

UNITED STATES OF AMERICA  
DEPARTMENT OF ENERGY  
OFFICE OF FOSSIL ENERGY

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EAGLE LNG PARTNERS JACKSONVILLE LLC )  
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FE DOCKET NO. 16-15-LNG

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

DOE/FE ORDER NO. 4445

OCTOBER 3, 2019

## TABLE OF CONTENTS

I.	INTRODUCTION.....	1
II.	BACKGROUND.....	4
	A. DOE’s LNG Export Studies.....	4
	1. 2012 EIA and NERA Studies.....	4
	2. 2014 and 2015 LNG Export Studies .....	5
	3. 2018 LNG Export Study .....	7
	B. DOE’s Environmental Studies .....	14
	C. Judicial Decisions Upholding DOE’s Non-FTA Authorizations.....	16
III.	PUBLIC INTEREST STANDARD .....	18
IV.	DESCRIPTION OF REQUEST.....	21
	A. Description of Applicant .....	21
	B. Proposed Jacksonville Project.....	21
	C. Source of Natural Gas .....	23
	D. Business Model .....	24
V.	APPLICANT’S PUBLIC INTEREST ANALYSIS .....	24
	A. Overview .....	24
	B. Domestic Need for the Natural Gas to be Exported.....	25
	C. Economic Benefits .....	26
	D. International Benefits .....	27
	E. Environmental Benefits .....	28
VI.	FERC PROCEEDING .....	28
	A. FERC’s Pre-Filing Procedures.....	28
	B. FERC’s Environmental Review.....	29
	C. FERC’s Order Granting Authorization .....	30
VII.	CURRENT PROCEEDING BEFORE DOE/FE .....	32
	A. Overview .....	32
	B. The Center for Biological Diversity’s Motion to Intervene, Protest, and Comments ..	32
	1. Legal Standards.....	33
	2. Alleged Need for Programmatic EIS .....	34
	3. Alleged Environmental Impacts of the Requested Authorization, Including Induced Natural Gas Production.....	35
	4. Alleged Economic Impacts .....	38
	C. Motion to Intervene and Comments of the American Petroleum Institute .....	38
VIII.	DISCUSSION AND CONCLUSIONS.....	40
	A. Procedural Matters .....	40
	B. Non-Environmental Issues .....	40

1. Significance of the 2018 LNG Export Study .....	40
2. Eagle LNG’s Application and Supplements .....	42
3. Price Impacts .....	43
4. Benefits of International Trade .....	45
C. Environmental Issues .....	46
1. Adoption of FERC’s Final EIS .....	46
2. Environmental Impacts Associated with Induced Production of Natural Gas.....	46
3. Compliance with Endangered Species Act .....	48
4. Greenhouse Gas Impacts Associated with U.S. LNG Exports .....	49
D. Other Considerations.....	53
E. Conclusion .....	54
IX. FINDINGS .....	60
X. TERMS AND CONDITIONS .....	60
A. Term of the Authorization.....	60
B. Commencement of Operations.....	60
C. Commissioning Volumes .....	60
D. Make-Up Period .....	61
E. Transfer, Assignment, or Change in Control .....	61
F. Agency Rights .....	62
G. Contract Provisions for the Sale or Transfer of LNG to be Exported.....	63
H. Export Quantity .....	64
I. Combined FTA and Non-FTA Export Authorization Volumes .....	64
XI. ORDER .....	64
APPENDIX: RECORD OF DECISION .....	70
A. Alternatives .....	70
B. Environmentally Preferred Alternative .....	72
C. Decision.....	72
D. Mitigation.....	73
E. Floodplain Statement of Findings .....	73

## **FREQUENTLY USED ACRONYMS**

AEO	Annual Energy Outlook
Bcf/d	Billion Cubic Feet per Day
Bcf/yr	Billion Cubic Feet per Year
CPP	Clean Power Plan
DOE	U.S. Department of Energy
EIA	U.S. Energy Information Administration
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
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
ISO	ISO IMO7/TVAC-ASME LNG
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

## I. INTRODUCTION

On January 27, 2016, Eagle LNG Partners Jacksonville LLC (Eagle LNG) filed an application (Application)<sup>1</sup> with the Office of Fossil Energy (FE) of the Department of Energy (DOE) under section 3 of the Natural Gas Act (NGA).<sup>2</sup> Eagle LNG requests long-term, multi-contract authorization to export domestically produced liquefied natural gas (LNG) from its planned production, storage, and export facility to be constructed at a site on the St. Johns River in Jacksonville, Florida (the Jacksonville Project or Facility). Eagle LNG seeks to export this LNG to: (i) any country with which the United States currently has, or in the future will have, a free trade agreement (FTA) requiring national treatment for trade in natural gas (FTA countries)<sup>3</sup>; and (ii) any other country with which trade is not prohibited by U.S. law or policy (non-FTA countries).<sup>4</sup>

Eagle LNG requests authority to export the LNG in a volume equivalent to approximately 0.14 billion cubic feet per day (Bcf/d) of natural gas, which it states is equivalent to 49.8 Bcf per year (Bcf/yr) or 1.0 million metric tons per annum (mtpa) of LNG.<sup>5</sup> In the Application, Eagle LNG originally sought to export this LNG by ocean-going LNG carrier vessels. However, on March 18, 2016, Eagle LNG filed a supplement to its Application in which

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<sup>1</sup> Eagle LNG Partners Jacksonville LLC, Application for Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas to Free Trade Agreement and Non-Free Trade Agreement Nations, FE Docket No. 16-15-LNG (Jan. 27, 2016) [hereinafter App.].

<sup>2</sup> 15 U.S.C. § 717b. 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.

<sup>3</sup> 15 U.S.C. §717b(c). 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.

<sup>4</sup> 15 U.S.C. §717b(a); *see* App. at 1.

<sup>5</sup> App. at 1.

it requested authority to export LNG by means of both ocean-going LNG carrier vessels and approved ISO IMO7/TVAC-ASME LNG (ISO) containers to be loaded onto container vessels.<sup>6</sup>

Eagle LNG seeks to export this LNG for a 20-year term commencing on the earlier of the date of first export or five years from the date of the requested authorization. Additionally, Eagle LNG requests the authorization on its own behalf and as agent for other entities that will hold title to the LNG at the time of export.<sup>7</sup>

On July 1, 2016, DOE/FE published a notice of the non-FTA portion of the Application in the *Federal Register* (Notice of Application).<sup>8</sup> The Notice of Application called on interested persons to submit protests, motions to intervene, notices of intervention, and comments by August 30, 2016.<sup>9</sup> DOE received two filings in response: the Center for Biological Diversity (the Center) submitted a motion to intervene, protest, and comments opposing the Application,<sup>10</sup> and the American Petroleum Institute (API) submitted a motion to intervene and comments supporting the Application.<sup>11</sup>

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<sup>6</sup> Eagle LNG Partners Jacksonville LLC, Second Supplement to Application, FE Docket No. 16-15-LNG, at 1-2 (Mar. 18, 2016) (emphasis added) [hereinafter Second Supp.]. Eagle LNG filed two other supplements to the Application on February 2, 2016 (the First Supplement), and June 1, 2016 (the Third Supplement), respectively. In the First Supplement, Eagle LNG provided the “Third Amendment to the Purchase and Sale Agreement,” showing its control over the site of the proposed Jacksonville Project. In the Third Supplement, Eagle LNG submitted property maps for the Jacksonville Project. See Eagle LNG Partners Jacksonville LLC, Supplement to Application, FE Docket No. 16-15-LNG (Feb. 2, 2016) [hereinafter First Supp.]; Eagle LNG Partners Jacksonville LLC, Third Supplement to Application, FE Docket No. 16-15-LNG (June 1, 2016) [hereinafter Third Supp.].

<sup>7</sup> App. at 1.

<sup>8</sup> Eagle LNG Partners Jacksonville LLC, Application for Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas to Non-Free Trade Agreement Nations, Notice of Application, 81 Fed. Reg. 43,192 (July 1, 2016).

<sup>9</sup> DOE finds that the requirement for public notice of applications in 10 C.F.R. Part 590 is applicable only to non-FTA applications under NGA section 3(a).

<sup>10</sup> Center for Biological Diversity, Motion to Intervene, Protest, and Comments, FE Docket No. 16-15-LNG (Aug. 29, 2016) [hereinafter Center Mot.].

<sup>11</sup> American Petroleum Inst., Motion to Intervene and Comments in Support, FE Docket No. 16-15-LNG (Aug. 30, 2016) [hereinafter API Mot.].

On July 21, 2016, in Order No. 3867, DOE/FE granted the FTA portion of the Application in the requested volume of 49.8 Bcf/yr of natural gas.<sup>12</sup>

More recently, on September 19, 2019, the Federal Energy Regulatory Commission (FERC) issued an order granting Eagle LNG's application to site, construct, and operate the Jacksonville Project.<sup>13</sup> FERC authorized Eagle LNG to construct and operate three liquefaction trains at the Jacksonville Project, each with a nominal capacity of 0.33 mtpa of LNG, for a total nominal capacity of 1 mtpa.<sup>14</sup>

DOE/FE has reviewed the non-FTA portion of the Application, the three Supplements to the Application, the two filings in response to the Application, DOE's economic and environmental studies, the final environmental impact statement (EIS) prepared for the Jacksonville Project by FERC staff, the FERC Order, and the most recent projections of the U.S. Energy Information Administration (EIA), among other evidence discussed below. On the basis of this substantial administrative record, DOE/FE has determined that it has not been shown that Eagle LNG's proposed exports will be inconsistent with the public interest, as would be required to deny the Application under NGA section 3(a). DOE/FE therefore grants the non-FTA portion of the Application in the volume requested—49.8 Bcf/yr of natural gas.<sup>15</sup> Because the export volumes authorized in Eagle LNG's FTA order (DOE/FE Order No. 3867) and this Order each reflect the planned liquefaction capacity of the Jacksonville Project as approved by FERC, the FTA and non-FTA volumes are not additive.

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<sup>12</sup> *Eagle LNG Partners Jacksonville LLC*, DOE/FE Order No. 3867, FE Docket No. 16-15-LNG, Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel From, or in ISO Containers Loaded at, the Proposed Eagle LNG Facility in Jacksonville, Florida, to Free Trade Agreement Nations (July 21, 2016).

<sup>13</sup> *Eagle LNG Partners Jacksonville LLC*, Order Granting Authorization Under Section 3 of the Natural Gas Act, 168 FERC ¶ 61,181 (Sept. 19, 2019) [hereinafter FERC Order].

<sup>14</sup> *Id.* at ¶ 3 n.3.

<sup>15</sup> *See infra* §§ IX-XI.

Additionally, as discussed below, DOE/FE participated as a cooperating agency in FERC’s environmental review of the Jacksonville Project under the National Environmental Policy Act of 1969 (NEPA), 42 U.S.C. § 4321 *et seq.* FERC issued the final EIS for the Jacksonville Project on April 12, 2019.<sup>16</sup> After an independent review, DOE/FE adopted the final EIS on April 22, 2019 (DOE/EIS-0513),<sup>17</sup> and the U.S. Environmental Protection Agency (EPA) published a notice of the adoption on May 3, 2019.<sup>18</sup> As an Appendix to this Order, DOE/FE is issuing the Record of Decision (ROD) under NEPA for the proposed Jacksonville Project. This Order requires Eagle LNG’s compliance with the 131 environmental conditions recommended in the final EIS and adopted in the FERC Order.<sup>19</sup>

The volume approved for export in this Order—0.14 Bcf/d of natural gas—brings DOE/FE’s cumulative total of approved non-FTA exports of LNG and compressed natural gas to 34.66 Bcf/d of natural gas.<sup>20</sup>

## **II. BACKGROUND**

### **A. 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

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<sup>16</sup> See Federal Energy Regulatory Comm’n, *Final Environmental Impact Statement for Eagle LNG Partners Jacksonville, LLC Jacksonville Project*, Docket No. CP 17-41-000 (Apr. 12, 2019), available at: <https://www.ferc.gov/industries/gas/enviro/eis/2019/04-12-19-FEIS/04-12-19-FEIS.pdf> [hereinafter final EIS].

