonably exercised this discretion by considering a range of relevant factors in evaluating the public interest. DOE’s review of an application to export U.S. LNG has generally focused on: (i) the domestic need for the natural gas proposed to be exported, (ii) whether the proposed exports pose a threat to the security of domestic natural gas supplies, (iii) whether the arrangement is consistent with DOE’s policy of promoting market competition, and (iv) any other factors bearing on the public interest, as determined by DOE.⁵⁰² DOE/FE previously determined that the goals of the 1984 Policy Guidelines—to minimize federal control and involvement in energy markets and to promote a balanced and mixed energy resource system—apply to exports of natural gas, as well as to imports.⁵⁰³ In *Sierra Club I* and *II*, the D.C. Circuit upheld DOE/FE’s decision-making on the basis of this statutory and regulatory framework.⁵⁰⁴

Accordingly, we reject IECA’s argument that DOE/FE should not rely on the 1984 Policy Guidelines—and DOE/FE’s long-standing regulatory framework—in reviewing LNG export applications, including Jordan Cove’s Application and the 2018 Amendment. Because Congress has entrusted DOE/FE to exercise its discretion in reviewing the public interest, we also reject IECA’s contention that DOE/FE must undertake a rulemaking to define the public interest.

⁵⁰⁰ *Sierra Club I*, 867 F.3d at 202 (quoting *NAACP v. Fed. Power Comm’n*, 425 U.S. 662, 669-70 (1976)) (acknowledging other “subsidiary purposes”).

⁵⁰¹ See, e.g., *Fed. Comm’n v. WNCN Listeners Guild, et al.*, 450 U.S. 582, 593 (1981) (quoting *Fed. Comm’n v. Pottsville Broad. Co.*, 309 U.S. 134, 138 (1940)).

⁵⁰² See *supra* § III.

⁵⁰³ See *Phillips Alaska Natural Gas Corp., et al.*, DOE/FE Order No. 1473, FE Docket No. 96-99-LNG, Order Extending Authorization to Export Liquefied Natural Gas from Alaska, at 14 (Apr. 2, 1999); see also *supra* § III.

⁵⁰⁴ See *Sierra Club I*, 867 F.3d at 193-94, 202-03; *Sierra Club II*, 703 Fed. App’x 1, at *2-3.

2. Foreign Ownership of LNG Terminal and Source of Natural Gas

Many intervenors and commenters argue that Jordan Cove's Application and the 2018 Amendment are inconsistent with the public interest because of the Project's ties to Canada—specifically, (i) that Jordan Cove's parent company is Canadian, and (ii) that some portion of the LNG to be exported from the Terminal will be produced as natural gas in Canada and imported to the United States for liquefaction.

The intervenors and commenters question why DOE/FE would approve Jordan Cove's export of LNG for the economic benefit of a foreign company and assert that approving Canadian-sourced exports of LNG will only (or predominantly) benefit Canadian economic interests.⁵⁰⁵ The Evans Schaaf Family contends, for example, that a “very high percentage or perhaps 100%” of the natural gas to be liquefied at the Terminal will come from Canada.⁵⁰⁶ The Family and other intervenors argue that this Project will compete directly with U.S. Gulf Coast LNG export projects in exporting LNG to Asia, to the detriment of U.S. natural gas producers and the U.S. economy.⁵⁰⁷ The Evans Schaaf Family further claims that, unless DOE/FE imposes a percentage limitation on Canadian-sourced natural gas at the Terminal, DOE/FE cannot conclude that exports from the Terminal would provide a public benefit in the United States.⁵⁰⁸ We have reviewed the record in this proceeding and are not persuaded by these arguments.

First, although Jordan Cove's parent company, Pembina Pipeline Corporation, is headquartered in Canada, it is not a “private” Canadian company as some intervenors have

⁵⁰⁵ See, e.g., Stacey and Craig McLaughlin, Protest and Comment, FE Docket No. 12-32-LNG, at 2-3 (May 9, 2018) [hereinafter McLaughlins Protest].

⁵⁰⁶ Evans Schaaf Family Protest at 29; see also Sierra Club Protest at 6 (claiming that “much, if not all, of the feed gas ... is likely to be produced in Canada rather than in the United States”).

⁵⁰⁷ See, e.g., Evans Schaaf Family Protest at 7-8, 10-11.

⁵⁰⁸ *Id.* at 1-2.

stated.⁵⁰⁹ Rather, Pembina is a widely-held public corporation with its shares traded on two different stock markets, including the New York Stock Exchange.⁵¹⁰ Regardless, DOE/FE has never required an applicant to have domestic ownership under NGA section 3(a), and we decline to do so here.⁵¹¹

The United States and Canada are part of a thriving, integrated North American natural gas market, as evidenced by the recently-signed United States-Mexico-Canada Agreement (USMCA) and ongoing high levels of trade.⁵¹² DOE takes administrative notice of the robust natural gas trade between the United States and Canada, with Canadian natural gas imports into the United States reaching nearly 2.7 trillion cubic feet (Tcf) in 2019,⁵¹³ and exports of U.S. natural gas into Canada in 2019 reaching 971 Bcf.⁵¹⁴ Thus, even if Jordan Cove were assumed to import 100% of the Terminal's liquefaction capacity from Canada (as discussed below), the volume at issue in this proceeding (395 Bcf/yr) would represent only a small portion of the U.S.-Canadian natural gas market.⁵¹⁵

⁵⁰⁹ See, e.g., McLaughlins Protest at 3.

⁵¹⁰ 2018 Amendment at 4-5.

⁵¹¹ In change in control proceedings involving foreign ownership under NGA section 3(a), DOE/FE advises applicants and authorization holders that a change in control may require the approval of the Committee on Foreign Investment in the United States (CFIUS) of the U.S. Department of Treasury. As a matter of course, DOE/FE does not express an opinion regarding the need for review by CFIUS. We observe, however, that Canada is a close U.S. ally and trading partner and is one of the seven countries "investing the most in the United States." Foreign Investment Risk Review Modernization Act of 2018, Pub. L. No. 115-232, tit. XVII, § 1702(a)(3)(B), 132 Stat. 2173, 2175 (2018).

⁵¹² See generally Int'l Trade Admin., U.S. Dep't of Commerce, United States-Mexico-Canada Agreement, *available at*: <https://www.trade.gov/usmca> (webpage for USMCA).

⁵¹³ U.S. Energy Info. Admin., U.S. Natural Gas Imports by Country (June 30, 2020), *available at*: https://www.eia.gov/dnav/ng/ng_move_imp_c_s1_a.htm (pipeline, LNG, and compressed natural gas import volumes for Canada in 2019).

⁵¹⁴ U.S. Energy Info. Admin., U.S. Natural Gas Exports and Re-Exports by Country (June 30, 2020), *available at*: https://www.eia.gov/dnav/ng/ng_move_exp_c_s1_a.htm (pipeline and compressed natural gas export volumes for Canada in 2019).

⁵¹⁵ We note that, in two other non-FTA proceedings, DOE/FE has approved exports of U.S.-sourced natural gas by pipeline to Canada, where the natural gas is liquefied at a LNG terminal in Canada, then re-exported in the form of LNG to non-FTA countries (the reverse circumstances as here). DOE/FE found that those re-exports of U.S. LNG from Canada are in the public interest. See *Bear Head LNG Corp. and Bear Head LNG (USA), LLC*, DOE/FE Order No. 3770, FE Docket No. 15-33-LNG, Opinion and Order Granting Long-Term, Multi-Contract Authorization to

Moreover, under NGA section 3(c), imports of natural gas from and exports to Canada are “deemed to be consistent with the public interest.”⁵¹⁶ Although this proceeding involves exports to non-FTA countries under NGA section 3(a), we nonetheless observe that importing natural gas from Canada for liquefaction at a U.S. LNG terminal is far from a strike against Jordan Cove, as some intervenors suggest. To the contrary, Jordan Cove has provided compelling evidence of the economic benefits associated with the construction and operation of the proposed Terminal in Oregon.⁵¹⁷ Most recently, Jordan Cove and Pacific Connector have stated that they will invest a total of \$9.8 billion to construct the Jordan Cove Energy Project in Oregon, with \$2.88 billion of that total spent on local Oregon businesses.⁵¹⁸ As DOE/FE found in granting the Conditional Order in 2014, the economic benefits associated with the Project will accrue locally, regionally, and nationally, even if some or all of the feed gas is imported from Canada. The opponents of the Project have not provided evidence demonstrating otherwise.

Turning to a common issue raised by the intervenors and commenters, DOE/FE is not persuaded that up to 100% of the feed gas for the Terminal will be sourced from Canada on an ongoing basis. This speculation is not supported by the facts in the record, nor is it dispositive as to whether the proposed exports are in the public interest. Further, the Conditional Order was not contingent on any particular volume of the natural gas being sourced from the United States.

Export U.S.-Sourced Natural Gas by Pipeline to Canada for Liquefaction and Re-Export in the Form of Liquefied Natural Gas to Non-Free Trade Agreement Countries (Feb. 5, 2016); *Pieridae Energy (USA) Ltd.*, DOE/FE Order No. 3768, FE Docket No. 14-179-LNG, Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export U.S.-Sourced Natural Gas Natural Gas by Pipeline to Canada for Liquefaction and Re-Export in the Form of Liquefied Natural Gas to Non-Free Trade Agreement Countries (Feb. 5, 2016).

⁵¹⁶ 15 U.S.C. § 717b(c).

⁵¹⁷ See Conditional Order at §§ V, IX.B.1 (discussing Application and Jordan Cove’s supporting studies); 2018 Amendment at 7-9; Jordan Cove Answer III at 5-6.

⁵¹⁸ Jordan Cove Answer III at 5 (estimating economic benefits and number of jobs associated with the proposed Project); see also 2018 Amendment at 8-9 (describing economic benefits, including modernization of the Port of Coos Bay).

Although Jordan Cove’s Navigant Study (submitted with the Application) analyzed different percentages of U.S. and Canadian natural gas, DOE/FE did not make its public interest determination on the basis of any prescribed allocation. Rather—as is still the case—DOE/FE observed that the LNG to be exported from the Terminal “is likely to be sourced from Canadian and U.S. Rocky Mountain supply basins.”⁵¹⁹

In response to similar arguments in the FERC proceeding, FERC observed that an affiliate of Jordan Cove (Jordan Cove LNG L.P.) currently holds a long-term import order from DOE/FE for a volume of Canadian natural gas sufficient to meet the entire supply needs of the Pipeline,⁵²⁰ but FERC stated “that does not mean that the Pacific Connector Pipeline will transport only Canadian gas.”⁵²¹ FERC quoted Jordan Cove’s and Pacific Connector’s statement in the FERC proceeding that they “cannot meet the gas supply needs of the Terminal and the purpose of the overall [Project] without accessing U.S. Rocky Mountain supplies, which are available from the Ruby pipeline.”⁵²² We further note that both the Ruby Pipeline and the Gas Transmission Northwest Pipeline referenced by Jordan Cove are connected to the U.S. interstate natural gas pipeline system. The evidence thus indicates that the Project will provide new market access for natural gas producers in the U.S. Rocky Mountains, providing economic and market benefits that otherwise would not be realized.⁵²³

⁵¹⁹ Conditional Order at 14; *see also* Jordan Cove Answer III at 3-4 (stating that both the Terminal’s planned location in southwestern Oregon and the origin of the Pipeline near Malin, Oregon, are intended to provide customers with access to multiple gas producing areas—with the Gas Transmission Northwest system connecting to facilities at the Canadian border and the Ruby Pipeline system providing access to U.S. Rocky Mountain production basins).

⁵²⁰ *See Jordan Cove LNG L.P.*, DOE/FE Order No. 3412, FE Docket No. 13-141-LNG, Order Granting Long-Term, Multi-Contract Authorization to Import Natural Gas from Canada to the Proposed Jordan Cove LNG Terminal in the Port of Coos Bay, Oregon (Mar. 18, 2014) (authorizing Jordan Cove LNG L.P. to import natural gas from Canada in a total volume of 565.75 Bcf/yr).

⁵²¹ FERC Order at ¶ 85.

⁵²² *Id.* (quoting Jordan Cove and Pacific Connector’s July 22, 2019 Response to Comments on draft EIS at 18).

⁵²³ *See* 2018 Amendment at 9; *see also* FERC Order at ¶ 85 (discussing benefits from Project to natural gas producers in the U.S. Rockies).

