

UNITED STATES OF AMERICA  
DEPARTMENT OF ENERGY  
OFFICE OF FOSSIL ENERGY

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DRIFTWOOD LNG LLC ) FE DOCKET NO. 16-144-LNG  
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OPINION AND ORDER GRANTING LONG-TERM  
AUTHORIZATION TO EXPORT LIQUEFIED NATURAL GAS  
TO NON-FREE TRADE AGREEMENT NATIONS

DOE/FE ORDER NO. 4373

MAY 2, 2019

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## **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
FE	Office of Fossil Energy, U.S. Department of Energy
FERC	Federal Energy Regulatory Commission
FTA	Free Trade Agreement
GDP	Gross Domestic Product
GHG	Greenhouse Gas
IECA	Industrial Energy Consumers of America
LCA	Life Cycle Analysis
LNG	Liquefied Natural Gas
Mcf	Thousand Cubic Feet
MMBtu	Million British Thermal Units
mtpa	Million Metric Tons per Annum
NEPA	National Environmental Policy Act
NERA	NERA Economic Consulting
NETL	National Energy Technology Laboratory
NGA	Natural Gas Act
Tcf/yr	Trillion Cubic Feet per Year

## I. INTRODUCTION

On September 28, 2016, Driftwood LNG LLC (Driftwood LNG) filed an 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> Driftwood LNG requests long-term, multi-contract authorization to export domestically produced liquefied natural gas (LNG) from a natural gas liquefaction facility that it proposes to site, construct, and operate on the west side of the Calcasieu River, near Carlyss in Calcasieu Parish, Louisiana (the Facility). Driftwood LNG seeks to export the 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, and with which trade is not prohibited by U.S. law or policy (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>

In the Application, Driftwood LNG requested authority to export LNG to both FTA and non-FTA countries in a volume equivalent to 1,496.5 billion cubic feet (Bcf) per year (Bcf/yr) of natural gas, or 4.1 Bcf per day (Bcf/d)—which it states is equivalent to 26 million metric tons per annum (mtpa) of LNG.<sup>5</sup> This requested volume was consistent with Driftwood LNG's then-pending application before the Federal Energy Regulatory Commission (FERC) in FERC Docket No. CP17-117-000, in which Driftwood LNG sought authority to site, construct, and operate the

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<sup>1</sup> Driftwood LNG 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. 16-144-LNG (Sept. 28, 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. 00-006.02 issued on November 12, 2014.

<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.

Facility with a maximum liquefaction capacity of 26 mtpa of LNG.<sup>6</sup> On February 28, 2017, in Order No. 3968, DOE/FE granted the FTA portion of the Application in the requested volume of 1,496.5 Bcf/yr of natural gas.<sup>7</sup>

Driftwood LNG requests the non-FTA authorization for a period of 20 years, commencing on the earlier of the date of first export or seven years from the date the authorization is granted. Additionally, Driftwood LNG requests the authorization on its own behalf and as agent for other entities that hold title to the LNG at the time of export.<sup>8</sup>

On January 12, 2017, DOE/FE published a notice of the non-FTA portion of the Application in the *Federal Register* (Notice of Application).<sup>9</sup> The Notice of Application called on interested persons to submit protests, motions to intervene, notices of intervention, and comments by March 13, 2017.<sup>10</sup> DOE/FE received one comment in opposition to the Application, submitted by Dan Ehlers.<sup>11</sup>

Subsequently, on February 15, 2018, Driftwood LNG submitted a filing to FERC to “clarify the LNG production capacity of the Facility” as 27.6 mtpa of LNG, up from the 26 mtpa

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<sup>6</sup> Driftwood LNG LLC and Driftwood Pipeline LLC, Application for Authorizations under Sections 3 and 7 of the Natural Gas Act, FERC Docket Nos. CP17-117-000 and CP17-118-000 (Mar. 31, 2017). The FERC application also included a request by Driftwood Pipeline LLC for a certificate of public convenience and necessity to construct, own, and operate a new approximately 96-mile-long interstate natural gas pipeline, compression, and related facilities (the Pipeline).