<sup>17</sup> Letter from Amy Sweeney, DOE/FE, to Julie Roemele, U.S. EPA (Apr. 22, 2019) (adoption of final EIS).

<sup>18</sup> U.S. Env’tl. Protection Agency, Environmental Impact Statements; Notice of Availability, 84 Fed. Reg. 19,074 (May 3, 2019).

<sup>19</sup> See also *infra* § XI (Ordering Para. H); § VI.

<sup>20</sup> See *infra* § VIII.E.

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.

In December 2012, DOE/FE published a notice of availability of the 2012 LNG Export Study in the *Federal Register* for public comment.<sup>21</sup> DOE/FE subsequently responded to the public comments in connection with the LNG export proceedings identified in that notice.<sup>22</sup>

## **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.<sup>23</sup> DOE announced plans to undertake new

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<sup>21</sup> See 2012 LNG Export Study, 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](http://energy.gov/sites/prod/files/2013/04/f0/fr_notice_two_part_study.pdf) (Notice of Availability of the LNG Export Study).

<sup>22</sup> 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).

<sup>23</sup> 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.

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.<sup>24</sup>

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 EIA LNG Export Study or 2014 Study).<sup>25</sup> 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 export scenarios and used baseline cases from EIA's *Annual Energy Outlook 2014* (AEO 2014).<sup>26</sup>

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).<sup>27</sup> 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

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<sup>24</sup> 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: <http://energy.gov/fe/downloads/request-update-eia-s-january-2012-study-liquefied-natural-gas-export-scenarios> (May 29, 2014) (memorandum from FE to EIA).

<sup>25</sup> 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>.

<sup>26</sup> 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.

<sup>27</sup> 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](http://energy.gov/sites/prod/files/2015/12/f27/20151113_macro_impact_of_lng_exports_0.pdf).

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.<sup>28</sup> DOE/FE subsequently responded to the public comments in connection with the LNG export proceedings identified in that notice.<sup>29</sup>

### **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.<sup>30</sup> 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.<sup>31</sup> Accordingly, DOE/FE, through its support contractor KeyLogic Systems, Inc., commissioned NERA to conduct the 2018 LNG Export

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<sup>28</sup> 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).

<sup>29</sup> *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).

<sup>30</sup> *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].

<sup>31</sup> 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.

Study. DOE published the 2018 LNG Export Study on its website on June 7, 2018,<sup>32</sup> and concurrently provided notice of the availability of the Study, as discussed below.<sup>33</sup>

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),<sup>34</sup>
- (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.<sup>35</sup>

#### **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<sub>ew</sub>ERA models.<sup>36</sup> The 2018 Study develops 54 scenarios by identifying various assumptions for domestic and international

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<sup>32</sup> 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].

<sup>33</sup> See 2018 Study Notice.

<sup>34</sup> 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).

<sup>35</sup> See 2018 Study Notice, 83 Fed. Reg. at 27,316.

<sup>36</sup> 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].

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.<sup>37</sup>

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 (HOGRT) case, which provides more optimistic resource development estimates than the Reference case; and
- iii. Low Oil and Gas Resource and Technology (LOGRT) case, which provides less optimistic resource development estimates than the Reference case.<sup>38</sup>

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 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.<sup>39</sup>

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).

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<sup>37</sup> 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).

<sup>38</sup> *See id.*

<sup>39</sup> *See id.*

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.<sup>40</sup>

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.<sup>41</sup> 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 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.

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<sup>40</sup> See *id.*

<sup>41</sup> See *id.*

- 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 gross domestic product (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.<sup>42</sup>

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<sup>42</sup> See 2018 Study Response to Comments, 83 Fed. Reg. at 67,255.

#### **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.<sup>43</sup> 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.”<sup>44</sup> 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.<sup>45</sup> Of those, nine comments supported the Study,<sup>46</sup> eight comments opposed the 2018 Study and exports of LNG,<sup>47</sup> one comment took no position,<sup>48</sup> and one comment was non-responsive.<sup>49</sup>

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 28, 2018.<sup>50</sup> 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.<sup>51</sup>

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<sup>43</sup> See 2018 Study Notice.

<sup>44</sup> *Id.*, 83 Fed. Reg. at 27,315.

<sup>45</sup> The public comments are posted on the DOE/FE website at: <https://fossil.energy.gov/app/docketindex/docket/index/10>.

<sup>46</sup> 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.

<sup>47</sup> 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.

<sup>48</sup> Comment of John Young.

<sup>49</sup> Comment of Vincent Burke.

<sup>50</sup> See 2018 Study Response to Comments, 83 Fed. Reg. at 67,260-72.

<sup>51</sup> See *id.* at 67,272.

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.<sup>52</sup> 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.<sup>53</sup> 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.”<sup>54</sup>
- “Increased exports of natural gas will improve the U.S. balance of trade and result in a wealth transfer into the United States.”<sup>55</sup>
- “Overall [U.S.] GDP improves as LNG exports increase for all scenarios with the same U.S. natural gas supply condition.”<sup>56</sup>
- “There is no support for the concern that LNG exports would come at the expense of domestic natural gas consumption.”<sup>57</sup>
- “[A] large share of the increase in LNG exports is supported by an increase in domestic natural gas production.”<sup>58</sup>

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<sup>52</sup> *See id.*

<sup>53</sup> *See id.*

<sup>54</sup> *Id.* (quoting 2018 LNG Export Study at 55).

<sup>55</sup> 2018 Study Response to Comments, 83 Fed. Reg. at 67,273 (quoting 2018 LNG Export Study at 64).

<sup>56</sup> *Id.* (quoting 2018 LNG Export Study at 67).

<sup>57</sup> *Id.* (quoting 2018 LNG Export Study at 77).

<sup>58</sup> *Id.*

- “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.”<sup>59</sup>

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.<sup>60</sup> 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.<sup>61</sup>

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.”<sup>62</sup> 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.<sup>63</sup>

## **B. 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, 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

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<sup>59</sup> *Id.* (quoting 2018 LNG Export Study at 70).

<sup>60</sup> 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>.

<sup>61</sup> 2018 Study Response to Comments, 83 Fed. Reg. at 67,273.

<sup>62</sup> *Id.* (citing 2018 LNG Export Study at 63 & Appendix F).

<sup>63</sup> See 2018 Study Response to Comments, 83 Fed. Reg. at 67,273.

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).<sup>64</sup> 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.<sup>65</sup>

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. The purpose of this analysis was 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. DOE/FE published NETL's report entitled, *Life Cycle Greenhouse Gas Perspective on Exporting Liquefied Natural Gas from the United States* (LCA GHG Report).<sup>66</sup> DOE/FE also received public comments on the LCA GHG Report and responded to those comments in prior orders.<sup>67</sup>

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<sup>64</sup> 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.

<sup>65</sup> 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>.

<sup>66</sup> 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 LCA GHG Report]. DOE/FE announced the availability of the LCA GHG Report on its website on May 29, 2014.

<sup>67</sup> *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).

With respect to both the Addendum and the LCA GHG Report, 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.<sup>68</sup>

### **C. 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*),<sup>69</sup> and three in a consolidated, unpublished opinion issued on November 1, 2017 (*Sierra Club II*).<sup>70</sup> 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.<sup>71</sup>

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

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<sup>68</sup> We note that, on September 19, 2019, DOE/FE gave notice of an update to the LCA GHG Report, and that proceeding is on-going. See U.S. Dep't of Energy, Life Cycle Greenhouse Gas Perspective on Exporting Liquefied Natural Gas from the United States: 2019 Update, 84 Fed. Reg. 49,278 (Sept. 19, 2019).

<sup>69</sup> *Sierra Club v. U.S. Dep't of Energy*, 867 F.3d 189 (Aug. 15, 2017) (denying petition for review of the LNG export authorization issued to Freeport LNG Expansion, L.P., *et al.*).

<sup>70</sup> *Sierra Club v. U.S. Dep't of Energy*, 703 Fed. Appx. 1 (D.C. Cir. Nov. 1, 2017) (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).

<sup>71</sup> 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 unopposed motion for voluntary dismissal).

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 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.”<sup>72</sup>

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.<sup>73</sup> 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.”<sup>74</sup> 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.”<sup>75</sup>

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.<sup>76</sup> The Court pointed to DOE’s LCA GHG Report, finding there was “nothing arbitrary” about the scope of DOE’s analysis of GHG emissions in that Report.<sup>77</sup>

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<sup>72</sup> *Sierra Club I*, 867 F.3d at 203.

<sup>73</sup> *Id.* at 192.

<sup>74</sup> *Id.* at 198.

<sup>75</sup> *Id.* at 201.

<sup>76</sup> *Id.*

<sup>77</sup> *Id.* at 202.

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.”<sup>78</sup> Having “already rejected 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.”<sup>79</sup>

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.”<sup>80</sup> 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.<sup>81</sup> The D.C. Circuit’s decisions in *Sierra Club I and II* guide our review in this proceeding.

### III. PUBLIC INTEREST STANDARD

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

[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 Energy<sup>82</sup>] 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.<sup>83</sup>

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<sup>78</sup> *Sierra Club I*, 867 F.3d at 203.

<sup>79</sup> *Id.*

<sup>80</sup> *Sierra Club II*, 703 Fed. Appx. 1, at \*2.

<sup>81</sup> *Id.*

<sup>82</sup> 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.

<sup>83</sup> 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.<sup>84</sup> 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.<sup>85</sup> Before reaching a final decision, DOE must also comply with NEPA.

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.<sup>86</sup> 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:

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

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<sup>84</sup> See *Sierra Club*, 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)).

<sup>85</sup> 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)).

<sup>86</sup> New Policy Guidelines and Delegations Order Relating to Regulation of Imported Natural Gas, 49 Fed. Reg. 6684 (Feb. 22, 1984) [hereinafter 1984 Policy Guidelines].

competitively priced basis for the duration of the contract while minimizing regulatory impediments to a freely operating market.<sup>87</sup>

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.<sup>88</sup>

In Order No. 1473, DOE stated that it was guided by DOE Delegation Order No. 0204-111.<sup>89</sup> 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.”<sup>90</sup>

Although DOE Delegation Order No. 0204-111 is no longer in effect, 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 promoting market competition, and (iv) any other factors bearing on the public interest, as determined by DOE.

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<sup>87</sup> *Id.* at 6685.

<sup>88</sup> *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)).

<sup>89</sup> *See id.* at 13 and n.45.

<sup>90</sup> 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)).

#### **IV. DESCRIPTION OF REQUEST**

##### **A. Description of Applicant**

Eagle LNG states that it is a Delaware limited liability company with its principal place of business in Houston, Texas. Eagle LNG is a wholly-owned subsidiary of Eagle LNG Partners LLC, a Delaware limited liability company. According to Eagle LNG, the current member of Eagle LNG Partners LLC is Ferus Natural Gas Fuels, L.P., a Delaware partnership with its headquarters in Houston, Texas.<sup>91</sup>

##### **B. Proposed Jacksonville Project**

Eagle LNG states that the Jacksonville Project will be constructed at a site on the St. Johns River in Jacksonville, Florida, along an existing, maintained ship channel. As approved by FERC, the Jacksonville Project will occupy about 92 acres of land within an approximately 194-acre parcel to be owned by Eagle LNG.<sup>92</sup> Eagle LNG has entered into a purchase agreement with the owner of the land for the site, which will allow title to transfer before construction activities begin.<sup>93</sup> According to Eagle LNG, the site is zoned for industrial use and is adjacent to sites on which other bulk fuel terminals are currently located.<sup>94</sup>

Eagle LNG states that it designed the Jacksonville Project to be small in scale to support the export of LNG to markets that cannot be served by large LNG carriers, such as constrained ports in the Caribbean. The LNG to be produced by the Project is also intended for use in the

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<sup>91</sup> App. at 2.