Additionally, Jordan Cove points to its “tolling” business model, which is common among U.S. LNG export facilities. Under this model, Jordan Cove will execute liquefaction tolling agreements (LTAs), under which an individual customer will be required to obtain and transport its own natural gas supply to the Jordan Cove LNG Terminal, using its own transportation capacity on the Pacific Connector Pipeline and upstream pipelines.⁵²⁴ At the Terminal, Jordan Cove will liquefy the customer’s natural gas for export in exchange for a liquefaction fee. Jordan Cove states that customers seeking sources of feed gas for delivery to the Terminal may seek out U.S. or Canadian supply, or a combination of both—their choice likely driven by price differences between U.S. and Canadian natural gas that will vary over time.⁵²⁵ According to Jordan Cove, customers also may choose to obtain supplies of natural gas from multiple sources “to be sure that disruptions in production or upstream transportation do not cause liquefaction capacity to be idle.”⁵²⁶ We agree with Jordan Cove that these dynamic market factors are likely to influence the source of feed gas delivered to the proposed Terminal, not Jordan Cove’s corporate ownership.

We also disagree with the intervenors’ claims that the Jordan Cove Energy Project will compete with U.S. Gulf Coast LNG projects while using Canadian-sourced natural gas, such that it will give “Canadian interests a distinct transportation advantage to the coveted Asian markets.”⁵²⁷ The Evans Schaaf Family argues, for example, that “the travel advantage will work directly against U.S. domestically-sourced natural gas Gulf Coast projects.”⁵²⁸ As we stated in the Conditional Order, we are guided by the long-standing principle that the public interest

⁵²⁴ Jordan Cove Answer III at 5; *see also* Conditional Order at 12-13.

⁵²⁵ Jordan Cove Answer III at 5.

⁵²⁶ *Id.*

⁵²⁷ Evans Schaaf Family Protest at 11.

⁵²⁸ *Id.*

requires us to look to impacts to the U.S. economy as a whole, with competition “better left to the market, rather than the Department, to resolve.”⁵²⁹ Nonetheless, we note that the U.S. LNG export market is highly diverse. Since exports of U.S. LNG began in 2016, approximately 35% of the LNG has been exported to the East Asia and Pacific region.⁵³⁰ The majority of U.S. LNG has been exported to other parts of the world, including Europe and Central Asia (31.2%) and Latin America and the Caribbean (22.6%).⁵³¹ Although the proposed Terminal will be uniquely positioned on the West Coast to export LNG to countries in Asia, this location should enhance—not harm—the overall U.S. LNG export market through increased infrastructure and natural gas production, as well as through expanded trade opportunities.

Finally, several intervenors state that DOE/FE cannot find the proposed exports to be in the public interest without first analyzing the effects of exporting Canadian-sourced natural gas from a U.S. LNG terminal. In fact, the NewERA model used in the 2018 LNG Export Study (discussed *supra* § II.B.3) “accounts for pipeline trade in natural gas with ... Canada, and the potential build-up of liquefaction plants for exporting LNG.”⁵³² The model “also has a supply (demand) curve for U.S. imports (exports) that represents how the global LNG market price would react to changes in U.S. imports or exports.”⁵³³ Contrary to the intervenors’ arguments, we find that the findings and conclusions of the 2018 LNG Export Study are valid in this proceeding.

⁵²⁹ Conditional Order at 100-101 (referencing the 1984 Policy Guidelines, discussed *supra* § III).

⁵³⁰ See U.S. Dep’t of Energy, Office of Fossil Energy, *LNG Monthly*, at 1, Table 1a (June 2020), available at: <https://www.energy.gov/sites/prod/files/2020/06/f75/LNG%20Monthly%202020.pdf> (Table of Exports of Domestically Produced LNG Delivered by Region, Cumulative from February 2016 through April 2020).

⁵³¹ *Id.*

⁵³² See 2018 LNG Export Study at 34, available at:

<https://www.energy.gov/sites/prod/files/2018/06/f52/Macroeconomic%20LNG%20Export%20Study%202018.pdf>.

⁵³³ *Id.*

In sum, although DOE/FE cannot predict the ultimate allocation between U.S.-sourced and Canadian-sourced natural gas over the life of this 20-year authorization, we do not see any basis to conclude that the Project's ties to Canada render the proposed exports inconsistent with the public interest.

3. Pipeline Issues and Eminent Domain

Numerous intervenors and commenters, including those who live along the proposed route of the Pacific Connector Pipeline, express a variety of concerns about the Pipeline. These include (but are not limited to) concerns about “devastating” environmental impacts associated with the Pipeline's construction and operation across private property, attendant safety hazards, and the harm to private landowners through the use of eminent domain to acquire land necessary for the Pipeline's planned route. In their view, the private property rights of U.S. citizens should not be sacrificed to facilitate the profit of a Canadian corporation. They maintain that, in light of these concerns about the Pipeline, DOE/FE should find that the proposed exports are not consistent with the public interest.

After reviewing the record, DOE/FE finds that the potential environmental and safety issues associated with the Pipeline—like those associated with the Terminal—are part of the FERC proceeding and, specifically, FERC's NEPA process in which DOE was a cooperating agency. Those environmental issues are discussed below. Additionally, we note that FERC has exclusive jurisdiction over whether to grant a certificate of public convenience and necessity to Pacific Connector under NGA section 7 (which it did in the FERC Order).⁵³⁴

FERC explained that, when it issues a certificate of public convenience and necessity to construct pipeline facilities, NGA section 7(h) authorizes the certificate holder to acquire

⁵³⁴ 15 U.S.C. § 717f.

property for an easement for the pipeline, either through negotiation with the landowner, or through eminent domain procedures if the negotiation does not result in an agreement.⁵³⁵

Authorizations of projects under NGA section 3 do not convey such rights to acquire eminent domain. In this proceeding, DOE has no eminent domain authority and no jurisdiction over the proposed Pipeline or Pacific Connector. Further, any eminent domain power conferred on Pacific Connector under the NGA triggers a condemnation process, “which calls for an order of condemnation and a trial determining just compensation prior to the taking of private property.”⁵³⁶ Additionally, FERC determined that “Pacific Connector has taken sufficient steps to minimize adverse impacts on landowners and surrounding communities” for the purposes of its NGA section 7 determination.⁵³⁷ Given this legal backstop (which is uncontroverted in the record) as well as FERC’s findings, we do not find that it has been shown that the possible use of eminent domain will be contrary to the public interest.

4. Significance of the 2018 LNG Export Study

DOE/FE commissioned the 2018 LNG Export Study and invited public comments on the Study.⁵³⁸ DOE/FE analyzed this material in its Response to Comments, published in the *Federal Register* on December 28, 2018. On the basis of the 2018 Study, DOE/FE concluded that the United States will experience net economic benefits from the issuance of authorizations to export

⁵³⁵ FERC Order at ¶¶ 95-101 (citing 15 U.S.C. § 717f(h)) (stating that FERC itself does not confer eminent domain powers; rather “[t]he power of eminent domain conferred by NGA section 7(h) is a Congressionally mandated part of the statutory scheme to regulate the transportation and sale of natural gas in interstate commerce.”).

⁵³⁶ *Id.* at ¶ 96 (citations omitted); *see also id.* ¶ 101 (“Pacific Connector will not be allowed to construct any facilities on such property unless and until a court authorizes acquisition of the property through eminent domain and there is a favorable outcome on all outstanding requests for necessary approvals.”).

⁵³⁷ *Id.* at ¶ 90 (citing FERC’s Certificate Policy Statement); *see also id.* ¶¶ 52-53 (discussing Certificate Policy Statement). Citing Pacific Connector’s statements from July 2019, FERC stated that Pacific Connector had obtained easements from “72 percent of private, non-timber landowners” and “93 percent of timber company landowners.” *Id.* at ¶ 89. FERC noted that Pacific Connector had engaged in public outreach during the pre-filing process—including “working with interested stakeholders, soliciting input on route concerns, and engaging in reroutes where practicable to minimize impacts on landowners and communities.” *Id.*

⁵³⁸ *See supra* § II.A.3.

domestically produced LNG.⁵³⁹ The 2018 Study further supports the proposition that exports of LNG from the lower-48 states, in volumes up to and including 52.8 Bcf/d of natural gas, will not be inconsistent with the public interest.⁵⁴⁰ As discussed above (*supra* § X.B.2), the likelihood that some portion of Jordan Cove’s exports will be sourced from natural gas produced in Canada does not negate the applicability of the 2018 Study to this proceeding.

We take administrative notice of EIA’s recent authoritative projections for natural gas supply, demand, and prices, set forth in the *Annual Energy Outlook 2020* (AEO 2020), issued on January 29, 2020.⁵⁴¹ DOE/FE has assessed AEO 2020 to evaluate any differences from AEO 2017, which formed the basis for the 2018 LNG Export Study.⁵⁴² The AEO 2017 Reference case without the CPP shows lower net LNG exports of 12.5 Bcf/d of natural gas in 2050, compared with the AEO 2020 Reference case that shows net LNG exports of 15.8 Bcf/d in 2050. As discussed below, the AEO 2020 Reference case is even more supportive of exports than the AEO 2017 Reference case without the CPP.

EIA’s projections in AEO 2020 continue to show market conditions that will accommodate increased exports of natural gas. When compared to the AEO 2017 Reference case without the CPP, the AEO 2020 Reference case projects increases in domestic natural gas

⁵³⁹ See 2018 Study Response to Comments, 83 Fed. Reg. at 67,272.

⁵⁴⁰ See *id.* at 67,273.

⁵⁴¹ U.S. Energy Info. Admin., *Annual Energy Outlook 2020* (Jan. 29, 2020), available at: <https://www.eia.gov/outlooks/aeo/pdf/aeo2020.pdf>.

⁵⁴² AEO 2017 included two versions of the Reference case—one with, and one without, the implementation of the Clean Power Plan (CPP). In recent non-FTA orders, we discussed both versions of the AEO 2017 Reference case, noting that the U.S. Environmental Protection Agency (EPA) was reviewing the CPP and considering an alternative regulatory approach. On June 19, 2019, EPA repealed the CPP and issued the final Affordable Clean Energy (ACE) rule. See U.S. Env’tl. Prot. Agency, *Repeal of the Clean Power Plan; Emission Guidelines for Greenhouse Gas Emissions From Existing Electric Utility Generating Units; Revisions to Emission Guidelines Implementing Regulations*, 84 Fed. Reg. 32,520 (July 8, 2019). Accordingly, in this Order, we refer only to the AEO 2017 Reference case without the CPP. The AEO 2020 Reference case does not include the CPP, so the comparisons between AEO 2017 and AEO 2020 are consistent in that regard.

production—well in excess of what is required to meet projected increases in domestic consumption.

For these reasons, we reaffirm that the 2018 LNG Export Study is fundamentally sound. The 2018 Study, as well as AEO 2020, support our finding that Jordan Cove’s proposed exports will not be inconsistent with the public interest.

5. Jordan Cove’s Application and 2018 Amendment

Upon review, DOE/FE finds that several factors identified in the Application, as amended, as well as in the 2018 LNG Export Study, support a grant of Jordan Cove’s requested authorization under NGA section 3(a).

First, Jordan Cove points to DOE’s 2012, 2014, and 2015 LNG Export Studies, as well as older third-party studies, in asserting that the United States has significant natural gas resources available to meet both projected future domestic needs and demand for the proposed exports. We agree, based on more recent projections and analyses. Specifically, we find that the 2018 LNG Export Study and AEO 2020 continue to project robust domestic supply conditions that are more than adequate to satisfy both domestic needs and exports of LNG, including the volume requested in Jordan Cove’s 2018 Amendment.⁵⁴³

Second, the 2018 LNG Export Study indicates that exports of LNG will generate net economic benefits to the broader U.S. economy.⁵⁴⁴ Indeed, the 2018 Study consistently shows macroeconomic benefits to the U.S. economy in every scenario, as well as positive annual growth across the energy intensive sectors of the economy.⁵⁴⁵ We therefore reject IECA’s and

⁵⁴³ See, e.g., 2018 Study Response to Comments, 83 Fed. Reg. at 67,262.

⁵⁴⁴ *Id.*

⁵⁴⁵ See *id.* at 67,268-69 (citing 2018 LNG Export Study at 67, 70).

other intervenors' arguments that the proposed exports will lead to U.S. manufacturers losing the competitive advantage of relatively low natural gas prices.

Third, over the 20-year term of the authorization, the proposed exports will improve the United States' ties with its trade partners and make a positive contribution to the United States' trade balance. For these reasons, we agree with Jordan Cove that the proposed exports are consistent with U.S. policy.

On review, DOE/FE finds that the record evidence showing that the proposed exports will be in the public interest outweighs the concerns raised by the intervenors and commenters. DOE/FE has considered and rejected the same (or similar) economic arguments raised in earlier proceedings based on the 2012, 2014, and 2015 LNG Export Studies and, more recently, in the 2018 LNG Export Study proceeding. The 2018 Study showed, for example, that "overall GDP improves as LNG exports increase for all scenarios with the same U.S. natural gas supply conditions."⁵⁴⁶ The 2018 Study also showed that energy intensive industries will continue to grow robustly even at higher levels of LNG exports, albeit at slightly lower rates of increase than they would at lower levels.⁵⁴⁷

Accordingly, based on the 2018 LNG Export Study and the more recent data in AEO 2020, DOE/FE finds that the market will be capable of sustaining the level of exports requested in Jordan Cove's Application, as modified by the 2018 Amendment, over the authorization term without negative economic impacts, including domestic price impacts (discussed below).

6. Price Impacts

Some intervenors allege that higher volumes of LNG exports, including Jordan Cove's proposed exports, will lead to large increases in domestic prices of natural gas. The 2018 LNG

⁵⁴⁶ *See id.* at 67,259.

⁵⁴⁷ *Id.*

Export Study projects the economic impacts of LNG exports in a range of scenarios, including scenarios that exceed the current amount of LNG exports authorized in the final non-FTA export authorizations to date (equivalent to a total of 45.89 Bcf/d of natural gas with the issuance of this Order). The 2018 Study found that, “[i]ncreasing U.S. LNG exports under any given set of assumptions about U.S. natural gas resources and their production leads to only small increases in U.S. natural gas prices.”⁵⁴⁸

Additionally, DOE/FE has analyzed AEO 2020 to evaluate any differences from AEO 2017, which formed the basis for the 2018 LNG Export Study. Comparing key results from 2050 (the end of the projection period in the Reference case without the CPP from AEO 2017) shows that the Reference case outlook in AEO 2020 projects lower-48 market conditions that would be even more supportive of LNG exports than in AEO 2017, including higher production and demand coupled with lower prices. For example, for the year 2050, the AEO 2020 Reference case anticipates over 13% more natural gas production in the lower-48 than the AEO 2017 Reference case without the CPP. It also projects an average Henry Hub natural gas price that is lower than the AEO 2017 Reference case without the CPP by over 38%. Table 1 below shows these comparisons:

⁵⁴⁸ See 2018 Study Response to Comments, 83 Fed. Reg. at 67,258 (citing 2018 LNG Export Study at 55).

Table 1: Year 2050 Reference Case Comparisons in AEO 2017 Reference Case Without the CPP and AEO 2020 Reference Case

	AEO 2017 Reference Case Without the CPP	AEO 2020 Reference Case
Lower-48 Dry Natural Gas Production (Bcf/d)	107.9	122.3
Total Natural Gas Consumption (Bcf/d)	92.4	100.0
Electric Power Sector Consumption (Bcf/d)	31.8	33.4
<u>Net</u> Exports by Pipeline (Bcf/d)	3.4	6.6
<u>Net</u> LNG Exports (Bcf/d)	12.5	15.8
LNG Exports – Total (Bcf/d)	12.7	15.9
Henry Hub Spot Price (\$/MMBtu) ^(Note 1)	\$6.00 (2019\$)	\$3.69 (2019\$)

Note 1: Prices adjusted to 2019\$ with the AEO 2017 projection of a Gross Domestic Product price index.

For these reasons, and as explained in DOE/FE’s Response to Comments on the 2018 Study, we find that arguments concerning domestic price increases are not supported by the record evidence.⁵⁴⁹

7. Benefits of International Trade

We have not limited our review to the 2018 LNG Export Study and data from AEO 2020, but have considered the international consequences of our decision. As discussed above, we

⁵⁴⁹ See 2018 Study Response to Comments, 83 Fed. Reg. at 67,267-69 (§ VI.G) (DOE/FE’s response to comments on natural gas price impacts).

review applications to export LNG to non-FTA nations under section 3(a) of the NGA. The United States' commitment to free trade is one factor bearing on that review.

Additionally, an efficient, transparent international market for natural gas with diverse sources of supply provides both economic and strategic benefits to the United States and our allies. Indeed, increased production of domestic natural gas has significantly reduced the need for the United States to import LNG. In global trade, LNG shipments that would have been destined to U.S. markets have been redirected to Europe and Asia, improving energy security for many of our key trading partners. To the extent U.S. exports can diversify global LNG supplies and increase the volumes of LNG available globally, these exports will improve energy security for many U.S. allies and trading partners. Therefore, we agree with Jordan Cove that authorizing its exports may advance the public interest for reasons that are distinct from and additional to the economic benefits identified in the 2018 LNG Export Study and DOE/FE's prior macroeconomic studies.

C. Environmental Issues

In reviewing the potential environmental impacts of Jordan Cove's proposal to export LNG, DOE/FE has considered both its obligations under NEPA and its obligation under NGA section 3(a) to ensure that the proposal is not inconsistent with the public interest.

1. Adoption of FERC's Final EIS

DOE/FE participated in FERC's environmental review of the proposed Jordan Cove Energy Project as a cooperating agency. Because DOE was a cooperating agency, DOE/FE is permitted to adopt without recirculating the final EIS, provided that DOE/FE has conducted an independent review of the EIS and determines that its comments and suggestions have been

satisfied.⁵⁵⁰ For the reasons set forth below, DOE/FE has not found that the arguments raised in the FERC proceeding, the current proceeding, or the 2018 LNG Export Study proceeding detract from the reasoning and conclusions contained in the final EIS. Accordingly, DOE has adopted the final EIS (DOE/EIS-0520),⁵⁵¹ and hereby incorporates the reasoning contained in the final EIS in this Order. Additionally, in the Appendix to this Order, DOE/FE is issuing the ROD under NEPA for the proposed Terminal.

2. Environmental Impacts Associated with Induced Production of Natural Gas

The current rapid development of natural gas resources in the United States likely will continue, with or without the export of natural gas to non-FTA nations.⁵⁵² Nevertheless, a decision by DOE/FE to authorize exports to non-FTA nations could accelerate that development by some increment. As discussed above, the Addendum reviewed the academic and technical literature covering the most significant issues associated with unconventional natural gas production, including impacts to water resources, air quality, greenhouse gas emissions, induced seismicity, and land use.

The Addendum shows that there are potential environmental issues associated with unconventional natural gas production that need to be carefully managed, especially with respect to emissions of volatile organic compounds and methane, and the potential for groundwater contamination. These environmental concerns do not lead us to conclude, however, that exports of natural gas to non-FTA nations should be prohibited. Rather, we believe the public interest is better served by addressing these environmental concerns directly—through federal, state, or local regulation, or through self-imposed industry guidelines where appropriate—rather than by

⁵⁵⁰ See 40 C.F.R. § 1506.3(c).

⁵⁵¹ See *supra* § I.

⁵⁵² Addendum at 2.

prohibiting exports of natural gas. Unlike DOE, environmental regulators have the legal authority to impose requirements on natural gas production that appropriately balance benefits and burdens, and to update these regulations from time to time as technological practices and scientific understanding evolve.

By comparison, section 3(a) of the NGA is too blunt an instrument to address these environmental concerns efficiently. A decision to prohibit exports of natural gas would cause the United States to forego entirely the economic and international benefits discussed herein, but would have little more than a modest, incremental impact on the environmental issues.

For these reasons, we conclude that the environmental concerns associated with natural gas production do not establish that exports of natural gas to non-FTA nations are inconsistent with the public interest. We further note that the D.C. Circuit in *Sierra Club I* rejected Sierra Club's arguments on this basis, and the Court's conclusions and reasoning guide our review in this proceeding.⁵⁵³

3. Greenhouse Gas Impacts Associated with U.S. LNG Exports

Intervenors and commenters in this proceeding (as well as in prior DOE/FE proceedings) have expressed concern that exports of U.S. LNG may have a negative effect on the total amount of energy consumed in foreign nations and on global GHG emissions. We note, however, that the intervenors and commenters who opposed the 2018 Amendment in this proceeding did so before DOE/FE issued the 2019 LCA GHG Update. Therefore, they did not have the benefit of DOE/FE's newer analyses on GHG emissions associated with exporting U.S. LNG, as well as DOE/FE's response to comments in that proceeding.

⁵⁵³ See *Sierra Club I*, 867 F.3d at 203 (rejecting argument that DOE arbitrarily failed to evaluate foreseeable indirect effects of exports under NGA section 3(a)); see *supra* § II.D.

As explained above, both the 2014 LCA GHG Report and the 2019 Update estimated the life cycle GHG emissions of U.S. LNG exports to Europe and Asia, compared with certain other fuels used to produce electric power in those importing countries.⁵⁵⁴ The 2019 Update was based on the most current available science, methodology, and data from the U.S. natural gas system to assess GHGs associated with exports of U.S. LNG.⁵⁵⁵

The 2019 Update demonstrates that the conclusions of the 2014 LCA GHG Report have not changed.⁵⁵⁶ While acknowledging uncertainty, the LCA GHG Update shows that, to the extent U.S. LNG exports are preferred over coal in LNG-importing nations, U.S. LNG exports are likely to reduce global GHG emissions on per unit of energy consumed basis for power production.⁵⁵⁷ Further, to the extent U.S. LNG exports are preferred over other forms of imported natural gas, they are likely to have only a small impact on global GHG emissions.⁵⁵⁸

The LCA GHG Update (like the 2014 Report) does not provide information on whether authorizing exports of U.S. LNG to non-FTA nations will increase or decrease GHG emissions on a global scale.⁵⁵⁹ Recognizing there is a global market for LNG, exports of U.S. LNG will affect the global price of LNG which, in turn, will affect energy systems in numerous countries. DOE further acknowledges that regional coal and imported natural gas are not the only fuels with which U.S.-exported LNG will compete. U.S. LNG exports may also compete with renewable energy, nuclear energy, petroleum-based liquid fuels, coal imported from outside East

⁵⁵⁴ See *supra* § II.C.

⁵⁵⁵ DOE Response to Comments on 2019 Update, 85 Fed. Reg. at 85. Although some intervenors in this proceeding cite the January 2018 OCI Briefing Paper to support their arguments related to GHG emissions, we have considered that paper and do not find it more credible than the 2019 Update. The OCI Briefing Paper is authored by an interest group and does not use the most current science and methodologies.

⁵⁵⁶ *Id.*

⁵⁵⁷ *Id.*

⁵⁵⁸ *Id.*

⁵⁵⁹ *Id.* at 81.

Asia or Western Europe, indigenous natural gas, synthetic natural gas derived from coal, and other resources. However, to model the effect that U.S. LNG exports would have on net global GHG emissions would require projections of how each of these fuel sources would be affected in each LNG-importing nation.⁵⁶⁰ Such an analysis would not only have to consider market dynamics in each of these countries over the coming decades, but also the interventions of numerous foreign governments in those markets. Moreover, the uncertainty associated with estimating each of these factors would likely render such an analysis too speculative to inform the public interest determination in DOE’s non-FTA proceedings.⁵⁶¹ Based on the evidence, however, DOE sees no reason to conclude that U.S. LNG exports will increase global GHG emissions in a material or predictable way.⁵⁶²

Finally, we note that the D.C. Circuit held in *Sierra Club I* that there was “nothing arbitrary about the Department’s decision” to compare emissions from exported U.S. LNG to emissions of coal or other sources of natural gas, rather than renewables or other possible fuel sources.⁵⁶³ The Court’s decision in *Sierra Club I* guided DOE’s development of the 2019 Update.⁵⁶⁴

D. Other Considerations

The conclusion of the 2018 LNG Export Study is that the United States will experience net economic benefits from the export of domestically produced LNG in volumes up to and including 52.8 Bcf/yr of natural gas.⁵⁶⁵ Nonetheless, our decision in this Order is not premised on an uncritical acceptance of that Study. Certain public comments received on the 2018 Study

⁵⁶⁰ *Id.*

⁵⁶¹ DOE Response to Comments on 2019 Update, 85 Fed. Reg. at 81.

⁵⁶² *Id.* at 86.

⁵⁶³ *Sierra Club I*, 867 F.3d at 202 (finding that “Sierra Club’s complaint ‘falls under the category of flyspecking’”) (citation omitted).

⁵⁶⁴ *See supra* § II.C, D.