<sup>92</sup> FERC Order at ¶ 8; *see also* App. at 3. In its Third Supplement to the Application, Eagle LNG submitted maps showing the general location of the Jacksonville Project and a general plot plan. *See supra* note 6.

<sup>93</sup> FERC Order at ¶ 8 n.20; *see also* App. at 3. In its First Supplement to the Application, Eagle LNG submitted a Third Amendment to the Purchase and Sale Agreement covering the tract on which the Eagle LNG project will be developed. *See supra* note 6.

<sup>94</sup> App. at 3; *see also id.* at 24.

domestic marine LNG bunkering trade at nearby ports, and for LNG vehicular fueling stations in Florida and other southeastern states.<sup>95</sup>

As approved by FERC, the Jacksonville Project will consist of three liquefaction trains. Each train will be capable of liquefying approximately 44 million standard cubic feet (MMcf) per day of domestically produced natural gas, equivalent to approximately 0.33 mtpa of LNG.<sup>96</sup> In sum, the Jacksonville Project will have a total nominal capacity of 1 mtpa of LNG.<sup>97</sup> The Jacksonville Project also will include the following features:

- Pretreatment facilities at each liquefaction train;
- A 45,000-cubic meter (m<sup>3</sup>) LNG storage tank;
- Four inlet gas compressors and a compression system;
- A marine LNG load-out facility;
- A dock for small and medium-sized LNG carriers and bunkering barges;
- A LNG and heavy hydrocarbon truck load-out facility; and
- Other auxiliary and support facilities.<sup>98</sup>

Eagle LNG states that it intends to export LNG from the Jacksonville Project by means of both ocean-going LNG carrier vessels and approved ISO containers to be loaded onto container vessels. As to ocean-going carrier vessels, Eagle LNG anticipates that the LNG will be loaded into small- to medium-sized carrier vessels, with approximately 40 to 100 carrier trips per year on the St. Johns River.<sup>99</sup> Eagle LNG anticipates that these vessels will deliver entire LNG

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<sup>95</sup> FERC Order at ¶ 4; *see also* App. at 2-3.

<sup>96</sup> FERC Order at ¶ 3; *see also* Final EIS at 1, 2.

<sup>97</sup> Final EIS at 1; *see also* FERC Order at ¶ 3 n.3.

<sup>98</sup> FERC Order at ¶ 3.

<sup>99</sup> *Id.* at ¶ 4; *see also* App. at 3.

cargoes to a single destination or will off-load portions of their cargo to multiple destination ports.<sup>100</sup>

As to exports in ISO containers, Eagle LNG states that it will fill the ISO containers through its planned trunk load-out facility. The ISO containers will be transported to locations within the Port of Jacksonville, where they will be loaded onto container ships for delivery to export markets. Eagle LNG anticipates that it may serve certain Caribbean and Central American LNG markets through deliveries of ISO containers either as an interim measure or, in the case of smaller or isolated markets, on a longer-term basis.<sup>101</sup>

Eagle LNG states that the Jacksonville Project will receive domestically produced natural gas from Peoples Gas System (Peoples Gas), liquefy it, and store and transfer the LNG into LNG carriers for export.<sup>102</sup> According to Eagle LNG, Peoples Gas is a Florida local distribution company, with a pipeline system located adjacent to the Project site and an interconnection located directly in front of the site.<sup>103</sup> Peoples Gas is a division of TECO Energy Inc. and an indirect subsidiary of Emera Inc.<sup>104</sup>

### **C. Source of Natural Gas**

Eagle LNG states that the Jacksonville Project will receive natural gas from two interstate natural gas companies that deliver natural gas to the Peoples Gas system: Florida Gas Transmission Company, LLC and Southern Natural Gas Company, LLC.<sup>105</sup> Eagle LNG states that these pipelines will provide the Jacksonville Project with access to major sources of natural

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<sup>100</sup> App. at 3.

<sup>101</sup> Second Supp. at 1-2; *see also* Final EIS 1-1.

<sup>102</sup> FERC Order at ¶ 4.

<sup>103</sup> App. at 6.

<sup>104</sup> *Id.*; *see also* FERC Order at ¶ 4 n.8.

<sup>105</sup> App. at 6; *see also* FERC Order at ¶ 4 n.8.

gas supply—including onshore and offshore natural gas resources produced in the Gulf Shore region and elsewhere in North America.<sup>106</sup>

#### **D. Business Model**

Eagle LNG requests authorization to export LNG on its own behalf and as agent for other entities who hold title to the LNG at the time of export. Eagle LNG states that it will comply with all DOE/FE requirements for exporters and agents. Eagle LNG 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 as set forth in recent DOE/FE orders.<sup>107</sup>

Eagle LNG states that it has not yet entered into any long-term supply or export agreements with prospective customers, but it anticipates executing commercial agreements in the form of LNG Sales and Purchase Agreements (SPAs).<sup>108</sup> Pursuant to these SPAs, Eagle LNG anticipates that it will procure natural gas for delivery to the Jacksonville Project and will transfer title to the produced LNG upon loading of the LNG for export.<sup>109</sup> Eagle LNG states that it will file any long-term natural gas supply and export contracts with DOE/FE under seal, once executed, as required by DOE/FE regulations.<sup>110</sup>

### **V. APPLICANT’S PUBLIC INTEREST ANALYSIS**

#### **A. Overview**

Eagle LNG asserts that the requested non-FTA authorization will not be inconsistent with the public interest under section 3(a) of the NGA, 15 U.S.C. 717b(a).<sup>111</sup> In support of this

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<sup>106</sup> App. at 6-7.

<sup>107</sup> *Id.* at 4-5.

<sup>108</sup> *Id.* at 5.

<sup>109</sup> *Id.*

<sup>110</sup> *Id.* at 6.

<sup>111</sup> *Id.* at 8, 11.

position, Eagle LNG addresses the following factors: (i) the domestic need for the natural gas to be exported, (ii) economic benefits, (iii) international benefits, and (iv) environmental benefits.

**B. Domestic Need for the Natural Gas to be Exported**

Eagle LNG states that it is seeking to export a small volume of LNG (equivalent to 49.8 Bcf/yr), which it notes is many times smaller than export volumes approved by DOE/FE in recent non-FTA orders. Accordingly, Eagle LNG states that “the impact of granting [its] export authorization ... will be far smaller than the impacts identified in other recent applications which the DOE/FE found to be consistent with the public interest.”<sup>112</sup> Eagle LNG likewise asserts that its “proposed exports of small volumes ... will not have a significant impact on [the] domestic supply of natural gas,” and “will not cause any significant change in domestic supply, demand, or prices for natural gas.”<sup>113</sup>

Addressing natural gas supply and demand in the United States, Eagle LNG cites EIA’s *Annual Energy Outlook 2015* in stating that there will be “substantial” natural gas resources and “relatively minor” increases in domestic natural gas demand through the time period analyzed by EIA (*i.e.*, 2040).<sup>114</sup> Accordingly, Eagle LNG contends, “there are more than sufficient natural gas resources to accommodate both domestic demand and LNG exports, including the small volumes of exports proposed,” throughout the requested 20-year authorization period.<sup>115</sup>

Next, Eagle LNG maintains that its proposed exports will not have a significant impact on domestic natural gas prices. Citing EIA data, Eagle LNG points to the decline in natural gas prices that has resulted from increased production of natural gas in the United States. Eagle

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<sup>112</sup> App. at 11 (citations omitted).

<sup>113</sup> *Id.* at 11-12.

<sup>114</sup> *Id.* at 13 (citations omitted).

<sup>115</sup> *Id.*

LNG also states that, even assuming that LNG exports were to have some modest impacts on domestic natural gas prices, DOE/FE's 2012 and 2015 LNG Export Studies (as well as other publicly-available studies) found that the United States will experience net economic benefits from increased LNG exports.<sup>116</sup>

In sum, Eagle LNG contends that its “very modest proposal” will produce only a “very minor—likely unmeasurable—impact on overall U.S. natural gas supply and pricing,” yet should offer economic benefits to U.S. consumers.<sup>117</sup>

### **C. Economic Benefits**

Eagle LNG maintains that the Jacksonville Project will provide a variety of economic benefits during the construction phase and over the life of the Project. Specifically, Eagle LNG states that the Jacksonville Project will be an economic stimulus for the State of Florida and the North Florida region, while also benefitting the U.S. economy, through the creation of jobs, increased economic activity, and increased tax revenue.<sup>118</sup>

First, Eagle LNG estimates that the Jacksonville Project will have an estimated capital cost of more than \$300 million to be expended over the construction period. According to Eagle LNG, the construction phase will positively impact the regional and national economy, including through construction material purchases from regional and national vendors.<sup>119</sup>

Second, Eagle LNG states that the Jacksonville Project will require an average of 309 workers over an 18-month period, with a peak on-site workforce of 465 workers. During operation, the Jacksonville Project is expected to employ approximately 20 personnel.<sup>120</sup>

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<sup>116</sup> *Id.* at 15-19.

<sup>117</sup> *Id.* at 19-20.

<sup>118</sup> App. at 20.

<sup>119</sup> *Id.* at 20-21.

<sup>120</sup> *Id.*

Third, Eagle LNG states that the Jacksonville Project will contribute to the local economy during the Project’s operating life, which is estimated to be at least 25 years.<sup>121</sup> Eagle LNG states that the Project will contribute through annual operating costs, as well as through “purchases and payments within the United States related to materials, energy, dredging maintenance, property taxes, and insurance.”<sup>122</sup> Eagle LNG estimates that property taxes will be approximately \$3 to \$5 million per year.<sup>123</sup>

Finally, Eagle LNG states that, in 2014, it commissioned a study to estimate the economic impacts of constructing and operating the Jacksonville Project in the Jacksonville area—specifically, Duval County, Florida (Study).<sup>124</sup> The Study, entitled *Economic Stimulation Report: REMI Analysis for Liquefied Natural Gas Export Facility*, was conducted by the Northeast Florida Regional Council using a 10-year economic stimulation model.<sup>125</sup> The Study results, set forth in Table 2 of the Application, identify a number of anticipated economic benefits to Duval County over the 10-year stimulation period—with Eagle LNG noting that more economic benefits will be realized over the life of the Project. For example, the Study projects that the construction and operation of the Jacksonville Project will produce more than \$41.8 million in cumulative property taxes and approximately \$275 million in cumulative disposable personal income in Duval County during the study period.<sup>126</sup>

#### **D. International Benefits**

Eagle LNG maintains that its exports will reduce U.S. reliance on foreign sources of crude oil and natural gas, and will help to reduce the United States’ balance of trade deficit.<sup>127</sup>

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<sup>121</sup> *Id.* at 21.

<sup>122</sup> *Id.*

<sup>123</sup> *Id.*

<sup>124</sup> App. at 22.

<sup>125</sup> *Id.* at 22 (Table 2).

<sup>126</sup> *Id.*

<sup>127</sup> *Id.* at 20, 22-23.

Additionally, Eagle LNG states that its exports will fulfill an important need for natural gas in several Caribbean and Central American markets. Eagle LNG states that these markets lack the customer demand, waterway infrastructure, and transmission infrastructure necessary to handle large quantities of natural gas and large LNG carriers. Therefore, according to Eagle LNG, its proposed exports will “address significant demands for LNG in [these] export markets,” as well as increase economic trade and facilitate stronger relationships with neighboring countries.<sup>128</sup>

#### **E. Environmental Benefits**

Eagle LNG asserts that increasing exports of U.S. LNG to Caribbean markets, which currently rely on higher carbon fuels for power generation, would produce significant environmental benefits.<sup>129</sup> Specifically, Eagle LNG states that increasing the amount of LNG exported to these neighboring countries would provide a low-cost energy alternative and encourage these countries to transition to natural gas from other fossil fuels that emit greater amounts of GHGs.<sup>130</sup>

### **VI. 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,<sup>131</sup> and a formal application process that starts no sooner than 180 days after issuance of a notice that the pre-filing process has

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<sup>128</sup> *Id.* at 2, 20, 23-24.

<sup>129</sup> App. at 23.

<sup>130</sup> *Id.* at 12, 23.

<sup>131</sup> 18 C.F.R. § 157.21.

commenced.<sup>132</sup>

On December 3, 2014, FERC began its pre-filing review of the Eagle LNG Jacksonville Project.<sup>133</sup> FERC established pre-filing Docket No. PF15-7-000 to place information related to the Jacksonville Project into the public record.<sup>134</sup> On February 24, 2015, FERC issued a Notice of Intent to Prepare an Environmental Impact Statement for the proposed Jacksonville Project.<sup>135</sup> DOE agreed to participate as a cooperating agency in FERC's environmental review.<sup>136</sup>

### **B. FERC's Environmental Review**

On January 31, 2017, Eagle LNG filed an application with FERC under section 3 of the NGA to site, construct, and operate the Jacksonville Project.<sup>137</sup> FERC assigned Docket No. CP17-41-000 to Eagle LNG's proposal.

In compliance with NEPA, FERC staff issued a Notice of Availability of a Draft Environmental Impact Statement on November 16, 2018, and placed the draft EIS into the public record.<sup>138</sup> On April 12, 2019, FERC staff issued the final EIS for the Jacksonville Project.<sup>139</sup> The final EIS responded to comments received on the draft EIS, and addressed numerous

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<sup>132</sup> *Id.* § 157.21(a)(2)(i-ii).

<sup>133</sup> *See* Final EIS at ES-2; *see also* Eagle LNG Partners Jacksonville LLC, Approval of Pre-Filing Request for the Jacksonville Project, FERC Docket No. PF15-7-000 (Dec. 3, 2014).

<sup>134</sup> Final EIS at ES-2.

<sup>135</sup> Eagle LNG Partners Jacksonville LLC, Notice of Intent to Prepare an Environmental Impact Statement for the Planned Jacksonville Project, Request for Comments on Environmental Issues, and Notice of Public Scoping Meeting, FERC Docket No. PF15-7-000 (Feb. 24, 2015).

<sup>136</sup> Final EIS at ES-1.

<sup>137</sup> Eagle LNG Jacksonville Partners LLC, Application to Site, Construct, and Operate an LNG Export Facility Under Section 3(a) of the Natural Gas Act, FERC Docket No. CP17-41-000 (Jan. 31, 2017); *see also* Final EIS at ES-13.

<sup>138</sup> Eagle LNG Jacksonville Partners LLC, Federal Energy Regulatory Comm'n, Notice of Availability of the Draft Environmental Impact Statement for the Proposed Jacksonville Project, Docket No. CP17-41-000 (Nov. 16, 2018); *see also* Final EIS at 1-8; FERC Order at ¶ 13.

<sup>139</sup> Eagle LNG Jacksonville Partners LLC, Federal Energy Regulatory Comm'n, Notice of Availability of the Final Environmental Impact Statement for the Proposed Jacksonville Project, Docket No. CP17-41-000 (Apr. 12, 2019); *see also* FERC Order at ¶ 15.

potential impacts of the proposed Jacksonville Project, including (but not limited to) wetlands, geological conditions, water resources, air quality, and cumulative impacts.<sup>140</sup>

Based on its environmental analysis, FERC staff concluded in the final EIS that “approval of the Jacksonville Project would result in some limited adverse environmental impacts; however, these impacts would be reduced to less-than-significant levels with the implementation of Eagle LNG’s proposed mitigation and the additional measures recommended in the EIS.”<sup>141</sup> The final EIS contained 131 site-specific environmental mitigation measures, which it recommended that FERC attach as conditions to any authorization of the Jacksonville Project.<sup>142</sup>

### **C. FERC’s Order Granting Authorization**

On September 19, 2019, FERC issued its Order under NGA section 3 authorizing Eagle LNG to site, construct, and operate the Jacksonville Project with a liquefaction capacity of up to 1.0 mtpa of LNG.<sup>143</sup>

In granting the authorization, FERC cited the final EIS in stating that “the project would result in limited adverse environmental impacts, most of which would be temporary or short-term during construction and operation of the project.”<sup>144</sup> FERC further concluded that “[l]ong-term and permanent impacts from the construction and operation of the facilities will be reduced to less than significant levels if the project is constructed and operated in accordance with applicable laws and regulations and the environmental mitigation measures recommended in the final EIS and adopted by this order.”<sup>145</sup> On this basis, FERC approved Eagle LNG’s proposal for

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<sup>140</sup> FERC Order at ¶ 15.

<sup>141</sup> Final EIS at 1.

<sup>142</sup> *See id.* at 5-15 to 5-33 (list of mitigation measures).

<sup>143</sup> FERC Order at ¶¶ 1, 3, 84 (Ordering Para. (A)).

<sup>144</sup> *Id.* at ¶ 8 (citing Final EIS at 5-1).

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

the Jacksonville Project under NGA section 3.<sup>146</sup> FERC also adopted the 131 environmental mitigation measures recommended in the final EIS and included them as conditions in the Appendix to the Order.<sup>147</sup>

FERC reviewed and addressed the major environmental issues addressed in the final EIS.<sup>148</sup> In addressing GHG emissions, for example, FERC pointed to the estimate in the final EIS that “operations of the Jacksonville Project LNG terminal, including associated vessel emissions, may result in GHG emissions of up to 112,265 metric tons per year (or 0.11 million metric tons) of carbon dioxide equivalent (CO<sub>2</sub>e).”<sup>149</sup> FERC further stated that the “operational emissions of the LNG terminal could potentially increase CO<sub>2</sub>e emissions based on the 2017 levels by 0.002 percent at the national level.”<sup>150</sup>

On the basis of these estimates, FERC acknowledged the finding in the final EIS that “the quantified GHG emissions from the construction and operation of the project will contribute incrementally to climate change.”<sup>151</sup> However, FERC stated that it “has previously concluded it could not determine a project’s incremental physical impacts on the environment caused by GHG emissions,” and therefore “concluded it could not determine whether a project’s contribution to climate change would be significant.”<sup>152</sup>

Additionally, FERC considered the cumulative impacts of the Jacksonville Project with other projects or actions in the same geographic and temporal scope.<sup>153</sup> Citing the final EIS,

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<sup>146</sup> *Id.* at ¶¶ 1, 11, 82.

<sup>147</sup> *Id.* at ¶¶ 15, 81-82, and Appendix (Environmental Conditions).

<sup>148</sup> *See generally id.* at ¶¶ 12-82.

<sup>149</sup> FERC Order at ¶ 51 (citing Final EIS at 4-98 and Table 4.11.1-4).

<sup>150</sup> *See id.* at ¶ 51 & n.144 (citing U.S. Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks*, Docket No. 430-R-19-001, at ES-8 (2019)).

<sup>151</sup> *Id.* at ¶ 52 (citing Final EIS at 4-195 to 4-196).

<sup>152</sup> *Id.* (citations omitted).

<sup>153</sup> *Id.* at ¶ 56.

FERC observed that “the project’s contribution to cumulative impacts on resources affected by the project would not be significant,” and that “the potential cumulative impacts of the project and the other projects considered would be minor.”<sup>154</sup>

In sum, FERC agreed with “the conclusions presented in the final EIS” and found that “the project, if constructed and operated as described in the final EIS, [is an] environmentally acceptable action[.]”<sup>155</sup>

## **VII. CURRENT PROCEEDING BEFORE DOE/FE**

### **A. Overview**

In response to the Notice of Application, DOE/FE received two filings: the Center for Biological Diversity’s (the Center) motion to intervene, protest, and comments opposing the Application,<sup>156</sup> and the American Petroleum Institute’s (API) motion to intervene and comments supporting the Application.<sup>157</sup> Eagle LNG did not submit a response to either filing.

### **B. The Center for Biological Diversity’s Motion to Intervene, Protest, and Comments**

In support of its motion to intervene, the Center states that it is a national, nonprofit conservation organization dedicated to the protection of endangered species and wild places. The Center states that its members live and work throughout the area that will be affected by the Jacksonville Project, including the regions adjacent to the proposed facility and the pipelines that will support it.<sup>158</sup> The Center states that it has approximately 1,500 members in Florida and

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<sup>154</sup> *Id.* (citing Final EIS at 4-196).

<sup>155</sup> FERC Order at ¶ 82.

<sup>156</sup> Center for Biological Diversity, Motion to Intervene, Protest, and Comments, FE Docket No. 16-15-LNG (Aug. 29, 2016) [hereinafter Center Mot.].

<sup>157</sup> American Petroleum Inst., Motion to Intervene and Comments in Support, FE Docket No. 16-15-LNG (Aug. 30, 2016) [hereinafter API Mot.].

<sup>158</sup> Center Mot. at 1.

48,500 members overall.<sup>159</sup> The Center maintains that its members have vital economic, aesthetic, spiritual, personal, and professional interests in the Jacksonville Project.<sup>160</sup>

In protesting the Application, the Center contends that the requested non-FTA authorization is not in the public interest and is not supported by adequate environmental and economic analysis, as is required to satisfy the NGA, NEPA, and the Endangered Species Act (ESA).<sup>161</sup> Specifically, the Center argues that the proposed exports will: (i) cause “significant environmental harm,” including direct impacts to local water quality, species and their habitats, and air quality; (ii) induce additional natural gas production—primarily the hydraulic fracturing of unconventional natural gas sources—with associated environmental harms; and (iii) increase domestic natural gas prices and an increase in coal-fired electricity generation, thereby increasing emissions of greenhouse gas, conventional, and toxic pollutants.<sup>162</sup> Below, we summarize the Center’s principal arguments.

### **1. Legal Standards**

The Center argues that the NGA, NEPA, and the ESA impose obligations upon DOE/FE that must be considered before DOE/FE can authorize the proposed exports. Addressing the NGA, the Center contends that DOE must interpret the public interest standard in NGA section 3(a) as including environmental effects, not only the domestic need for the natural gas proposed to be exported.<sup>163</sup> Turning to NEPA, the Center maintains that a “full EIS is appropriate and required” before DOE/FE takes action on the Application, and that such an environmental review must include the direct and indirect effects, as well as the cumulative impacts, of Eagle LNG’s

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<sup>159</sup> *Id.*

<sup>160</sup> *Id.* at 2.

<sup>161</sup> 16 U.S.C. § 1531 *et seq.*

<sup>162</sup> Center Mot. at 3.

<sup>163</sup> *Id.* at 4-5.

requested authorization.<sup>164</sup> Finally, the Center asserts that DOE/FE must comply with the ESA, including conducting a biological assessment. The Center states that, if that assessment determines that impacts under the ESA are possible, “DOE/FE must enter into formal consultation with the Fish and Wildlife Service (FWS) and the National Marine and Fisheries Service (NMFS) (together, the ‘Services’), as appropriate, to avoid jeopardizing any endangered species or adversely modifying its habitat as a consequences of its approval of Eagle LNG’s proposal.”<sup>165</sup>

## **2. Alleged Need for Programmatic EIS**

The Center asserts 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 Eagle LNG’s proposal and all other LNG export proposals currently pending before DOE/FE and FERC.<sup>166</sup>

The Center further contends that a programmatic EIS is appropriate here. In support of this argument, the Center states that, “[b]ecause the effects of these [LNG] projects are cumulative, and because each approval alters the price and production effects of exports on the economy, DOE/FE must consider these projects’ interactions.”<sup>167</sup> The Center argues that DOE/FE can best conduct this analysis in the context of a programmatic EIS that considers the impacts of all natural gas export proposals at once.<sup>168</sup>

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<sup>164</sup> *Id.* at 6-7.

<sup>165</sup> *Id.* at 8.

<sup>166</sup> *Id.*

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

<sup>168</sup> Center Mot. at 8-9.