⁵⁶⁵ As discussed *supra* § X.B.2, the 2018 LNG Export Study accounted for pipeline trade in natural gas with Canada.

identify significant uncertainties and even potential negative impacts from LNG exports. The economic impacts of higher natural gas prices and potential increases in natural gas price volatility are two of the factors that we view most seriously. Yet, we have also taken into account factors that could mitigate these impacts, such as the current oversupply situation and data indicating that the natural gas industry would increase natural gas supply in response to increasing exports. Further, we note that it is far from certain that all or even most of the proposed LNG export projects will ever be realized because of the time, difficulty, and expense of commercializing, financing, and constructing LNG export terminals, as well as the uncertainties inherent in the global market demand for LNG.

More generally, DOE/FE continues to subscribe to the principle set forth in our 1984 Policy Guidelines⁵⁶⁶ that, under most circumstances, the market is the most efficient means of allocating natural gas supplies. However, agency intervention may be necessary to protect the public in the event there is insufficient domestic natural gas for domestic use. There may be other circumstances as well that cannot be foreseen that would require agency action.⁵⁶⁷ Given these possibilities, DOE/FE recognizes the need to monitor market developments closely as the impact of successive authorizations of LNG exports unfolds.

⁵⁶⁶ 1984 Policy Guidelines, 49 Fed. Reg. 6684.

⁵⁶⁷ In previous orders, some commenters asked DOE to clarify the circumstances under which the agency would exercise its authority to revoke (in whole or in part) issued LNG export authorizations. DOE/FE stated that it could not precisely identify all the circumstances under which such action might be considered. More recently, on June 15, 2018, DOE/FE issued a policy statement addressing this issue. *See* U.S. Dep't of Energy, Policy Statement Regarding Long-Term Authorizations to Export Natural Gas to Non-Free Trade Agreement Countries, 83 Fed. Reg. 28,841 (June 21, 2018). DOE/FE noted that it has never rescinded a long-term non-FTA export authorization and stated that it "does not foresee a scenario where it would rescind one or more non-FTA authorizations." *Id.* at 28,843.

E. Conclusion

We have reviewed the evidence in the record and relevant precedent in earlier non-FTA export decisions and have not found an adequate basis to conclude that Jordan Cove's proposed exports will be inconsistent with the public interest.

In deciding whether to grant a final non-FTA export authorization, we also consider the cumulative impacts of the total volume of all non-FTA export authorizations. With the issuance of this Order, there are currently 43 final non-FTA authorizations in a cumulative volume of exports totaling 45.89 Bcf/d of natural gas, or approximately 16.7 trillion cubic feet per year, as follows: Sabine Pass Liquefaction, LLC (2.2 Bcf/d),⁵⁶⁸ Carib Energy (USA) LLC (0.04 Bcf/d),⁵⁶⁹ Cameron LNG, LLC (1.7 Bcf/d),⁵⁷⁰ FLEX I (1.4 Bcf/d),⁵⁷¹ FLEX II (0.4 Bcf/d),⁵⁷² Dominion Cove Point LNG, LP (0.77 Bcf/d),⁵⁷³ Cheniere Marketing, LLC and Corpus Christi Liquefaction, LLC (2.1 Bcf/d),⁵⁷⁴ Sabine Pass Liquefaction, LLC Expansion Project (1.38

⁵⁶⁸ *Sabine Pass Liquefaction, LLC*, DOE/FE Order No. 2961-A, FE Docket No. 10-111-LNG, Final Opinion and Order Granting Long-Term Authorization to Export Liquefied Natural Gas From Sabine Pass LNG Terminal to Non-Free Trade Agreement Nations (Aug. 7, 2012).

⁵⁶⁹ *Carib Energy (USA) LLC*, DOE/FE Order No. 3487, FE Docket No. 11-141-LNG, Final Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas in ISO Containers by Vessel to Non-Free Trade Agreement Nations in Central America, South America, or the Caribbean (Sept. 10, 2014).

⁵⁷⁰ *Cameron LNG, LLC*, DOE/FE Order No. 3391-A, FE Docket No. 11-162-LNG, Final Opinion and Order Granting Long-Term Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from the Cameron LNG Terminal in Cameron Parish, Louisiana, to Non-Free Trade Agreement Nations (Sept. 10, 2014).

⁵⁷¹ *Freeport LNG Expansion, L.P., et al.*, DOE/FE Order No. 3282-C, FE Docket No. 10-161-LNG, Final Opinion and Order Granting Long-Term Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from the Freeport LNG Terminal on Quintana Island, Texas, to Non-Free Trade Agreement Nations (Nov. 14, 2014) (FLEX I Final Order).

⁵⁷² *Freeport LNG Expansion, L.P., et al.*, DOE/FE Order No. 3357-B, FE Docket No. 11-161-LNG, Final Opinion and Order Granting Long-Term Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from the Freeport LNG Terminal on Quintana Island, Texas, to Non-Free Trade Agreement Nations (Nov. 14, 2014) (FLEX II Final Order).

⁵⁷³ *Dominion Cove Point LNG, LP*, DOE/FE Order No. 3331-A, FE Docket No. 11-128-LNG, Final Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas from the Cove Point LNG Terminal in Calvert County, Maryland, to Non-Free Trade Agreement Nations (May 7, 2015).

⁵⁷⁴ *Cheniere Marketing, LLC and Corpus Christi Liquefaction, LLC*, DOE/FE Order No. 3638, FE Docket No. 12-97-LNG, Final Order and Opinion Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from the Proposed Corpus Christi Liquefaction Project to Be Located in Corpus Christi, Texas, to Non-Free Trade Agreement Nations (May 12, 2015).

Bcf/d),⁵⁷⁵ American Marketing LLC (0.008 Bcf/d),⁵⁷⁶ Emera CNG, LLC (0.008 Bcf/d),⁵⁷⁷ Floridian Natural Gas Storage Company, LLC,⁵⁷⁸ Air Flow North American Corp. (0.002 Bcf/d),⁵⁷⁹ Bear Head LNG Corporation and Bear Head LNG (USA), LLC (0.81 Bcf/d),⁵⁸⁰ Pieridae Energy (USA) Ltd.,⁵⁸¹ Sabine Pass Liquefaction, LLC Design Increase (0.56 Bcf/d),⁵⁸² Cameron LNG, LLC Design Increase (0.42 Bcf/d),⁵⁸³ Cameron LNG, LLC Expansion Project

⁵⁷⁵ *Sabine Pass Liquefaction, LLC*, DOE/FE Order No. 3669, FE Docket Nos. 13-30-LNG, 13-42-LNG, & 13-121-LNG, Final Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from the Sabine Pass LNG Terminal Located in Cameron Parish, Louisiana, to Non-Free Trade Agreement Nations (June 26, 2015).

⁵⁷⁶ *American LNG Marketing LLC*, DOE/FE Order No. 3690, FE Docket No. 14-209-LNG, Final Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas in ISO Containers Loaded at the Proposed Hialeah Facility Near Medley, Florida, and Exported by Vessel to Non-Free Trade Agreement Nations (Aug. 7, 2015).

⁵⁷⁷ *Emera CNG, LLC*, DOE/FE Order No. 3727, FE Docket No. 13-157-CNG, Final Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Compressed Natural Gas by Vessel From a Proposed CNG Compression and Loading Facility at the Port of Palm Beach, Florida, to Non-Free Trade Agreement Nations (Oct. 19, 2015).

⁵⁷⁸ *Floridian Natural Gas Storage Co., LLC*, DOE/FE Order No. 3744, FE Docket No. 15-38-LNG, Final Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas in ISO Containers Loaded at the Proposed Floridian Facility in Martin County, Florida, and Exported by Vessel to Non-Free Trade Agreement Nations (Nov. 25, 2015).

⁵⁷⁹ *Air Flow North American Corp.*, DOE/FE Order No. 3753, FE Docket No. 15-206-LNG, Final Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas in ISO Containers Loaded at the Clean Energy Fuels Corp. LNG Production Facility in Willis, Texas, and Exported by Vessel to Non-Free Trade Agreement Nations in Central America, South America, the Caribbean, or Africa (Dec. 4, 2015).

⁵⁸⁰ *Bear Head LNG Corporation and Bear Head LNG (USA)*, DOE/FE Order No. 3770, FE Docket No. 15-33-LNG, Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export U.S.-Sourced Natural Gas by Pipeline to Canada for Liquefaction and Re-Export in the Form of Liquefied Natural Gas to Non-Free Trade Agreement Countries (Feb. 5, 2016).

⁵⁸¹ *Pieridae Energy (USA) Ltd.*, DOE/FE Order No. 3768, FE Docket No. 14-179-LNG, Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export U.S.-Sourced Natural Gas Natural Gas by Pipeline to Canada for Liquefaction and Re-Export in the Form of Liquefied Natural Gas to Non-Free Trade Agreement Countries (Feb. 5, 2016).

⁵⁸² *Sabine Pass Liquefaction, LLC*, DOE/FE Order No. 3792, FE Docket No. 15-63-LNG, Final Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel From the Sabine Pass LNG Terminal Located in Cameron Parish, Louisiana, to Non-Free Trade Agreement Nations (Mar. 11, 2016).

⁵⁸³ *Cameron LNG, LLC*, DOE/FE Order No. 3797, FE Docket No. 15-167-LNG, Final Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from the Cameron Terminal Located in Cameron and Calcasieu Parishes, Louisiana, to Non-Free Trade Agreement Nations (Mar. 18, 2016).

(1.41 Bcf/d),⁵⁸⁴ Lake Charles Exports, LLC (2.0 Bcf/d),⁵⁸⁵ Lake Charles LNG Export Company, LLC,⁵⁸⁶ Carib Energy (USA), LLC (0.004),⁵⁸⁷ Magnolia LNG, LLC (1.08 Bcf/d),⁵⁸⁸ Southern LNG Company, L.L.C. (0.36 Bcf/d),⁵⁸⁹ the FLEX Design Increase (0.34 Bcf/d),⁵⁹⁰ Golden Pass Products LLC (2.21 Bcf/d),⁵⁹¹ Delfin LNG LLC,⁵⁹² the Lake Charles LNG Export Company, LLC Design Increase (0.33 Bcf/d),⁵⁹³ the Lake Charles Exports, LLC Design Increase,⁵⁹⁴ Eagle

⁵⁸⁴ *Cameron LNG, LLC*, DOE/FE Order No. 3846, FE Docket No. 15-90-LNG, Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from Trains 4 and 5 of the Cameron LNG Terminal Located in Cameron and Calcasieu Parishes, Louisiana, to Non-Free Trade Agreement Nations (July 15, 2016).

⁵⁸⁵ *Lake Charles Exports, LLC*, DOE/FE Order No. 3324-A, FE Docket No. 11-59-LNG, Final Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from the Lake Charles Terminal in Calcasieu Parish, Louisiana, to Non-Free Trade Agreement Nations (July 29, 2016).

⁵⁸⁶ *Lake Charles LNG Export Co., LLC*, DOE/FE Order No. 3868, FE Docket No. 13-04-LNG, Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from the Lake Charles Terminal in Calcasieu Parish, Louisiana to Non-Free Trade Agreement Nations (July 29, 2016).

⁵⁸⁷ *Carib Energy (USA) LLC*, DOE/FE Order No. 3937, FE Docket No. 16-98-LNG, Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas in ISO Containers Loaded at Designated Pivotal LNG, Inc. Facilities and Exported by Vessel to Non-Free Trade Agreement Nations in Central America, South America, or the Caribbean (Nov. 28, 2016).

⁵⁸⁸ *Magnolia LNG, LLC*, DOE/FE Order No. 3909, FE Docket No. 13-132-LNG, Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel From the Proposed Magnolia LNG Terminal to be Constructed in Lake Charles, Louisiana, to Non-Free Trade Agreement Nations (Nov. 30, 2016).

⁵⁸⁹ *Southern LNG Company, L.L.C.*, DOE/FE Order No. 3956, FE Docket No. 12-100-LNG, Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from the Elba Island Terminal in Chatham County, Georgia, to Non-Free Trade Agreement Nations (Dec. 16, 2016).

⁵⁹⁰ *Freeport LNG Expansion, L.P., et al.*, DOE/FE Order No. 3957, FE Docket No. 16-108-LNG, Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from the Freeport LNG Terminal on Quintana Island, Texas, to Non-Free Trade Agreement Nations (Dec. 19, 2016).

⁵⁹¹ *Golden Pass Products LLC*, DOE/FE Order No. 3978, FE Docket No. 12-156-LNG, Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from the Golden Pass LNG Terminal Located in Jefferson County, Texas, to Non-Free Trade Agreement Nations (Apr. 25, 2017).

⁵⁹² *Delfin LNG LLC*, DOE/FE Order No. 4028, FE Docket No. 13-147-LNG, Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from a Proposed Floating Liquefaction Project and Deepwater Port 30 Miles Offshore of Louisiana to Non-Free Trade Agreement Nations (June 1, 2017).

⁵⁹³ *Lake Charles LNG Export Co., LLC*, DOE/FE Order No. 4010, FE Docket No. 16-109-LNG, Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from the Lake Charles Terminal in Lake Charles, Louisiana, to Free Trade Agreement and Non-Free Trade Agreement Nations (June 29, 2017).

⁵⁹⁴ *Lake Charles Exports, LLC*, DOE/FE Order No. 4011, FE Docket No. 16-110-LNG, Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from the Lake Charles Terminal in Lake Charles, Louisiana, to Free Trade Agreement and Non-Free Trade Agreement Nations (June 29, 2017).

LNG Partners Jacksonville II LLC (0.01 Bcf/d),⁵⁹⁵ Mexico Pacific Limited LLC (1.7 Bcf/d),⁵⁹⁶ Venture Global Calcasieu Pass, LLC (1.7 Bcf/d),⁵⁹⁷ ECA Liquefaction, S. de R.L. de C.V. (Mid-Scale Project) (0.44 Bcf/d),⁵⁹⁸ Energía Costa Azul, S. de R.L. de C.V. (Large-Scale Project) (1.3 Bcf/d),⁵⁹⁹ Port Arthur LNG, LLC (1.91 Bcf/d),⁶⁰⁰ Driftwood LNG LLC (3.88 Bcf/d),⁶⁰¹ FLEX4 (0.72 Bcf/d),⁶⁰² Gulf LNG Liquefaction Company, LLC (1.5 Bcf/d),⁶⁰³ Eagle LNG Partners Jacksonville LLC (0.14 Bcf/d),⁶⁰⁴ Venture Global Plaquemines LNG, LLC (3.40 Bcf/d),⁶⁰⁵ Texas LNG Brownsville LLC (0.56 Bcf/d),⁶⁰⁶ Corpus Christi Liquefaction Stage III, LLC (1.59

⁵⁹⁵ *Eagle LNG Partners Jacksonville II LLC*, DOE/FE Order No. 4078, FE Docket No. 17-79-LNG, Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas in ISO Containers Loaded at the Eagle Maxville Facility in Jacksonville, Florida, and Exported by Vessel to Free Trade Agreement and Non-Free Trade Agreement Nations (Sept. 15, 2017).

⁵⁹⁶ *See Mexico Pacific Limited LLC*, DOE/FE Order No. 4312, FE Docket No. 18-70-LNG, Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export U.S.-Sourced Natural Gas by Pipeline to Mexico for Liquefaction and Re-Export in the Form of Liquefied Natural Gas to Non-Free Trade Agreement Countries (Dec. 14, 2018).

⁵⁹⁷ *Venture Global Calcasieu Pass, LLC*, DOE/FE Order No. 4346, FE Docket Nos. 13-69-LNG, 14-88-LNG, 15-25-LNG, Opinion and Order Granting Long-Term Authorization to Export Liquefied Natural Gas to Non-Free Trade Agreement Nations (March 5, 2019).

⁵⁹⁸ *Energía Costa Azul, S. de R.L. de C.V.*, DOE/FE Order No. 4364, FE Docket No. 18-144-LNG, Opinion and Order Granting Long-Term Authorization to Re-Export U.S.-Sourced Natural Gas in the Form of Liquefied Natural Gas from Mexico to Non-Free Trade Agreement Countries (ECA Mid-Scale Project) (Mar. 29, 2019), *as amended ECA Liquefaction, S. de R.L. de C.V.*, DOE/FE Order No. 4364-A, FE Docket No. 18-144-LNG, Order Granting Request to Transfer Authorizations (Oct. 7, 2019).

⁵⁹⁹ *Energía Costa Azul, S. de R.L. de C.V.*, DOE/FE Order No. 4365, FE Docket No. 18-145-LNG, Opinion and Order Granting Long-Term Authorization to Re-Export U.S.-Sourced Natural Gas in the Form of Liquefied Natural Gas from Mexico to Non-Free Trade Agreement Countries (ECA Large-Scale Project) (Mar. 29, 2019).

⁶⁰⁰ *Port Arthur LNG, LLC*, DOE/FE Order No. 4372, FE Docket No. 15-96-LNG, Opinion and Order Granting Long-Term Authorization to Export Liquefied Natural Gas to Non-Free Trade Agreement Nations (May 2, 2019).

⁶⁰¹ *Driftwood LNG LLC*, DOE/FE Order No. 4373, FE Docket No. 16-144-LNG, Opinion and Order Granting Long-Term Authorization to Export Liquefied Natural Gas to Non-Free Trade Agreement Nations (May 2, 2019).

⁶⁰² *Freeport LNG Expansion, L.P., et al.*, DOE/FE Order No. 4374, FE Docket No. 18-26-LNG, Opinion and Order Granting Long-Term Authorization to Export Liquefied Natural Gas to Non-Free Trade Agreement Nations (May 28, 2019).

⁶⁰³ *Gulf LNG Liquefaction Co., LLC*, DOE/FE Order No. 4410, FE Docket No. 12-101-LNG, Opinion and Order Granting Long-Term Authorization to Export Liquefied Natural Gas to Non-Free Trade Agreement Nations (July 31, 2019).

⁶⁰⁴ *Eagle LNG Partners Jacksonville LLC*, DOE/FE Order No. 4445, FE Docket No. 16-15-LNG, Opinion and Order Granting Long-Term Authorization to Export Liquefied Natural Gas to Non-Free Trade Agreement Nations (Oct. 3, 2019).

⁶⁰⁵ *Venture Global Plaquemines LNG, LLC*, DOE/FE Order No. 4446, FE Docket No. 16-28-LNG, Opinion and Order Granting Long-Term Authorization to Export Liquefied Natural Gas to Non-Free Trade Agreement Nations (Oct. 16, 2019).

⁶⁰⁶ *Texas LNG Brownsville LLC*, DOE/FE Order No. 4489, FE Docket No. 15-62-LNG, Opinion and Order Granting Long-Term Authorization to Export Liquefied Natural Gas to Non-Free Trade Agreement Nations (Feb. 10, 2020).

Bcf/d),⁶⁰⁷ Annova LNG Common Infrastructure, LLC (0.99 Bcf/d),⁶⁰⁸ Rio Grande LNG, LLC (3.61 Bcf/d),⁶⁰⁹ and this Order.

On February 5, 2019, DOE/FE vacated a non-FTA authorization previously issued to Flint Hills Resources, LP in a volume of 0.01 Bcf/d, at the company's request.⁶¹⁰ Additionally, we note that the volumes authorized for export in the *Lake Charles Exports* and *Lake Charles LNG Export* orders are both 2.0 Bcf/d and 0.33 Bcf/d, respectively, yet are not additive to one another because the source of LNG approved under all of those orders is the Lake Charles Terminal.⁶¹¹ Likewise, the *Carib* and *Floridian* orders are both 14.6 Bcf/yr of natural gas (0.04 Bcf/d), yet are not additive to one another because the source of LNG approved under both orders is from the Floridian Facility.⁶¹² Additionally, the volumes authorized for export in the *Bear Head* and *Pieridae US* orders are not additive; together, they are limited to a maximum of 0.81 Bcf/d to reflect the current capacity of the Maritimes Northeast Pipeline at the U.S.-Canadian border.⁶¹³

⁶⁰⁷ *Corpus Christi Liquefaction Stage III, LLC*, DOE/FE Order No. 4490, FE Docket No. 18-78-LNG, Opinion and Order Granting Long-Term Authorization to Export Liquefied Natural Gas to Non-Free Trade Agreement Nations (Feb. 10, 2020).

⁶⁰⁸ *Annova LNG Common Infrastructure, LLC*, DOE/FE Order No. 4491, FE Docket No. 19-34-LNG, Opinion and Order Granting Long-Term Authorization to Export Liquefied Natural Gas to Non-Free Trade Agreement Nations (Feb. 10, 2020).

⁶⁰⁹ *Rio Grande LNG, LLC*, DOE/FE Order No. 4492, FE Docket No. 15-190-LNG, Opinion and Order Granting Long-Term Authorization to Export Liquefied Natural Gas to Non-Free Trade Agreement Nations (Feb. 10, 2020).

⁶¹⁰ *Flint Hills Resources, LP*, DOE/FE Order Nos. 3809-A and 3829-A, FE Docket No. 15-168-LNG, Order Granting Request to Vacate Long-Term, Multi-Contract Authorizations to Export LNG to Free Trade Agreement Nations and to Non-Free Trade Agreement Nations (Feb. 5, 2019) (vacating, in relevant part, DOE/FE Order No. 3829 authorizing the export of 0.01 Bcf/d of natural gas to non-FTA countries).

⁶¹¹ *Lake Charles LNG Export Co., LLC*, DOE/FE Order No. 4010, at 55; *see also Lake Charles Exports, LLC*, DOE/FE Order No. 4011, at 54.

⁶¹² *See Floridian Natural Gas Storage Co., LLC*, DOE/FE Order No. 3744, at 22 (stating that the quantity of LNG authorized for export by Floridian in DOE/FE Order No. 3744 “will be reduced by the portion of the total approved volume of 14.6 Bcf/yr that is under firm contract directly or indirectly to Carib Energy (USA), LLC”); *see also id.* at 21 (Floridian “may not treat the volumes authorized for export in the [*Carib* and *Floridian*] proceedings as additive to one another.”).

⁶¹³ *See Bear Head LNG Corporation and Bear Head LNG (USA)*, DOE/FE Order No. 3770, at 178-79 (stating that the quantity of LNG authorized for export by Bear Head LNG and Pieridae US “are not additive; together, they are limited to a maximum of 0.81 Bcf/d to reflect the current capacity of the M&N US Pipeline.”).

In sum, the total export volume granted to date is within the range of scenarios analyzed in the 2018 LNG Export Study. The 2018 Study found that exports of LNG from the lower-48 states, in volumes up to and including 52.8 Bcf/d of natural gas, will not be inconsistent with the public interest.⁶¹⁴ DOE/FE further notes that, to date, the amount of U.S. LNG export capacity that is operating or under construction totals 15.54 Bcf/d of natural gas across eight large-scale export projects in the lower-48 states.⁶¹⁵

DOE/FE will continue taking a measured approach in reviewing the other pending applications to export natural gas. Specifically, DOE/FE will continue to assess the cumulative impacts of each succeeding request for export authorization on the public interest with due regard to the effect on domestic natural gas supply and demand fundamentals.

The reasons in support of proceeding cautiously are several: (1) the 2018 LNG Export Study, like any study based on assumptions and economic projections, is inherently limited in its predictive accuracy; (2) applications to export significant quantities of domestically produced LNG are still a relatively new phenomena with uncertain impacts; and (3) the market for natural gas has experienced rapid reversals in the past and is again changing rapidly due to economic, technological, and regulatory developments. The market of the future very likely will not resemble the market of today. In recognition of these factors, DOE/FE intends to monitor developments that could tend to undermine the public interest in grants of successive applications for exports of domestically produced LNG and to attach terms and conditions to LNG export authorizations to protect the public interest.

⁶¹⁴ See 2018 Study Response to Comments, 83 Fed. Reg. at 67,273 (citing 2018 LNG Export Study at 63 & App'x F).

⁶¹⁵ U.S. Energy Info. Admin., *U.S. Liquefaction Capacity* (Apr. 22, 2020), available at: <https://www.eia.gov/naturalgas/U.S.liquefactioncapacity.xlsx> (total of 15.54 Bcf/d calculated by adding Column N in "Existing & Under Construction" worksheet).

XI. FINDINGS

On the basis of the findings and conclusions set forth above, DOE/FE grants Jordan Cove's Application, as amended, subject to the Terms and Conditions and Ordering Paragraphs set forth below.

XII. TERMS AND CONDITIONS

To ensure that the authorization issued by this Order is not inconsistent with the public interest, DOE/FE has attached the following Terms and Conditions to the authorization. Jordan Cove must abide by each Term and Condition or face appropriate sanction.

A. Term of the Authorization

Jordan Cove requests a 25-year term for the authorization. However, consistent with the Conditional Order and the final non-FTA authorizations issued to date, we believe that caution recommends limiting this authorization to no longer than a 20-year term beginning from the date of first export. The 20-year term will begin on the date when Jordan Cove commences commercial export of LNG from the Jordan Cove LNG Terminal, but not before.