### 3. Alleged Environmental Impacts of the Requested Authorization, Including Induced Natural Gas Production

The Center asserts that construction and operation of the Jacksonville Project will impose a range of significant local environmental impacts, such as air pollution, disruption of aquatic habitat, and impacts on fish and wildlife—including species listed under the ESA.<sup>169</sup> The Center maintains that DOE/FE must consider these impacts in both its NEPA analysis and in the public interest determination under the NGA.<sup>170</sup>

Addressing potential air pollution, the Center contends that construction and operation of the Jacksonville Project will emit harmful quantities of carbon monoxide, nitrogen oxides, volatile organic compounds, and GHGs, among other types of air pollution. The Center asserts that each of these types of emissions will have injurious environmental and health impacts.<sup>171</sup>

The Center also contends that the Jacksonville Project will impact water quality in numerous ways, including through water withdrawal, stormwater runoff, and discharge and suspension of sediment.<sup>172</sup> The Center states that adverse effects on water quality are particularly problematic because they may impact species protected under the ESA.<sup>173</sup>

Next, the Center argues that construction and operation of the Jacksonville Project will adversely impact wildlife, marine mammals, and turtles, including ESA-listed species. The Center argues that such impacts may include, for example, noise, harassment and displacement, ship strikes, and habitat destruction due to effects from climate change. The Center identifies

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<sup>169</sup> See generally *id.* at 12-34.

<sup>170</sup> *Id.* at 12 (stating that the Center is “offer[ing] preliminary comments,” and acknowledging that “these impacts cannot be fully identified until additional information is presented in the NEPA process”).

<sup>171</sup> See *id.* at 12-15.

<sup>172</sup> *Id.* at 15.

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

several species that may be impacted, including the endangered North Atlantic right whale and the manatee.

As noted above, the Center contends that DOE/FE cannot approve the proposed exports until it completes a Section 7 consultation process under the ESA with the Services.<sup>174</sup> According to the Center, DOE/FE has an “independent duty to consult” with the Services, “even if DOE [relies] on any future FERC consultation.”<sup>175</sup> The Center states that, because DOE/FE’s decision on the Application “can have upstream and downstream impacts, including the exacerbation of climate change,” DOE must “assess these issues through consultation with the Services.”<sup>176</sup>

Additionally, the Center asserts that the proposed exports will induce natural gas production in the United States, resulting in increased impacts from the proposed Project. The Center asserts that, because these impacts are reasonably foreseeable, DOE/FE must consider the environmental impacts of induced production under NEPA, as well as under the NGA.<sup>177</sup>

According to the Center, DOE/FE has tools available to “estimate how U.S. production will change in response to Eagle LNG’s proposed exports.”<sup>178</sup> The Center points to Eagle LNG’s “predict[ion] that its [natural] gas will primarily come from the mid-continent and Appalachian regions (Marcellus and Utica shales).”<sup>179</sup> The Center further contends that EIA’s National Energy Modeling System (NEMS) can predict future natural gas production based on existing data, as well as other “localized effects” of LNG exports.<sup>180</sup>

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<sup>174</sup> Center Mot. at 16.

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

<sup>176</sup> *Id.*

<sup>177</sup> *Id.* at 27-28.

<sup>178</sup> *Id.* at 25.

<sup>179</sup> *Id.* at 28.

<sup>180</sup> Center Mot. at 26-27.

The Center states that NEPA regulations, applicable case law, and recent EPA scoping comments call for DOE/FE to consider the environmental effects of induced natural gas production.<sup>181</sup> Specifically, the Center 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.”<sup>182</sup>

In particular, the Center argues that induced natural gas production is unlikely to decrease global GHG emissions.<sup>183</sup> According to the Center, any LNG exported from the Jacksonville Project will have high life cycle emissions, since the proposed exports most likely will originate from shale gas sources that, in turn, have higher production emissions than conventional natural gas sources.<sup>184</sup> The Center also disputes Eagle LNG’s claim that LNG exports will benefit the environment by allowing importing countries to burn natural gas in place of fuels with higher carbon intensities, such as coal and fuel oil. The Center asserts that the liquefaction of natural gas is an energy-intensive process, such that this type of fuel substitution “is likely to cause little, if any, reduction in global greenhouse gas emissions.”<sup>185</sup> Further, the Center claims, exported U.S. LNG could displace more environmentally beneficial energy sources, such as wind, solar, and other renewables.<sup>186</sup>

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<sup>181</sup> *Id.* at 27-28 (citations omitted).

<sup>182</sup> *Id.* at 28.

<sup>183</sup> *Id.* at 33-35.

<sup>184</sup> *Id.* at 34-35.

<sup>185</sup> *Id.* at 34.

<sup>186</sup> Center Mot. at 33-34.

#### **4. Alleged Economic Impacts**

Finally, in arguing that Eagle LNG's requested authorization is not consistent with the public interest, the Center maintains that the proposed exports will lead to: (i) regional and national economic dislocations and disruptions resulting from natural gas extraction; and (ii) national increases in natural gas and electricity prices, and a resulting shift to "more polluting" fuels, such as coal.<sup>187</sup> The Center argues that DOE/FE must "consider these environmental impacts and monetize them to weigh them against other economic harms in the public interest analysis."<sup>188</sup> The Center argues that these impacts "outweigh any possible benefit of the project," and thus the Application should be denied.<sup>189</sup>

#### **C. Motion to Intervene and Comments of the American Petroleum Institute**

In support of its 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, including owners and operators of LNG import and export facilities in the United States and around the world, as well as owners and operators of LNG vessels, global LNG traders, and manufacturers of essential technology and equipment used in the LNG value chain. API further states that its members have extensive experience with the drilling and completion techniques used in producing domestic natural gas resources. For these reasons, API asserts that it has a direct and immediate interest in these proceedings that cannot be protected adequately by any other party.<sup>190</sup>

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<sup>187</sup> *Id.* at 35; *see also id.* at 12.

<sup>188</sup> *Id.* at 12.

<sup>189</sup> *Id.*; *see also id.* at 35.

<sup>190</sup> API Mot. at 2.

API supports a grant of the Application. API states that the United States, as the world's leading producer of natural gas, has the opportunity to use the development of LNG exports to grow the domestic economy and create jobs, reduce global GHG emissions, and provide its allies and trading partners with a reliable source of energy.<sup>191</sup> Citing DOE's prior economic studies, API maintains that LNG exports will yield economic benefits for the U.S. economy. API further states that increased LNG exports will create up to 452,300 domestic jobs and support more than \$73 billion in domestic economic activity through 2035.<sup>192</sup>

According to API, increased U.S. LNG exports will have geopolitical benefits for the United States. API contends that adding natural gas supplies to the global gas market will benefit U.S. allies and trading partners by helping to stabilize energy prices and supporting economic development.<sup>193</sup> API asserts that U.S. natural gas exports also will provide international consumers with greater choice by introducing an alternative, reliable source of energy to the global marketplace.<sup>194</sup>

Next, API points to Eagle LNG's commitment to exporting LNG to markets in the Caribbean, Central America, and South America.<sup>195</sup> API states that Central America and the Caribbean have the highest electricity costs in the Western Hemisphere. In API's view, exporting U.S. natural gas to countries in these regions will "give them a more affordable, reliable, and clean power source for their electricity generation needs" and will "assist nations that subsidize residential electricity costs ... by alleviating significant burdens on public

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<sup>191</sup> *Id.* at 3.

<sup>192</sup> *Id.* (citing ICF Internat'l, *U.S. LNG Exports: Impacts on Energy Markets and the Economy*, at 2 (2013)).

<sup>193</sup> *Id.*

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

<sup>195</sup> *Id.* at 4 (citing App. at 11).

budgets.”<sup>196</sup> In sum, API maintains that Eagle LNG’s proposed exports will help these regions by providing diverse energy sources and cleaner forms of energy.<sup>197</sup>

## **VIII. DISCUSSION AND CONCLUSIONS**

In reviewing the non-FTA portion of Eagle LNG’s Application, as supplemented, DOE/FE has considered both 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:

- The Application, the three Supplements to the Application, the Center’s filing opposing the Application, and API’s filing in support of the Application;
- FERC’s final EIS and September 19, 2019 Order, including the 131 environmental conditions adopted in that Order;
- The Draft Addendum, comments received in response to the Draft Addendum, and the final Addendum;
- The LCA GHG Report (and the supporting NETL document), including comments submitted in response to those documents; and
- The 2018 LNG Export Study, including comments received in response to that Study.

### **A. Procedural Matters**

Both the Center’s and API’s motions to intervene were granted by operation of law under 10 C.F.R. § 590.303(g) when Eagle LNG did not oppose or otherwise answer them.<sup>198</sup>

### **B. Non-Environmental Issues**

#### **1. Significance of the 2018 LNG Export Study**

As discussed above, DOE/FE commissioned the 2018 LNG Export Study and invited public comments on the Study. DOE/FE analyzed this material in its Response to Comments

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<sup>196</sup> API Mot. at 4 (citation omitted).

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

<sup>198</sup> *See infra* § XI (Ordering Para. Q).

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 domestically produced LNG.<sup>199</sup> 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.<sup>200</sup>

We take administrative notice of EIA’s recent authoritative projections for natural gas supply, demand, and prices, set forth in the *Annual Energy Outlook 2019* (AEO 2019), issued on January 24, 2019.<sup>201</sup> DOE/FE has assessed AEO 2019 to evaluate any differences from AEO 2017, which formed the basis for the 2018 LNG Export Study.<sup>202</sup> The AEO 2017 Reference case shows lower net LNG exports of 12.5 Bcf/d of natural gas in 2050, compared with the AEO 2019 Reference case that shows net LNG exports of 13.8 Bcf/d in 2050. As discussed below, the AEO 2019 Reference case is even more supportive of exports than the AEO 2017 Reference case.

EIA’s projections in AEO 2019 continue to show market conditions that will accommodate increased exports of natural gas. When compared to the AEO 2017 Reference case, the AEO 2019 Reference case projects increases in domestic natural gas production—well in excess of what is required to meet projected increases in domestic consumption.

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<sup>199</sup> See 2018 Study Response to Comments, 83 Fed. Reg. at 67,272; see also *supra* § II.A.3.

<sup>200</sup> See 2018 Study Response to Comments, 83 Fed. Reg. at 67,273.

<sup>201</sup> U.S. Energy Info. Admin., *Annual Energy Outlook 2019* (with projections to 2050) (Jan. 24, 2019), available at: <https://www.eia.gov/outlooks/aeo/pdf/aeo2019.pdf>.

<sup>202</sup> 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. Protection 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 2019 Reference case does not include the CPP, so the comparisons between AEO 2017 and AEO 2019 are consistent in that regard.

For these reasons, we reaffirm that the 2018 LNG Export Study is fundamentally sound. The 2018 Study, as well as AEO 2019, support our finding that Eagle LNG’s proposed authorization will not be inconsistent with the public interest.

## **2. Eagle LNG’s Application and Supplements**

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

First, due to the vintage of the Application, Eagle LNG points to DOE’s 2012 and 2014 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 its proposed exports. We agree, based on more recent projections and analyses. Specifically, we find that the 2018 LNG Export Study and AEO 2019 continue to project robust domestic supply conditions that are more than adequate to satisfy both domestic needs and exports of LNG, including those proposed in the Application.<sup>203</sup>

Second, the 2018 LNG Export Study indicates that exports of LNG will generate net macroeconomic benefits in the United States.<sup>204</sup> Indeed, the 2018 Study consistently shows macroeconomic benefits in every scenario, as well as positive annual growth across the energy

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<sup>203</sup> See, e.g., 2018 Study Response to Comments, 83 Fed. Reg. at 67,262. Eagle LNG’s requested export volume—equivalent to 49.8 Bcf/yr of natural gas—falls under the “small scale” volume limitation set forth in DOE/FE’s regulations, 10 C.F.R §§ 590.102(p) and 590.208. Under those regulations, a proposed export of natural gas in a volume up to and including 51.75 Bcf/yr is eligible for treatment as a “small-scale natural gas export.” *Id.* § 590.102(p)(1). Although Eagle LNG’s Application does not qualify for regulatory treatment as a small-scale export for NEPA reasons (*id.* § 590.102(p)(2)), we note DOE/FE’s finding that any export under 51.75 Bcf/yr “will not adversely affect the availability of natural gas supplies to domestic consumers, such as would negate the economic benefits to the United States.” U.S. Dep’t of Energy, Small-Scale Natural Gas Exports; Final Rule, 83 Fed. Reg. 35,106, 35,110 (July 25, 2018). That finding applies equally here, based on the more recent evidence discussed above.