B. Commencement of Operations

Jordan Cove requests in the 2018 Amendment that this authorization commence on the earlier of the date of first export or seven years from the date of the issuance of this Order. Consistent with our final non-FTA authorizations to date, DOE/FE will add as a condition of the authorization that Jordan Cove must commence commercial LNG export operations no later than seven years from the date of issuance of this Order. The purpose of this condition is to ensure that other entities that may seek similar authorizations are not frustrated in their efforts to obtain those authorizations by authorization holders that are not engaged in actual export operations.

C. Commissioning Volumes

Jordan Cove will be permitted to apply for short-term export authorizations to export Commissioning Volumes prior to the commencement of the first commercial exports of LNG from the Jordan Cove LNG Terminal. “Commissioning Volumes” are defined as the volume of LNG produced and exported under a short-term authorization during the initial start-up of each LNG train, before each LNG train has reached its full steady-state capacity and begun its commercial exports pursuant to Jordan Cove’s long-term contracts.⁶¹⁶ The Commissioning Volumes will not be counted against the maximum level of volumes previously authorized in Jordan Cove’s FTA authorization (DOE/FE Order No. 3041-A) or in this Order.

D. Make-Up Period

Jordan Cove will be permitted to continue exporting for a total of three years following the end of the 20-year term established in this Order, solely to export any volume that it was unable to export during the original export period (Make-Up Volume). The three-year term during which the Make-Up Volume may be exported shall be known as the “Make-Up Period.”

The Make-Up Period does not affect or modify the total volume of LNG previously authorized in Jordan Cove’s FTA authorization (DOE/FE Order No. 3041-A) or in this Order. Insofar as Jordan Cove may seek to export additional volumes not previously authorized for export, it will be required to obtain appropriate authorization from DOE/FE.

E. Transfer, Assignment, or Change in Control

DOE/FE’s natural gas regulations prohibit authorization holders from transferring or assigning authorizations to import or export natural gas without specific authorization by the

⁶¹⁶ See *Freeport LNG Expansion, L.P., et al.*, DOE/FE Order Nos. 3282-B & 3357-A, FE Docket Nos. 10-161-LNG & 11-161-LNG, Order Amending DOE/FE Order Nos. 3282 and 3357, at 4-9 (June 6, 2014) (providing additional discussion of Commissioning Volumes and the Make-Up Period).

Assistant Secretary for Fossil Energy.⁶¹⁷ DOE/FE has found that this requirement applies to any change of control of the authorization holder. This condition was deemed necessary to ensure that DOE/FE will be given an adequate opportunity to assess the public interest impacts of such a transfer or change.

DOE/FE construes a change in control to mean a change, directly or indirectly, of the power to direct the management or policies of an entity whether such power is exercised through one or more intermediary companies or pursuant to an agreement, written or oral, and whether such power is established through ownership or voting of securities, or common directors, officers, or stockholders, or voting trusts, holding trusts, or debt holdings, or contract, or any other direct or indirect means.⁶¹⁸ A rebuttable presumption that control exists will arise from the ownership or the power to vote, directly or indirectly, 10% or more of the voting securities of such entity.⁶¹⁹

F. Agency Rights

Jordan Cove requests authorization to export LNG on its own behalf and as agent for other entities that hold title to the LNG at the time of export, pursuant to long-term contracts. DOE/FE previously has determined that, in LNG export orders in which Agency Rights have been granted, DOE/FE shall require registration materials filed for, or by, a LNG title-holder (Registrant) to include the same company identification information and long-term contract information of the Registrant as if the Registrant had filed an application to export LNG on its own behalf.⁶²⁰

⁶¹⁷ 10 C.F.R. § 590.405.

⁶¹⁸ See U.S. Dep't of Energy, Procedures for Changes in Control Affecting Applications and Authorizations to Import or Export Natural Gas, 79 Fed. Reg. 65,541, 65,542 (Nov. 5, 2014).

⁶¹⁹ See *id.*

⁶²⁰ See, e.g., *Cameron LNG, LLC*, DOE/FE Order No. 3846, FE Docket No. 15-90-LNG, Opinion and Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from Trains 4 and 5

To ensure that the public interest is served, this authorization shall be conditioned to require that where Jordan Cove proposes to export LNG from the Jordan Cove LNG Terminal as agent for other entities that hold title to the LNG (Registrants), it must register with DOE/FE those entities on whose behalf it will export LNG in accordance with the procedures and requirements described herein.

G. Contract Provisions for the Sale or Transfer of LNG to be Exported

DOE/FE will require that Jordan Cove file or cause to be filed with DOE/FE any relevant long-term commercial agreements, including liquefaction tolling agreements, pursuant to which Jordan Cove exports LNG as agent for a Registrant. DOE/FE finds that the submission of all such agreements or contracts within 30 days of their execution using the procedures described below will be consistent with the “to the extent practicable” requirement of section 590.202(b).⁶²¹

In addition, DOE/FE finds that section 590.202(c) of DOE/FE’s regulations⁶²² requires that Jordan Cove file, or cause to be filed, all long-term contracts associated with the long-term supply of natural gas to the Jordan Cove LNG Terminal, whether signed by Jordan Cove or the Registrant, within 30 days of their execution.

DOE/FE recognizes that some information in Jordan Cove’s or a Registrant’s long-term commercial agreements associated with the export of LNG, and/or long-term contracts associated with the long-term supply of natural gas to the Terminal, may be commercially sensitive. DOE/FE therefore will provide Jordan Cove the option to file or cause to be filed

of the Cameron LNG Terminal to Non-Free Trade Agreement Nations, at 128-29 (July 15, 2016); *Freeport LNG Expansion, L.P., et al.*, DOE/FE Order No. 2913, FE Docket No. 10-160-LNG, Order Granting Long-Term Authorization to Export Liquefied Natural Gas from the Freeport LNG Terminal to Free Trade Agreement Nations, at 7-8 (Feb. 10, 2011).

⁶²¹ 10 C.F.R. § 590.202(b).

⁶²² *Id.* § 590.202(c).

either unredacted contracts, or in the alternative (A) Jordan Cove may file, or cause to be filed, long-term contracts under seal, but it also will file either: (i) a copy of each long-term contract with commercially sensitive information redacted, or (ii) a summary of all major provisions of the contract(s) including, but not limited to, the parties to each contract, contract term, quantity, any take or pay or equivalent provisions/conditions, destinations, re-sale provisions, and other relevant provisions; and (B) the filing must demonstrate why the redacted information should be exempted from public disclosure.⁶²³

To ensure that DOE/FE destination and reporting requirements included in this Order are conveyed to subsequent title holders, DOE/FE will include as a condition of this authorization that future contracts for the sale or transfer of LNG exported pursuant to this Order shall include an acknowledgement of these requirements.

H. Export Quantity

This Order grants Jordan Cove's Application, as modified by the 2018 Amendment, in the full volume of LNG requested for export to non-FTA countries, up to the equivalent of 395 Bcf/yr of natural gas.

I. Combined FTA and Non-FTA Export Authorization Volumes

The volumes of LNG authorized for export in Jordan Cove's FTA authorization (DOE/FE Order No. 3041-A) and this Order each reflect the planned liquefaction capacity of the Jordan Cove LNG Terminal, as approved by FERC. Accordingly, Jordan Cove may not treat the FTA and non-FTA export volumes as additive to one another.

⁶²³ *Id.* § 590.202(e) (allowing confidential treatment of information in accordance with 10 C.F.R. § 1004.11).

XIII. ORDER

Pursuant to section 3 of the Natural Gas Act, it is ordered that:

A. Jordan Cove Energy Project L.P. (Jordan Cove) is authorized to export LNG by vessel from the proposed Jordan Cove LNG Terminal (Terminal) to be located in unincorporated Coos County, Oregon, in a volume up to the equivalent of 395 Bcf/yr of natural gas. The LNG may be sourced from both: (i) domestically produced natural gas, and (ii) natural gas produced in Canada and imported into the United States. This authorization is for a term of 20 years to commence from the date of first commercial export, but not before. Jordan Cove is authorized to export the LNG on its own behalf and as agent for other entities who hold title to the natural gas, pursuant to one or more long-term contracts (a contract greater than two years).

B. Jordan Cove may export Commissioning Volumes prior to the commencement of the terms of this Order, pursuant to a separate short-term export authorization. The Commissioning Volumes will not be counted against the export volumes previously authorized in Jordan Cove's FTA authorization or in this Order.

C. Jordan Cove may continue exporting for a total of three years following the end of the 20-year export term, solely to export any Make-Up Volume that it was unable to export during the original export period. The three-year Make-Up Period allowing the export of Make-Up Volumes will not affect or modify the export volumes previously authorized in Jordan Cove's FTA authorization or in this Order. Insofar as Jordan Cove may seek to export additional volumes not previously authorized, it will be required to obtain appropriate authorization from DOE/FE.

D. Jordan Cove must commence export operations using the planned Jordan Cove LNG Terminal no later than seven years from the date of issuance of this Order.

E. The LNG export quantity authorized in this Order is equivalent to 395 Bcf/yr of natural gas.

F. This LNG may be exported to any country with which the United States does not have a FTA requiring national treatment for trade in natural gas, which currently has or in the future develops the capacity to import LNG, and with which trade is not prohibited by U.S. law or policy.

G. Jordan Cove shall ensure that all transactions authorized by this Order are permitted and lawful under U.S. laws and policies, including the rules, regulations, orders, policies, and other determinations of the Office of Foreign Assets Control of the U.S. Department of the Treasury and FERC. Failure to comply with these requirements could result in rescission of this authorization and/or other civil or criminal penalties.

H. Jordan Cove shall ensure compliance with all terms and conditions established by FERC in the final EIS, including the 133 environmental conditions adopted in the FERC Order issued on March 19, 2020, as modified by the Rehearing Order issued on May 22, 2020. Additionally, this authorization is conditioned on Jordan Cove's ongoing compliance with any other preventative and mitigative measures at the proposed Jordan Cove LNG Terminal imposed by federal or state agencies.⁶²⁴

I. (i) Jordan Cove shall file, or cause others to file, with the Office of Regulation, Analysis, and Engagement a non-redacted copy of all executed long-term contracts associated with the long-term export of LNG as agent for other entities from the Terminal. The non-

⁶²⁴ This includes FERC's conditional authorization of the Jordan Cove Energy Project pending receipt of all applicable federal and state approvals—including those required under the Coastal Zone Management Act, the Clean Water Act, and the Clean Air Act—unless such approvals have been waived. *See, e.g.*, FERC Order, App'x (Environmental Conditions 11 and 27); FERC Rehearing Order at ¶¶ 74-84, 92-98.

redacted copies must be filed within 30 days of their execution and may be filed under seal, as described above.

(ii) Jordan Cove shall file, or cause others to file, with the Office of Regulation, Analysis, and Engagement a non-redacted copy of all executed long-term contracts associated with the long-term supply of natural gas to the Terminal. The non-redacted copies must be filed within 30 days of their execution and may be filed under seal, as described above.

J. Jordan Cove is permitted to use its authorization to export LNG as agent for other LNG title-holders (Registrants), after registering those entities with DOE/FE. Registration materials shall include an agreement by the Registrant to supply Jordan Cove with all information necessary to permit Jordan Cove to register that person or entity with DOE/FE, including: (1) the Registrant's agreement to comply with this Order and all applicable requirements of DOE/FE's regulations at 10 C.F.R. Part 590, including but not limited to destination restrictions; (2) the exact legal name of the Registrant, state/location of incorporation/registration, primary place of doing business, and the Registrant's ownership structure, including the ultimate parent entity if the Registrant is a subsidiary or affiliate of another entity; (3) the name, title, mailing address, e-mail address, and telephone number of a corporate officer or employee of the Registrant to whom inquiries may be directed; and (4) within 30 days of execution, a copy of any long-term contracts not previously filed with DOE/FE, described in Ordering Paragraph I of this Order.

Any change in the registration materials—including changes in company name, contact information, length of the long-term contract, termination of the long-term contract, or other relevant modification—shall be filed with DOE/FE within 30 days of such change(s).

K. Jordan Cove, or others for whom Jordan Cove acts as agent, shall include the following provision in any agreement or other contract for the sale or transfer of LNG pursuant to this Order:

Customer or purchaser acknowledges and agrees that it will resell or transfer LNG, purchased hereunder for delivery only to countries identified in Ordering Paragraph F of DOE/FE Order No. 3413-A, issued July 6, 2020, in FE Docket No. 12-32-LNG, and/or to purchasers that have agreed in writing to limit their direct or indirect resale or transfer of such LNG to such countries. Customer or purchaser further commits to cause a report to be provided to Jordan Cove Energy Project L.P. that identifies the country (or countries) into which the LNG was actually delivered, and to include in any resale contract for such LNG the necessary conditions to ensure that Jordan Cove Energy Project L.P. is made aware of all such actual destination countries.

L. Within two weeks after the first export authorized in Ordering Paragraph A occurs, Jordan Cove shall provide written notification of the date that the first export occurred.

M. Jordan Cove shall file with the Office of Regulation, Analysis, and Engagement, on a semi-annual basis, written reports describing the status of the proposed Jordan Cove LNG Terminal. The reports shall be filed on or by April 1 and October 1 of each year, and shall include information on the status of the proposed Terminal, the date the Terminal is expected to commence first exports of LNG, and the status of any associated long-term supply and export contracts.

N. With respect to any change in control of the authorization holder, Jordan Cove must comply with DOE/FE's Procedures for Change in Control Affecting Applications and Authorizations to Import or Export Natural Gas.⁶²⁵

O. Monthly Reports: With respect to the exports authorized by this Order, Jordan Cove shall file with the Office of Regulation, Analysis, and Engagement, within 30 days following the last day of each calendar month, a report on Form FE-746R indicating whether exports of LNG

⁶²⁵ See 79 Fed. Reg. at 65,541-42.

have been made. The first monthly report required by this Order is due not later than the 30th day of the month following the month of first export. In subsequent months, if exports have not occurred, a report of “no activity” for that month must be filed. If exports of LNG have occurred, the report must give the following details of each LNG cargo: (1) the name(s) of the authorized exporter registered with DOE/FE; (2) the name of the U.S. export terminal; (3) the name of the LNG tanker; (4) the date of departure from the U.S. export terminal; (5) the country (or countries) into which the LNG was actually delivered; (6) the name of the supplier/seller; (7) the volume in thousand cubic feet (Mcf); (8) the price at point of export per million British thermal units (MMBtu); (9) the duration of the supply agreement; and (10) the name(s) of the purchaser(s).

(Approved by the Office of Management and Budget under OMB Control No. 1901-0294.)

P. All monthly report filings on Form FE-746R shall be made to the U.S. Department of Energy (FE-34), Office of Fossil Energy, Office of Regulation, Analysis, and Engagement, according to the methods of submission listed on the Form FE-746R reporting instructions available at <https://www.energy.gov/fe/services/natural-gas-regulation>.

Q. The motions to intervene submitted by the following parties in response to the 2015 Amendment are granted by operation of law: Craig and Stacey McLaughlin; Wim de Vriend; API; IECA; Jody McCaffree and Citizens Against LNG; the Evans Schaaf Family, LLC, Deborah Evans, and Ron Schaaf; and Oregon Women’s Land Trust.⁶²⁶

R. The motions to intervene submitted by the following parties in response to the 2018 Amendment are granted by operation of law: Confederated Tribes of the Coos, Lower Umpqua, and Siuslaw Indians; Citizens for Renewables, Inc.; Barbara Brown; Pamela Brown Ordway;

⁶²⁶ 10 C.F.R. § 590.303(g).

John Clarke Family – Oregon Trust; Russell Lyon; Reggie and Renee Alvey; Brad Royal;
Landowners United and Clarence Adams; Kenneth and Kristine Cates; Curtis and Melissa Pallin;
James Dahlman; James and Archina Davenport; Larry and Sylvia Mangan; James R. Coonan, C2
Cattle Co.; Keri Wu; Linda Craig; Lorraine Spurlock; Nikki Amos; Bob Barker; Judy Faye
Whitson; Marcella and Alan Laudani; Juanita Saul; Bill Gow, Gow Ranch; Chris Press; Alisa
Acosta; William McKinley; Gerald and Robin Wisdom; and Oregon Women’s Land Trust.⁶²⁷

Issued in Washington, D.C., on July 6, 2020.



Dan Brouillette
U.S. Secretary of Energy

⁶²⁷ See *id.*

APPENDIX A: FILINGS SUBMITTED IN RESPONSE TO 2012 APPLICATION⁶²⁸

Motions to Intervene and/or Protest			
No.	Date Filed:	Filed by:	Type of Filing:
1	08/06/12	American Public Gas Association	Motion for Leave to Intervene and Protest
2	08/06/12	Citizens Against LNG, Inc.	Notice of Intervention, Protest and Comments
3	08/06/12	Rogue Riverkeeper and Klamath-Siskiyou Wildlands Center (together, KS Wild)	Comments in Opposition of Application and Motion to Intervene
4	08/06/12	Landowners United	Notice of Intervention and Protest
5	08/06/12	Sierra Club	Motion to Intervene, Comment and Protest

Timely-Filed Comments		
No.	Date Filed:	Filed by:
1	07/23/12	Paula A. Jones
2	07/27/12	State of Oregon, Office of the Co-Speakers
3	07/30/12	Patrick B. Smith, Secretary/Treasurer, Lane, Coos, Curry, Douglas Building Trades Council
4	07/31/12	Larry A. Reiber, CPA, Scoville & Reiber, PC
5	08/01/12	Kathleen Hornstuen
6	08/01/12	Linda Stevens
7	08/01/12	Ted Freeman Jr, President, Freeman Rock, Inc.
8	08/01/12	Harry Abel Jr. CIC, AAI, CRM, President Abel Insurance Agency
9	08/01/12	Craig Storm
10	08/01/12	Loran Wiese
11	08/01/12	Sharilyn Brown
12	08/01/12	C. Andrew Nasburg
13	08/01/12	Dale Sause, President, Sause Brothers
14	08/01/12	Angela Cotton
15	08/01/12	Desirea Owens
16	08/01/12	Sandra and Steve Jansen
17	08/02/12	Jon Barton
18	08/02/12	Jane Aplet
19	08/02/12	Joe and Tricia Benetti
20	08/02/12	Edward L. Metcalf, Chairperson, Coquille Indian Tribe

⁶²⁸ DOE/FE previously summarized and addressed these filings in Jordan Cove’s Conditional Order, DOE/FE Order No. 3413.

21	08/02/12	Roger Langlie
22	08/02/12	Matt LeDoux, President, Bay Area Chamber of Commerce
23	08/02/12	Patricia M. Denton
24	08/02/12	Randy and Kelly Hoffine
25	08/02/12	Larry J. Denton
26	08/02/12	Thomas P. Shine
27	08/02/12	Marvin Caldera, President, The Int'l Longshore and Warehouse Union Local 12
28	08/03/12	Jeananne Bartleson
29	08/03/12	Clifford Chambers
30	08/03/12	Evan J. Griffith, General Manager, Matanuska Electric Association
31	08/03/12	Scott L. Vuillemot, President, American Marine Corporation
32	08/03/12	Scott L. Vuillemot, President, PENCO Pacific Environmental Corp.
33	08/03/12	Derrick Hindery
34	08/06/12	Russell, Sandra, and Kristopher Lyon
35	08/06/12	Charmaine Vitek, Manager, Port of Umpqua Commission
36	08/06/12	David Kronsteiner, President, Board of Commissioners; and David Koch, CEO, Oregon Int'l Port of Coos Bay
37	08/06/12	Eric S. Albertson
38	08/06/12	Betty J. Albertson, MBA
39	08/06/12	Wim de Vriend

Late-Filed Comments <i>(all accepted for filing)</i>		
No.	Date Filed:	Filed by:
1	08/06/12	Sandra Geiser-Messerle, South Coast Development Council, Inc.
2	08/06/12	Ronald Cox, Vice President Power Supply, Hawaiian Electric Co.
3	08/06/12	Donna Opitz
4	08/07/12	Jan Dilley
5	08/09/12	Q.T. Freeman, Cardinal Services
6	08/10/12	Christopher R. Johnson
7	08/10/12	Paula A. Jones

APPENDIX B: FILINGS SUBMITTED IN RESPONSE TO 2015 AMENDMENT

Motions to Intervene and/or Protest				
No.	Date Filed:	Filed by:	Type of Filing:	Prior Filings (Date Filed):
1	03/23/16	Sierra Club	Answer to Amendment and Protest	Motion to Intervene, Comment, and Protest (08/06/12)
2	03/23/16	Craig and Stacey McLaughlin	Motion to Intervene, Comment, Protest	
3	03/23/16	Wim de Vriend	Notice of Intervention, Protest, and Comments	Comments (08/06/12)
4	03/23/16	American Petroleum Institute	Motion to Intervene	
5	03/23/16	Industrial Energy Consumers of America	Notice of Intervention, Protest, and Comment	
6	03/23/16	Jody McCaffree and Citizens Against LNG	Notice of Intervention, Protest, and Comments	Notice of Intervention, Protest, and Comments (08/06/12)
7	03/23/16	Evans Schaaf Family LLC, Deborah Evans, and Ron Schaaf	Motion to Intervene, Comment, and Protest	
8	03/23/16	Oregon Women's Land Trust	Motion to Intervene, Comment, and Protest	

Timely-Filed Comments		
No.	Date Filed:	Filed by:
1	03/23/16	Oregon Wild
2	03/21/16	Toni Woolsey
3	03/23/16	Kathy Dodds
4	03/23/16	MA Rohrer
5	03/23/16	Katy Eymann

Late-Filed Comment <i>(deemed out-of-time)</i>		
No.	Date Filed:	Filed by:
1	04/02/16	Alan Journet, South Oregon Climate Action Now (SOCAN)

APPENDIX C: FILINGS SUBMITTED IN RESPONSE TO 2018 AMENDMENT

Motions to Intervene and/or Protest				
No.	Date Filed:	Filed by:	Type of Filing:	Prior Filings (Date Filed):
1	05/07/18	Barbara Brown	Notice of Intervention, Comment, and Protest	
2	05/07/18	Pamela Brown Ordway	Notice of Intervention, Comment, and Protest	
3	05/07/18	John Clarke Family - Oregon Trust	Notice of Intervention, Comment, and Protest	
4	05/09/18	Russell Lyon	Notice of Intervention, Comment, and Protest	
5	05/09/18	Reggie and Renee Alvey	Notice of Intervention, Comment, and Protest	
6	05/09/18	Jody McCaffree (individually)	Comment and Protest	Notice of Intervention, Protest, and Comments (03/23/16) (together with Citizens Against LNG, Inc.)
7	05/09/18	Brad Royal	Notice of Intervention, Comment, and Protest	
8	05/09/18	Landowners United and Clarence Adams	Notice of Intervention, Comment, and Protest	Notice of Intervention and Protest (08/06/2012)
9	05/09/18	Kenneth and Kristine Cates	Notice of Intervention, Comment, and Protest	
10	05/09/18	Curtis and Melissa Pallin	Notice of Intervention, Comment, and Protest	
11	05/09/18	James Dahlman	Notice of Intervention, Comment, and Protest	
12	05/09/18	James and Archina Davenport	Notice of Intervention, Comment, and Protest	
13	05/09/18	Larry and Silvia Mangan	Notice of Intervention, Comment, and Protest	
14	05/10/18	James R. Coonan, C2 Cattle Co.	Notice of Intervention, Comment, and Protest	
15	05/11/18	Keri Wu	Notice of Intervention, Comment, and Protest	
16	05/12/18	Linda Craig	Notice of Intervention, Comment, and Protest	
17	05/13/18	Lorraine Spurlock	Notice of Intervention, Comment, and Protest	
18	05/14/18	Nikki Amos	Notice of Intervention, Comment, and Protest	

19	05/09/18	Sierra Club	Protest	Motion to Intervene, Comment, and Protest (08/06/12); Answer to Amendment and Protest (03/23/2016)
20	05/09/18	Confederated Tribes of the Coos, Lower Umpqua, and Siuslaw Indians	Motion to Intervene and Comments	
21	05/09/18	Citizens for Renewables, Inc.	Amendment to Notice of Intervention, Comment, and Protest	Notice of Intervention, Comment, and Protest (08/06/12) (as Citizens Against LNG, Inc.); Notice of Intervention, Comment, and Protest (03/23/16) (as Citizens Against LNG, Inc.)
22	05/09/18	Bob Barker	Notice of Intervention, Comment, and Protest	
23	05/09/18	Judy Faye Whitson	Notice of Intervention, Comment, and Protest	
24	05/09/18	Marcella and Alan Laudani	Notice of Intervention, Comment, and Protest	
25	05/09/18	Juanita Saul	Notice of Intervention, Comment, and Protest	
26	05/09/18	Bill Gow, Gow Ranch	Notice of Intervention, Comment, and Protest	
27	05/09/18	Evans Schaaf Family LLC, Deborah Evans, and Ron Schaaf	Protest	Motion to Intervene, Comment, and Protest (03/23/2016)
28	05/09/18	Chris Press	Notice of Intervention, Comment, and Protest	
29	05/09/18	Alisa Acosta	Notice of Intervention, Comment, and Protest	
30	05/09/18	William McKinley	Notice of Intervention, Comment, and Protest	
31	05/09/18	Gerald Wisdom	Notice of Intervention, Comment, and Protest	
32	05/09/18	Oregon Women's Land Trust	Notice of Intervention, Comment, and Protest	Motion to Intervene, Comment, and Protest (03/23/2016)
33	05/09/18	Stacey and Craig McLaughlin	Protest and Comment	Motion to Intervene, Comment, Protest (03/23/2016)