<sup>204</sup> 2018 Study Response to Comments, 83 Fed. Reg. at 67,272.

intensive sectors of the U.S. economy.<sup>205</sup> We therefore reject the Center's contention that Eagle LNG's proposed exports likely will have a negative impact on the U.S. economy by increasing the price of natural gas and electricity.

Third, over the 20-year term of the authorization, the proposed exports will improve the United States' ties with its trading partners and will make a positive contribution to the United States' trade balance. Other benefits of this international trade are discussed below. For these reasons, we agree with Eagle LNG and API that the proposed exports are consistent with U.S. policy.<sup>206</sup>

The 2018 Study also shows 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.<sup>207</sup>

Accordingly, based on the 2018 Study and the more recent data in AEO 2019, DOE/FE finds that the market will be capable of sustaining the level of exports requested in Eagle LNG's Application over the authorization term without negative economic impacts, including domestic price impacts (discussed below).

### **3. Price Impacts**

The Center argues that higher volumes of LNG exports, including Eagle LNG's proposed exports, will lead to increases in domestic prices of natural gas. We disagree, based on both the data available at the time the Center raised these concerns and the most recent data available today. As discussed above, the 2018 LNG Export Study projects the economic impacts of LNG exports in a range of scenarios, including scenarios that exceed the current amount of LNG

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<sup>205</sup> *See id.* at 67,268-69 (citing 2018 LNG Export Study at 67, 70).

<sup>206</sup> App. at 12, 20.

<sup>207</sup> 2018 Study Response to Comments, 83 Fed. Reg. at 67,273 (citing 2018 LNG Export Study at 70); *see also supra* § II.A.3.

exports authorized in the final non-FTA export authorizations to date (equivalent to a total of 34.66 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.”<sup>208</sup>

Additionally, DOE/FE has analyzed AEO 2019 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 AEO 2017 Reference case) shows that the Reference case outlook in AEO 2019 projects lower-48 market conditions that would be even more supportive of LNG exports than in AEO 2017, including higher production coupled with lower prices. For example, for the year 2050, the AEO 2019 Reference case anticipates nearly 10% more natural gas production in the lower-48 than the AEO 2017 Reference case. It also projects an average Henry Hub natural gas price that is lower than the AEO 2017 Reference case by 17%. Table 1 below shows these comparisons:

**Table 1: Year 2050 Reference Case Comparisons in AEO 2017 and AEO 2019**

	<b>AEO 2017 Reference Case</b>	<b>AEO 2019 Reference Case</b>
<b>Lower-48 Dry Natural Gas Production (Bcf/d)</b>	107.9	118.3
<b>Total Natural Gas Consumption (Bcf/d)</b>	92.4	95.8
<b>Electric Power Sector Consumption (Bcf/d)</b>	31.8	33.3
<b>Net Exports by Pipeline (Bcf/d)</b>	3.4	8.9

<sup>208</sup> See 2018 Study Response to Comments, 83 Fed. Reg. at 67,258 (citing 2018 LNG Export Study at 55).

<b>Net LNG Exports (Bcf/d)</b>	12.5	13.8
<b>LNG Exports – Total (Bcf/d)</b>	12.7	14.1
<b>Henry Hub Spot Price (\$/MMBtu) <sup>(Note 1)</sup></b>	\$5.88 (2018\$)	\$4.87 (2018\$)

Note 1: Prices adjusted to 2018\$ 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 the Center’s arguments concerning domestic price increases are not supported by the record evidence.<sup>209</sup>

#### **4. Benefits of International Trade**

We have not limited our review to the 2018 LNG Export Study and data from AEO 2019, but have considered the international consequences of our decision. As discussed above, we 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. As such, we agree with Eagle LNG that authorizing its

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<sup>209</sup> 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).

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.

### **C. Environmental Issues**

In reviewing the potential environmental impacts of Eagle LNG'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 Jacksonville 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 final EIS and determines that its comments and suggestions have been satisfied.<sup>210</sup> 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-0513) (see *supra* § I), 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 Record of Decision (ROD) under NEPA for the proposed Jacksonville Project.

#### **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.<sup>211</sup> Nevertheless, a decision by DOE/FE to authorize exports to non-FTA nations could accelerate that development

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<sup>210</sup> See 40 C.F.R. § 1506.3(c).

<sup>211</sup> Addendum at 2.

by some increment. As discussed above, the Addendum reviewed the academic and technical literature covering the most significant issues associated with unconventional 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 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 discussed by the Center in this proceeding.

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 note that the D.C. Circuit in *Sierra Club I* rejected Sierra Club's

arguments on this basis, and we find that the Court’s conclusions and reasoning control in this proceeding.<sup>212</sup>

### 3. Compliance with Endangered Species Act

To comply with the ESA, the final EIS adopted by FERC reflected input gathered from the U.S. Fish and Wildlife Service regarding the biological impacts of the proposed Jacksonville Project on animal species within the potentially affected surrounding area. FERC staff found that, of the 33 federally listed or candidate species that may occur within the proposed Project area, the Jacksonville Project would have no effect on 13 of the 33 species or any critical habitat.<sup>213</sup> Additionally, FERC staff concluded that the Jacksonville Project “would be not likely to adversely affect the remaining 17 federally listed species and would be not likely to jeopardize the continued existence of the 3 candidate species.”<sup>214</sup> In its Order, FERC adopted these findings, and imposed as a condition that Eagle LNG may not begin construction of the Jacksonville Project until the Fish and Wildlife Service issues its final ESA concurrence.<sup>215</sup>

The Center argues that ESA section 7 imposes on DOE/FE an independent duty to consult with both the U.S. Fish and Wildlife Service and the National Marine and Fisheries Service (collectively, the Services). According to the Center, although FERC initiated consultation—as reflected in the final EIS—DOE allegedly is also required to consult with the Services due to the “upstream and downstream impacts” associated with the exportation of LNG.<sup>216</sup> This argument relies on similar logic to the Center’s claim that NEPA and the NGA require DOE/FE to consider the effects of induced gas production.<sup>217</sup> DOE does not need to

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<sup>212</sup> 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.C.

<sup>213</sup> Final EIS at 4-61; see also FERC Order at ¶ 31.

<sup>214</sup> Final EIS at 4-61 (emphasis removed).

<sup>215</sup> FERC Order at ¶ 31 & Environmental Condition 16.

<sup>216</sup> Center Mot. at 16.

<sup>217</sup> See *id.* at 25-28.

repeat its arguments with respect to the appropriate scope of review over indirect effects, except to observe that conducting a wider regional or national consultation regarding species impacts would add greatly to the burden of acting on applications to export natural gas to non-FTA countries.

Likewise, we disagree that DOE/FE has a duty to analyze the “broad implications”<sup>218</sup> for any particular species resulting from increased exports of natural gas produced through hydraulic fracturing to non-FTA countries. The scope of review undertaken by FERC in the final EIS and adopted by DOE/FE included the reasonably foreseeable impacts of the proposed Jacksonville Project and its use for the export of LNG.<sup>219</sup> Accordingly, we reject the Center’s argument that DOE/FE must consult independently with the Services or otherwise has not complied with its obligations under the ESA.

#### **4. Greenhouse Gas Impacts Associated with U.S. LNG Exports**

Sierra Club and other commenters on the Life Cycle Greenhouse Gas (LCA GHG) Report, the Addendum, and the 2018 LNG Export Study (as well as DOE/FE’s earlier economic studies) expressed concern that exports of natural gas could have a negative effect on the GHG intensity and the total amount of energy consumed in foreign nations.

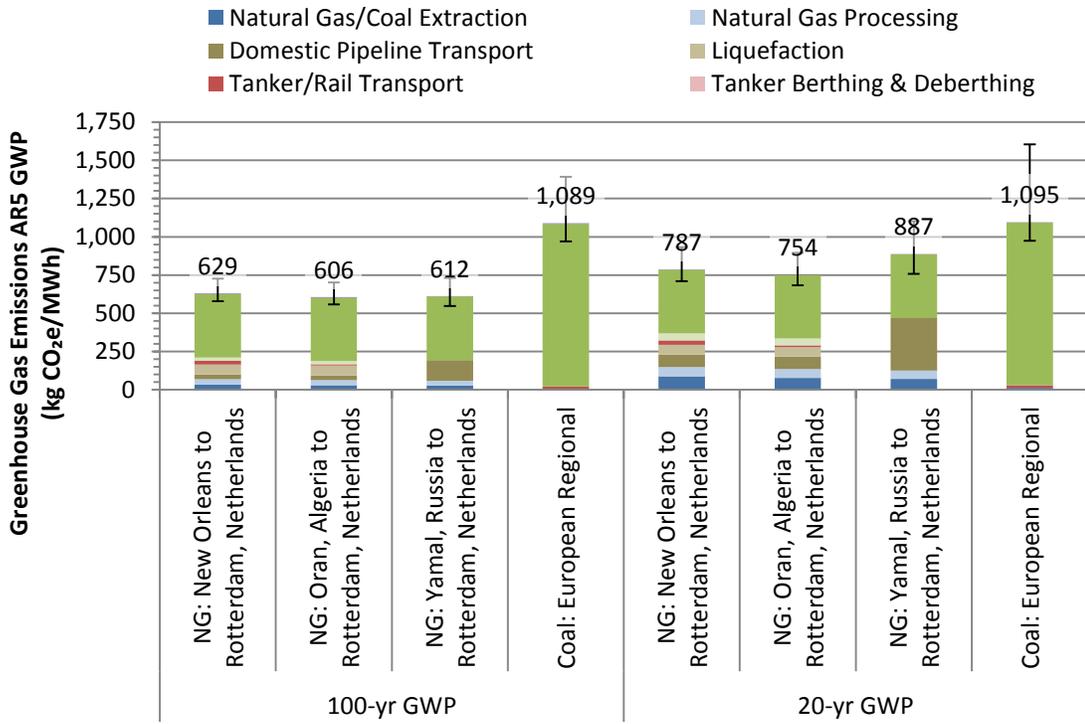
The LCA GHG Report estimated the life cycle GHG emissions of U.S. LNG exports to Europe and Asia, compared with certain other fuels used to produce electric power in those importing countries.<sup>220</sup> The key findings for U.S. LNG exports to Europe and Asia are summarized in Figures 1 and 2 below:

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<sup>218</sup> *Id.* at 16.

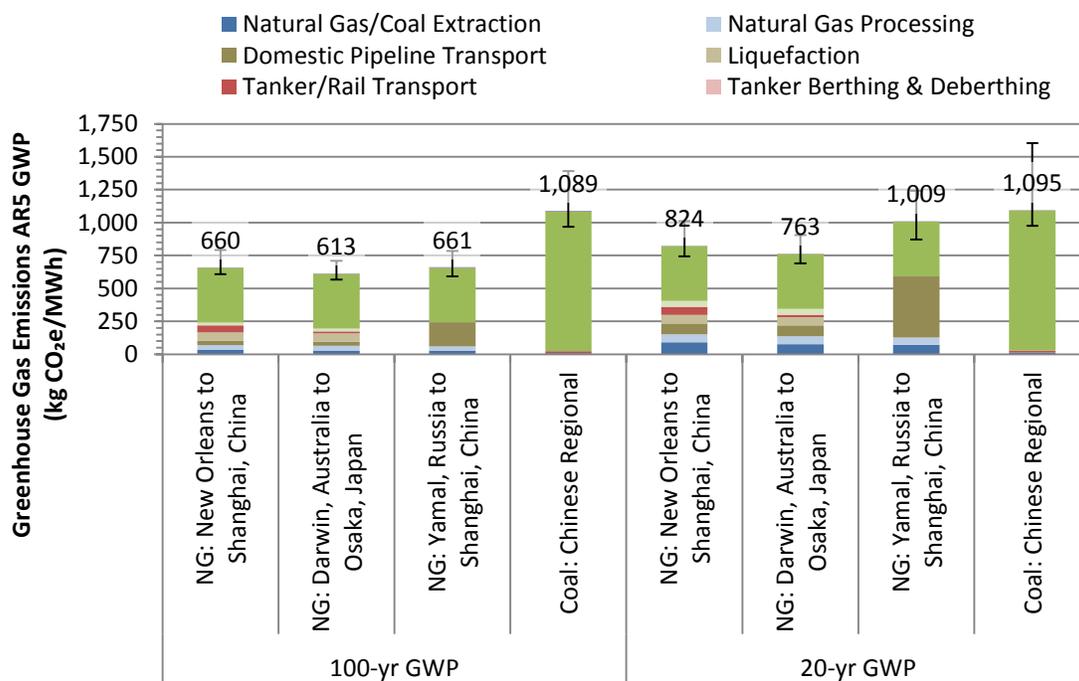
<sup>219</sup> *See, e.g.*, FERC Order at ¶¶ 15, 56, 81; Final EIS at ES-10 to ES-11.