Timely-Filed Comments		
No.	Date Filed:	Filed by:
1	04/24/18	Anonymous
2	04/30/18	Anonymous
3	05/03/18	Whale & Dolphin Conservation
4	05/03/18	Anonymous
5	05/04/18	Umpqua Watersheds, Inc.
6	05/08/18	Roben White
7	05/09/18	Nicholas Garcia

APPENDIX D: RECORD OF DECISION

The Department of Energy’s Office of Fossil Energy (DOE/FE) prepared this Record of Decision (ROD) and Floodplain Statement of Findings pursuant to the National Environmental Policy Act of 1969 (NEPA),⁶²⁹ and in compliance with the Council on Environmental Quality (CEQ) implementing regulations for NEPA,⁶³⁰ DOE’s implementing procedures for NEPA,⁶³¹ and DOE’s “Compliance with Floodplain and Wetland Environmental Review Requirements.”⁶³²

As discussed above, DOE/FE participated as a cooperating agency with the Federal Energy Regulatory Commission (FERC) in preparing an environmental impact statement (EIS) analyzing the potential environmental impacts of the proposed Jordan Cove Energy Project that would be used to support the export authorization sought from DOE/FE.⁶³³ The Jordan Cove Energy Project (the Project) is comprised of: (i) Jordan Cove Energy Project L.P.’s proposed LNG Terminal (the Terminal) with a maximum liquefaction capacity of 7.8 mtpa (equivalent to 395 Bcf/yr of natural gas); and (ii) Pacific Connector Gas Pipeline, LP’s proposed interstate natural gas pipeline system (the Pacific Connector Pipeline) to transport natural gas to the Jordan Cove LNG Terminal for liquefaction and export. In accordance with 40 C.F.R. § 1506.3, DOE/FE adopted the EIS on February 13, 2020 (DOE/EIS-0532),⁶³⁴ and the U.S. Environmental Protection Agency (EPA) published a notice of the adoption on February 21, 2020.⁶³⁵

⁶²⁹ 42 U.S.C. § 4321 *et seq.*

⁶³⁰ 40 C.F.R. Parts 1500-08.

⁶³¹ 10 C.F.R. Part 1021.

⁶³² *Id.* at Part 1022.

⁶³³ Fed. Energy Regulatory Comm’n, *Final Environmental Impact Statement for the Jordan Cove Energy Project*, Docket Nos. CP17-494-000 and CP17-495-000 (Nov. 15, 2019), *available at*: <https://www.ferc.gov/industries/gas/enviro/eis/2019/11-15-19-FEIS.asp> [hereinafter final EIS].

⁶³⁴ Letter from Amy R. Sweeney, DOE/FE, to Julie Roemele, U.S. Env’tl. Prot. Agency (Feb. 13, 2020), *available at*: <https://www.energy.gov/sites/prod/files/2020/02/f71/adoption-letter-eis-0532-jordan-cove-2020-02-13.pdf> (DOE/FE’s adoption of the final EIS).

⁶³⁵ U.S. Env’tl. Prot. Agency, *Environmental Impact Statements; Notice of Availability*, 85 Fed. Reg. 10,164 (Feb. 21, 2020).

A. Alternatives

The EIS assessed alternative methods that could be used to achieve the Jordan Cove Energy Project's objectives.⁶³⁶ The range of alternatives analyzed included the No-Action Alternative, system alternatives, LNG terminal site alternatives, and pipeline route alternatives and variations.⁶³⁷ Alternatives were evaluated and compared to the proposed Project to determine if the alternatives would be environmentally preferable.⁶³⁸

The EIS analyzed a No-Action Alternative, in which the Jordan Cove Energy Project would not be constructed.⁶³⁹ The EIS determined that the stated purpose and need of the Project would not be met under the No-Action Alternative.⁶⁴⁰ In addition, the EIS concluded that if the Project were not constructed, environmental impacts could occur at other locations as a result of another LNG export project seeking to meet the demand identified by Jordan Cove.⁶⁴¹ The EIS determined that, although an alternative project to meet the same purpose and need has not been proposed, it would require a similar footprint, and would not likely provide a significant environmental advantage over the proposed Project.⁶⁴² The EIS, therefore, did not consider the No-Action Alternative further.⁶⁴³

The EIS also evaluated system alternatives for the Project.⁶⁴⁴ The EIS noted that there are no existing or proposed LNG import or export facilities in the contiguous western states of the United States.⁶⁴⁵ On this basis, the EIS concluded that no LNG storage facilities in Oregon

⁶³⁶ Final EIS at 3-1 to 3-52.

⁶³⁷ *Id.*

⁶³⁸ *Id.*

⁶³⁹ *Id.* at 3-4.

⁶⁴⁰ *Id.* at 3-5.

⁶⁴¹ *Id.*; *see also id.* at ES-5.

⁶⁴² Final EIS at 3-5.

⁶⁴³ *Id.*

⁶⁴⁴ *Id.* at 3-5 to 3-9.

⁶⁴⁵ *Id.* at 3-5.

or Washington state, even with modifications, would be a reasonable system alternative.⁶⁴⁶ The EIS also determined that a system alternative making use of existing or proposed Gulf Coast or East Coast facilities would not be reasonable.⁶⁴⁷ Similarly, the EIS evaluated potential system alternatives using existing or proposed LNG export facilities in Alaska, western Canada, and Mexico, and concluded that none of these alternatives would provide a significant environmental advantage over the proposed Jordan Cove Energy Project.⁶⁴⁸ Finally, the EIS concluded that system alternatives making use of existing intra- or inter-state pipeline systems would not provide a significant environmental advantage.⁶⁴⁹

The EIS also evaluated LNG terminal site alternatives for the Project.⁶⁵⁰ It assessed potential alternative LNG terminal sites in California, Washington, and Oregon, including alternative locations on Coos Bay. The EIS determined that none of these alternative LNG terminal sites would provide a significant environmental advantage over the proposed site.⁶⁵¹ The EIS additionally evaluated inland (non-water front) siting for terminal facilities at the proposed site, but determined that this siting arrangement either would not be practical or would not provide a significant environmental advantage.⁶⁵² The EIS also assessed both a shore-side berth alternative configuration at the proposed site and alternative power supply for refrigeration compressors, but concluded that neither provided a significant environmental advantage.⁶⁵³

Finally, the EIS evaluated pipeline route alternatives and variations.⁶⁵⁴ Several variations

⁶⁴⁶ *Id.*

⁶⁴⁷ *Id.*

⁶⁴⁸ Final EIS at 3-7 to 3-8; *see also id.* at ES-5.

⁶⁴⁹ *Id.* at 3-8 to 3-9.

⁶⁵⁰ *Id.* at 3-9 to 3-18.

⁶⁵¹ *Id.* at 3-10 to 3-14; *see id.* at ES-5.

⁶⁵² *Id.* at 3-14 to 3-15.

⁶⁵³ *Id.* at 3-16 to 3-18.

⁶⁵⁴ Final EIS at 3-18 to 3-51.

had been identified earlier in the EIS process and had already been incorporated into the proposed route analyzed in the EIS.⁶⁵⁵ Numerous additional alternatives and variations were also evaluated. The EIS concluded that all but one were either infeasible or did not offer a significant environmental advantage over the proposed route.⁶⁵⁶ The EIS found that the Blue Ridge Variation would result in a significant environmental advantage when compared to the corresponding segment of the proposed route.⁶⁵⁷ Therefore, the EIS recommended incorporation of the Blue Ridge Variation into the Pacific Connector Pipeline route.⁶⁵⁸ The FERC Order includes a requirement for Pacific Connector to revise the proposed route to incorporate the Blue Ridge Variation.⁶⁵⁹

B. Environmentally Preferred Alternative

When compared against the alternatives assessed in the EIS, the Jordan Cove Energy Project—as modified by incorporation of the Blue Ridge Variation in the route of the Pacific Connector Pipeline and the recommended mitigation measures—is the environmentally preferred alternative to meet the Project’s objectives.⁶⁶⁰

C. Decision

DOE/FE has decided to issue DOE/FE Order No. 3413-A, authorizing Jordan Cove to export LNG by vessel from the proposed Jordan Cove LNG Terminal to non-FTA countries in a volume equivalent to 395 Bcf/yr of natural gas for a term of 20 years. The LNG may be sourced from both: (i) domestically produced natural gas, and (ii) natural gas produced in Canada and

⁶⁵⁵ *Id.* at 3-18.

⁶⁵⁶ *See id.* at 3-18 to 3-51.

⁶⁵⁷ *Id.* at 3-24 to 3-26.

⁶⁵⁸ *Id.* at 3-26, 3-52; *see also id.* at ES-6.

⁶⁵⁹ *See Jordan Cove Energy Project L.P. & Pacific Connector Gas Pipeline, LP*, Order Granting Authorizations Under Sections 3 & 7 of the Natural Gas Act, 170 FERC ¶ 61,202, App’x (Environmental Condition 16) (Mar. 19, 2020) [hereinafter FERC Order].

⁶⁶⁰ Final EIS at 3-52.

imported into the United States. DOE/FE's decision is based on: (i) the analysis of potential environmental impacts presented in the EIS; and (ii) DOE's determination in the Order that the protestors and commenters in opposition have failed to show that Jordan Cove's proposed exports will be inconsistent with the public interest, as would be required to deny the Application, as modified by the 2018 Amendment, under NGA section 3(a).⁶⁶¹ DOE/FE also considered the Addendum, which summarizes available information on potential upstream impacts associated with unconventional natural gas activities, such as hydraulic fracturing.⁶⁶²

D. Mitigation

As a condition of its decision to issue Order No. 3413-A, DOE/FE is imposing requirements that will avoid or minimize the environmental impacts of the Jordan Cove Energy Project. Specifically, in its Order authorizing the Project on March 19, 2020,⁶⁶³ FERC adopted the 132 mitigation measures recommended in the final EIS and added one condition for a total of 133 environmental conditions.⁶⁶⁴ Subsequently, in its Rehearing Order, FERC modified the FERC Order to clarify one environmental condition.⁶⁶⁵ Mitigation measures beyond those included in Order No. 3413-A that are enforceable by other federal and state agencies are additional conditions of Order No. 3413-A. With these conditions, DOE/FE has determined that all practicable means to avoid or minimize environmental harm from the proposed Jordan Cove Energy Project have been adopted.

⁶⁶¹ 15 U.S.C. § 717b(a).

⁶⁶² U.S. Dep't of Energy, Addendum to Environmental Review Documents Concerning Exports of Natural Gas From the United States, 79 Fed. Reg. 48,132 (Aug. 15, 2014).

⁶⁶³ See FERC Order at ¶¶ 1, 7.

⁶⁶⁴ FERC added Environmental Condition 39, requiring that, prior to receiving LNG carriers, Jordan Cove must file an affirmative statement indicating that it has signed and executed a Letter of Agreement with the Southwest Oregon Regional Airport as stipulated by the Federal Aviation Authority's determination for temporary structures. See *id.* at ¶ 247.

⁶⁶⁵ *Jordan Cove Energy Project L.P., et al.*, Order on Rehearing and Stay, 171 FERC ¶ 61,136, ¶¶ 146-48 (May 22, 2020) (clarification to Environmental Condition 34 regarding noise controls at compressor station).

E. Floodplain Statement of Findings

DOE/FE prepared this Floodplain Statement of Findings in accordance with DOE's regulations, entitled "Compliance with Floodplain and Wetland Environmental Review Requirements."⁶⁶⁶ The required floodplain assessment was conducted during development and preparation of the EIS, which determined that portions of the Jordan Cove Energy Project would be located in floodplains.⁶⁶⁷ While the placement of the Project within floodplains would be unavoidable, DOE/FE has determined that the proposed design for the Project minimizes floodplain impacts to the extent practicable.

⁶⁶⁶ 10 C.F.R. Part 1022.

⁶⁶⁷ Final EIS at 4-102.