<sup>220</sup> *See supra* § II.B.



**Figure 1: Life Cycle GHG Emissions for Natural Gas and Coal Power in Europe<sup>221</sup>**

<sup>221</sup> LCA GHG Report at 9 (Figure 6-1).



**Figure 2: Life Cycle GHG Emissions for Natural Gas and Coal Power in Asia<sup>222</sup>**

While acknowledging substantial uncertainty, the LCA GHG Report 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. 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.<sup>223</sup>

The LCA GHG Report does not answer the ultimate question whether authorizing exports of natural gas to non-FTA nations will increase or decrease global GHG emissions, because regional coal and imported natural gas are not the *only* fuels with which U.S.-exported LNG would compete. U.S. LNG exports may also compete with renewable energy, nuclear energy, petroleum-based liquid fuels, coal imported from outside East Asia or Western Europe, indigenous natural gas, synthetic natural gas derived from coal, and other resources, as well as

<sup>222</sup> LCA GHG Report at 10 (Figure 6-2).

<sup>223</sup> *Id.* at 9, 18.

efficiency and conservation measures. 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. 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.

The uncertainty associated with estimating each of these factors would likely render such an analysis too speculative to inform the public interest determination in this or other non-FTA LNG export proceedings. Accordingly, DOE/FE elected to focus on the discrete question of how U.S. LNG compares on a life cycle basis to regional coal and other sources of imported natural gas in key LNG-importing countries. The conclusions of the LCA GHG Report, combined with the observation that many LNG-importing nations rely heavily on fossil fuels for electric generation, suggests that exports of U.S. LNG may decrease global GHG emissions, although there is substantial uncertainty on this point as indicated above. Based on the record evidence, however, we see no reason to conclude that U.S. LNG exports will increase global GHG emissions in a material or predictable way.

In this proceeding, the Center objects to Eagle LNG's Application due to the life cycle GHG emissions of exported LNG, which it states are "significantly worse" than from domestic natural gas.<sup>224</sup> The Center, however, does not address the LCA GHG Report or any findings therein. The Center also does not attempt to square its generalized allegations with Eagle LNG's proposed exports—which, as noted above, are a small-scale volume (49.8 Bcf/yr of natural gas) and are intended for regional export to Caribbean and Central American markets.<sup>225</sup> For all of these reasons, we find that the Center's arguments lack merit.

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<sup>224</sup> Center Mot. at 34.

<sup>225</sup> *Id.* at 34-35; *see* App. at 2, 11-12; *see also supra* note 203.

Finally, we note that, in *Sierra Club I*, the D.C. Circuit ruled in DOE's favor on the argument that DOE/FE should have evaluated additional variables in the LCA GHG Report, such as the potential for LNG to compete with renewable energy sources in certain import markets. The D.C. Circuit rejected Sierra Club's argument, saying it fell "under the category of flyspecking" and that the Court "[saw] nothing arbitrary about the Department's decision."<sup>226</sup> We find that the Court's conclusions and reasoning control the Center's similar arguments in this proceeding, and we therefore decline to address them further.

#### **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. Nonetheless, our decision in this Order is not premised on an uncritical acceptance of that Study. Certain public comments received on the 2018 Study 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 also have taken into account factors that could mitigate these impacts, such as the current oversupply 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 Guidelines<sup>227</sup> that, under most circumstances, the market is the most efficient means of

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<sup>226</sup> *Sierra Club I*, 867 F.3d at 202 (internal quotations and citation omitted).

<sup>227</sup> 1984 Policy Guidelines, 49 Fed. Reg. 6684.

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.<sup>228</sup> Given these possibilities, DOE/FE recognizes the need to monitor market developments closely as the impact of successive authorizations of LNG exports unfolds.

### **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 Eagle LNG's proposed exports will be inconsistent with the public interest. We further find that the Center has failed to overcome the statutory presumption that the proposed export authorization is not consistent 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 37 final non-FTA authorizations in a cumulative volume of exports totaling 34.66 Bcf/d of natural gas, or approximately 12.7 trillion cubic feet per year, as follows: Sabine Pass Liquefaction, LLC (2.2 Bcf/d),<sup>229</sup> Carib Energy (USA) LLC (0.04

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<sup>228</sup> Some commenters previously asked DOE to clarify the circumstances under which the agency would exercise its authority to revoke (in whole or in part) previously issued LNG export authorizations. In past orders, 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.

<sup>229</sup> *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).

Bcf/d),<sup>230</sup> Cameron LNG, LLC (1.7 Bcf/d),<sup>231</sup> FLEX I (1.4 Bcf/d),<sup>232</sup> FLEX II (0.4 Bcf/d),<sup>233</sup> Dominion Cove Point LNG, LP (0.77 Bcf/d),<sup>234</sup> Cheniere Marketing, LLC and Corpus Christi Liquefaction, LLC (2.1 Bcf/d),<sup>235</sup> Sabine Pass Liquefaction, LLC Expansion Project (1.38 Bcf/d),<sup>236</sup> American Marketing LLC (0.008 Bcf/d),<sup>237</sup> Emera CNG, LLC (0.008 Bcf/d),<sup>238</sup> Floridian Natural Gas Storage Company, LLC,<sup>239</sup> Air Flow North American Corp. (0.002

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<sup>230</sup> *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).

<sup>231</sup> *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).

<sup>232</sup> *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).

<sup>233</sup> *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).

<sup>234</sup> *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).

<sup>235</sup> *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).

<sup>236</sup> *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).

<sup>237</sup> *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).

<sup>238</sup> *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).

<sup>239</sup> *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).

Bcf/d),<sup>240</sup> Bear Head LNG Corporation and Bear Head LNG (USA), LLC (0.81 Bcf/d),<sup>241</sup> Pieridae Energy (USA) Ltd.,<sup>242</sup> Sabine Pass Liquefaction, LLC Design Increase (0.56 Bcf/d),<sup>243</sup> Cameron LNG, LLC Design Increase (0.42 Bcf/d),<sup>244</sup> Cameron LNG, LLC Expansion Project (1.41 Bcf/d),<sup>245</sup> Lake Charles Exports, LLC (2.0 Bcf/d),<sup>246</sup> Lake Charles LNG Export Company, LLC,<sup>247</sup> Carib Energy (USA), LLC (0.004),<sup>248</sup> Magnolia LNG, LLC (1.08 Bcf/d),<sup>249</sup> Southern

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<sup>240</sup> *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).

<sup>241</sup> *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).

<sup>242</sup> *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).

<sup>243</sup> *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).

<sup>244</sup> *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).

<sup>245</sup> *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).

<sup>246</sup> *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).

<sup>247</sup> *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).

<sup>248</sup> *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).

<sup>249</sup> *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).

LNG Company, L.L.C. (0.36 Bcf/d),<sup>250</sup> the FLEX Design Increase (0.34 Bcf/d),<sup>251</sup> Golden Pass Products LLC (2.21 Bcf/d),<sup>252</sup> Delfin LNG LLC,<sup>253</sup> the Lake Charles LNG Export Company, LLC Design Increase (0.33 Bcf/d),<sup>254</sup> the Lake Charles Exports, LLC Design Increase,<sup>255</sup> Eagle LNG Partners Jacksonville II LLC (0.01 Bcf/d),<sup>256</sup> Mexico Pacific Limited LLC (1.7 Bcf/d),<sup>257</sup> Venture Global Calcasieu Pass, LLC (1.7 Bcf/d),<sup>258</sup> Energía Costa Azul, S. de R.L. de C.V. (Mid-Scale Project) (0.44 Bcf/d),<sup>259</sup> Energía Costa Azul, S. de R.L. de C.V. (Large-Scale

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<sup>250</sup> *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).

<sup>251</sup> *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).

<sup>252</sup> *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).

<sup>253</sup> *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).

<sup>254</sup> *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 Calcasieu Parish, Louisiana, to Non-Free Trade Agreement Nations (June 29, 2017).

<sup>255</sup> *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 Calcasieu Parish, Louisiana, to Non-Free Trade Agreement Nations (June 29, 2017).

<sup>256</sup> *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).

<sup>257</sup> *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).

<sup>258</sup> *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).

<sup>259</sup> *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).

Project) (1.3 Bcf/d),<sup>260</sup> Port Arthur LNG, LLC (1.91 Bcf/d),<sup>261</sup> Driftwood LNG LLC (3.88 Bcf/d),<sup>262</sup> FLEX4 (0.72 Bcf/d),<sup>263</sup> Gulf LNG Liquefaction Company, LLC (1.5 Bcf/d),<sup>264</sup> 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.<sup>265</sup> 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. 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.<sup>266</sup> 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

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<sup>260</sup> *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).

<sup>261</sup> *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).

<sup>262</sup> *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).

<sup>263</sup> *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).

<sup>264</sup> *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).

<sup>265</sup> *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).

<sup>266</sup> 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.”).

0.81 Bcf/d to reflect the current capacity of the Maritimes Northeast Pipeline at the U.S.-Canadian border.<sup>267</sup>

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.<sup>268</sup>

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.

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<sup>267</sup> 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.”).

<sup>268</sup> See 2018 Study Response to Comments, 83 Fed. Reg. at 67,273 (citing 2018 LNG Export Study at 63 & Appendix F).

## **IX. FINDINGS**

On the basis of the findings and conclusions set forth above, DOE/FE grants Eagle LNG's Application, as supplemented, in FE Docket No. 16-15-LNG, subject to the Terms and Conditions and Ordering Paragraphs set forth below.

## **X. 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. Eagle LNG must abide by each Term and Condition or face appropriate sanction.

### **A. Term of the Authorization**

Eagle LNG requests a 20-year term for the authorization. Eagle LNG's requested 20-year term is consistent with our practice in the non-FTA export authorizations issued to date. The 20-year term will begin on the date when Eagle LNG commences commercial export of domestically produced LNG from the Jacksonville Project, but not before.

### **B. Commencement of Operations**

Eagle LNG requests that this authorization commence on the earlier of the date of first export or five years from the date of the issuance of this Order. Consistent with our final long-term non-FTA authorizations issued to date, DOE/FE will add as a condition of the authorization that Eagle LNG 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**

Eagle LNG will be permitted to apply for short-term export authorizations to export Commissioning Volumes prior to the commencement of the first commercial export of

domestically sourced LNG from the Jacksonville Project. “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 Eagle LNG’s long-term contracts.<sup>269</sup> The Commissioning Volumes will not be counted against the maximum level of volumes previously authorized in Eagle LNG’s FTA authorization (DOE/FE Order No. 3867) or in this Order.

#### **D. Make-Up Period**

Eagle LNG 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 Make-Up Volume that it was unable to export during the original export period. 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 Eagle LNG’s FTA authorization or in this Order. Insofar as Eagle LNG 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 Assistant Secretary for Fossil Energy.<sup>270</sup> DOE/FE has found that this requirement applies to any change in control of the authorization holder. This condition was deemed necessary to ensure

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<sup>269</sup> For additional discussion of Commissioning Volumes and the Make-Up Period referenced below, *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).

<sup>270</sup> 10 C.F.R. § 590.405.

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.<sup>271</sup> 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.<sup>272</sup>

#### **F. Agency Rights**

Eagle LNG 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, an 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.<sup>273</sup>

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<sup>271</sup> 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).

<sup>272</sup> See *id.*

<sup>273</sup> 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 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).

To ensure that the public interest is served, this authorization shall be conditioned to require that where Eagle LNG proposes to export LNG from the Jacksonville Project 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 Eagle LNG file or cause to be filed with DOE/FE any relevant long-term commercial agreements, including liquefaction tolling agreements, pursuant to which Eagle LNG 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).<sup>274</sup>

In addition, DOE/FE finds that section 590.202(c) of DOE/FE’s regulations<sup>275</sup> requires that Eagle LNG file, or cause to be filed, all long-term contracts associated with the long-term supply of natural gas to the Jacksonville Project, whether signed by Eagle LNG or the Registrant, within 30 days of their execution.

DOE/FE recognizes that some information in Eagle LNG’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 Jacksonville Project, may be commercially sensitive. DOE/FE therefore will provide Eagle LNG the option to file or cause to be filed either unredacted contracts, or in the alternative (A) Eagle LNG 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

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<sup>274</sup> 10 C.F.R. § 590.202(b).

<sup>275</sup> *Id.* § 590.202(c).

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.<sup>276</sup>

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 Eagle LNG's Application in the full volume of LNG requested, up to the equivalent of 49.8 Bcf/yr of natural gas.

#### **I. Combined FTA and Non-FTA Export Authorization Volumes**

The volumes of LNG authorized for export in Eagle LNG's FTA authorization and this Order reflect the planned liquefaction capacity of the Jacksonville Project, as approved by FERC. Accordingly, Eagle LNG may not treat the FTA and non-FTA export volumes as additive to one another.

### **XI. ORDER**

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

A. Eagle LNG Partners Jacksonville LLC (Eagle LNG) is authorized to export domestically produced LNG by vessel and in ISO containers on vessels from the proposed Jacksonville Project, to be located in Jacksonville, Florida, in a volume up to the equivalent of 49.8 Bcf/yr of natural gas. This authorization is for a term of 20 years to commence from the

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<sup>276</sup> *Id.* § 590.202(e) (allowing confidential treatment of information in accordance with 10 C.F.R. § 1004.11).

date of first commercial export, but not before. Eagle LNG 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. Eagle LNG 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 Eagle LNG's FTA authorization (DOE/FE Order No. 3867) or in this Order.

C. Eagle LNG 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 Eagle LNG's FTA authorization or in this Order. Insofar as Eagle LNG may seek to export additional volumes not previously authorized, it will be required to obtain appropriate authorization from DOE/FE.

D. Eagle LNG must commence export operations using the planned liquefaction facility 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 49.8 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. Eagle LNG 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. Eagle LNG shall ensure compliance with all terms and conditions established by FERC in the final EIS, including the 131 environmental conditions adopted in the FERC Order issued on September 19, 2019. Additionally, this authorization is conditioned on Eagle LNG's on-going compliance with any other preventative and mitigative measures at the Jacksonville Project imposed by federal or state agencies.

I. (i) Eagle LNG 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 Jacksonville Project. The non-redacted copies must be filed within 30 days of their execution and may be filed under seal, as described above.

(ii) Eagle LNG 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 Jacksonville Project. The non-redacted copies must be filed within 30 days of their execution and may be filed under seal, as described above.

J. Eagle LNG 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 Eagle LNG with all information necessary to permit Eagle LNG 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. Eagle LNG, or others for whom Eagle LNG 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. 4445, issued October 3, 2019, in FE Docket No. 16-15-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 Eagle LNG Partners Jacksonville LLC 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 Eagle LNG Partners Jacksonville LLC is made aware of all such actual destination countries.

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

M. Eagle LNG shall file with the Office of Regulation, Analysis, and Engagement, on a semi-annual basis, written reports describing the status of the proposed Jacksonville Project. 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 Jacksonville Project, the date the Jacksonville Project 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, Eagle LNG must comply with DOE/FE's Procedures for Change in Control Affecting Applications and Authorizations to Import or Export Natural Gas.<sup>277</sup>

O. Monthly Reports: With respect to the exports authorized by this Order, Eagle LNG 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 have been made. The first monthly report required by this Order is due not later than the 30<sup>th</sup> 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 by ocean-going vessel 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).

If exports of LNG in ISO containers by vessel have occurred, the report must give the following details of each LNG cargo: (1) the name(s) of the authorized exporter registered with

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<sup>277</sup> See 79 Fed. Reg. at 65,541-42.

DOE/FE; (2) the name of the U.S. export terminal; (3) the name of the vessel; (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 name and location (city/state) of the facility where the ISO container is loaded with LNG; (10) the mode(s) of transport used to move the loaded ISO container from the loading facility to the export port or terminal; (11) the duration of the supply agreement; and (12) 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 Center for Biological Diversity and API, respectively, were granted by operation of law.<sup>278</sup>

Issued in Washington, D.C., on October 3, 2019.



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Mark R. Maddox  
Principal Deputy Assistant Secretary  
Office of Fossil Energy

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<sup>278</sup> 10 C.F.R. § 590.303(g).

## **APPENDIX: 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),<sup>279</sup> and in compliance with the Council on Environmental Quality (CEQ) implementing regulations for NEPA,<sup>280</sup> DOE's implementing procedures for NEPA,<sup>281</sup> and DOE's "Compliance with Floodplain and Wetland Environmental Review Requirements."<sup>282</sup>

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 Eagle LNG's proposed LNG terminal (the Jacksonville Project) that would be used to support the export authorization sought from DOE/FE.<sup>283</sup> In accordance with 40 C.F.R. § 1506.3, DOE/FE adopted the EIS on April 22, 2019 (DOE/EIS-0513),<sup>284</sup> and the U.S. Environmental Protection Agency (EPA) published a notice of the adoption on May 3, 2019.<sup>285</sup>

### **A. Alternatives**

The EIS assessed alternative methods that could be used to achieve the Jacksonville Project's objectives. The range of alternatives analyzed included the no-action alternative, system alternatives, and terminal site alternatives.<sup>286</sup> Alternatives were evaluated and compared to the Jacksonville Project to determine if the alternatives were environmentally preferable and

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<sup>279</sup> 42 U.S.C. § 4321 *et seq.*

<sup>280</sup> 40 C.F.R. § 1500-08.

<sup>281</sup> 10 C.F.R. § 1021.

<sup>282</sup> *Id.* § 1022.

<sup>283</sup> See Federal Energy Regulatory Comm'n, *Final Environmental Impact Statement for Eagle LNG Partners Jacksonville, LLC Jacksonville Project*, Docket No. CP 17-41-000 (Apr. 12, 2019), available at: <https://www.ferc.gov/industries/gas/enviro/eis/2019/04-12-19-FEIS/04-12-19-FEIS.pdf> [hereinafter final EIS].

<sup>284</sup> Letter from Amy Sweeney, DOE/FE, to Julie Roemele, U.S. EPA (Apr. 22, 2019) (adoption of final EIS).

<sup>285</sup> U.S. Env'tl. Protection Agency, *Environmental Impact Statements; Notice of Availability*, 84 Fed. Reg. 19,074 (May 3, 2019).

<sup>286</sup> Final EIS at 3-1 to 3-11.

technically and economically feasible.

In analyzing the no-action alternative, the EIS reviewed the effects and actions that could result if the Jacksonville Project was not constructed. The EIS determined that other LNG export projects could be developed in the region or elsewhere in the United States, and projects of similar scope and magnitude would likely produce environmental impacts of comparable significance.<sup>287</sup> The EIS concluded that the development of other energy sources would not be a reasonable alternative to the proposed project, as the purpose of the Jacksonville Project is to construct and operate a terminal for domestic and global LNG exports.<sup>288</sup>

The EIS reviewed system alternatives to assess the ability of other existing, modified, planned, or proposed facilities to meet the stated objectives of the Jacksonville Project, and to determine if a technically and economically feasible alternative exists that would have a significant environmental advantage over the Project.<sup>289</sup> The EIS identified nine existing LNG terminal sites with approved, proposed, or planned expansions to export LNG, as well as 15 new LNG projects with approved, proposed, or planned LNG terminals. The EIS concluded that each of the potential system alternatives would likely result in similar environmental impacts to the Jacksonville Project, and none would meet Eagle LNG's project purpose.<sup>290</sup>

The EIS also considered seven site alternatives in the general area of the proposed Jacksonville Project. The EIS identified these alternatives using screening criteria to identify sites that would be reasonable and most likely to provide some environmental advantage over the proposed LNG terminal site.<sup>291</sup> The EIS found that none of the alternatives offered significant

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<sup>287</sup> *Id.* at 3-2 to 3-5.

<sup>288</sup> *Id.*

<sup>289</sup> *Id.* at 3-2 to 3-3.

<sup>290</sup> *Id.* at 3-3.

<sup>291</sup> *Id.* at 3-6 to 3-11.

environmental advantages over the proposed site.<sup>292</sup>

### **B. Environmentally Preferred Alternative**

When compared against the alternatives assessed in the EIS, the Jacksonville Project—as modified by the mitigation measures recommended in the EIS—is the environmentally preferred alternative. The EIS determined that, although the no-action alternative would avoid the environmental impacts identified in the EIS, the adoption of this alternative would not meet the project objectives.<sup>293</sup> Further, equal or greater impacts could occur at other location(s) in the region to meet the demand identified in the Application.<sup>294</sup>

### **C. Decision**

DOE/FE has decided to issue Order No. 4445 authorizing Eagle LNG to export domestically produced LNG by vessel and in ISO containers on vessels from the proposed Jacksonville Project to non-FTA countries in a volume equivalent to 49.8 Bcf/yr of natural gas for a term of 20 years. 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 Center for Biological Diversity—the only intervenor-protestor opposing Eagle LNG's Application—has failed to show that the proposed exports will be inconsistent with the public interest, as would be required to deny the Application under NGA section 3(a).<sup>295</sup> DOE also considered the Addendum, which summarizes available information on potential upstream impacts associated with unconventional natural gas activities, such as hydraulic fracturing.

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<sup>292</sup> Final EIS at 3-11.

<sup>293</sup> *Id.* at ES-11; *see also id.* at 3-11.

<sup>294</sup> *Id.* at ES-11.

<sup>295</sup> 15 U.S.C. § 717b(a).

#### **D. Mitigation**

As a condition of its decision to issue Order No. 4445, DOE/FE is imposing requirements that will avoid or minimize the environmental impacts of the Jacksonville Project. These conditions include the 131 environmental conditions recommended in the EIS and adopted by FERC in its order authorizing the Jacksonville Project on September 19, 2019.<sup>296</sup> Mitigation measures beyond those included in DOE/FE Order No. 4445 that are enforceable by other federal and state agencies are additional conditions of DOE/FE Order No. 4445. With these conditions, DOE/FE has determined that all practicable means to avoid or minimize environmental harm from the Jacksonville Project have been adopted.

#### **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."<sup>297</sup> The required floodplain assessment was conducted during development and preparation of the EIS, which determined that portions of the Jacksonville Project would be located in the 100-year and 500-year flood plain. Eagle LNG has proposed to design the Jacksonville Project to withstand a 500-year flood event, in accordance with FERC recommendations.<sup>298</sup> While placement of the Jacksonville Project within floodplains would be unavoidable, DOE/FE has determined that the Jacksonville Project's proposed design minimizes floodplain impacts to the extent practicable.

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<sup>296</sup> *Eagle LNG Partners Jacksonville LLC*, Order Granting Authorization Under Section 3 of the Natural Gas Act, 168 FERC ¶ 61,181 (Sept. 19, 2019).

<sup>297</sup> 10 C.F.R. § 1022.

<sup>298</sup> Final EIS at 4-147 to 4-148.