<sup>7</sup> *Driftwood LNG LLC*, DOE/FE Order No. 3968, FE Docket No. 16-144-LNG, Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from the Proposed Driftwood LNG Facility in Calcasieu Parish, Louisiana, to Free Trade Agreement Nations (Feb. 28, 2017). At Driftwood LNG’s request, the FTA authorization is for a term of 30 years.

<sup>8</sup> App. at 4.

<sup>9</sup> Driftwood LNG LLC, Application for Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas to Non-Free Trade Agreement Nations, Notice of Application, 82 Fed. Reg. 3,760 (Jan. 12, 2017) [hereinafter Notice of Application].

<sup>10</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>11</sup> Comment from Dan Ehlers, FE Docket No. 16-144-LNG (Mar. 13, 2017); *see infra* § VII.

originally requested in Driftwood LNG's FERC application.<sup>12</sup>

On March 5, 2018, Driftwood LNG submitted a filing to DOE/FE, entitled "Supplement to Long-Term Authorization and Application for Long-Term Authorization" (Supplement). In the Supplement, Driftwood LNG states that it seeks to align its export volumes with the Facility's optimized estimated LNG production capacity of 27.6 mtpa, as reflected in its February 15, 2018 FERC filing.<sup>13</sup>

We note that, although Driftwood LNG's Supplement nominally requests an increase in the requested export volume from 26 to 27.6 mtpa of LNG, the Supplement states that 27.6 mtpa is "equivalent to approximately 1415.3 billion cubic feet per year [of natural gas]."<sup>14</sup> This updated volume, when expressed in Bcf of natural gas, represents a *decrease* from Driftwood LNG's original request—specifically, from 1,496.5 Bcf/yr (4.1 Bcf/d) requested in the Application to 1,415.3 Bcf/yr (3.88 Bcf/d) requested in the Supplement.<sup>15</sup> This difference appears to be based on updates to the mtpa-to-Bcf conversion factor used by Driftwood LNG over the course of its filings.

Although Driftwood LNG uses the 27.6 mtpa figure for the Facility in its updated FERC application, DOE/FE's regulations require export volumes to be expressed in Bcf (and, indeed, DOE/FE's export authorizations are expressed in Bcf).<sup>16</sup> For this reason, we must review the Supplement's requested volume in the stated amount of 1,415.3 Bcf/yr of natural gas. On December 6, 2018, in response to the Supplement, we amended Driftwood LNG's FTA order

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<sup>12</sup> Driftwood LNG LLC, Supplement to Long-Term Authorization and Application for Long-Term Authorization, FE Docket No. 16-144-LNG, at 1-2 (Mar. 5, 2018) [hereinafter Supp.] (citing its February 15, 2018 filing in FERC Docket No. CP17-117-000).

<sup>13</sup> *Id.* at 1, 4.

<sup>14</sup> *Id.* at 1-2.

<sup>15</sup> *Compare* App. at 1, 3 and Supp. at 1-2.

<sup>16</sup> 10 C.F.R. § 590.202(b)(1).

(DOE/FE Order No. 3968-A) to authorize a new export volume of 1,415.3 Bcf/yr of natural gas.<sup>17</sup> Likewise, in this proceeding, we are reviewing the non-FTA portion of the Application as requesting an export volume of 1,415.3 Bcf/yr, which represents a decrease of 81.2 Bcf/yr from the original volume requested in the Application.

On November 1, 2018, DOE/FE published a notice of the non-FTA portion of the Supplement in the *Federal Register* (Notice of Supplement).<sup>18</sup> The Notice of Supplement called on interested persons to submit protests, motions to intervene, notices of intervention, and comments by November 21, 2018.<sup>19</sup> The Industrial Energy Consumers of America (IECA) submitted a filing, entitled “Notice of Intervention, Protest, and Comment” on November 20, 2018. IECA subsequently re-filed this document with a certificate of service on December 12, 2018.<sup>20</sup> On December 20, 2018, Driftwood LNG filed an “Answer in Opposition to [IECA’s] Late-Filed Motion to Intervene, Protest, and Comment” (Answer).<sup>21</sup> Based, in part, on the arguments made by Driftwood LNG in its Answer, DOE/FE issued a procedural order on April 10, 2019, dismissing IECA’s proposed motion to intervene and protest.<sup>22</sup> DOE/FE, however,

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<sup>17</sup> *Driftwood LNG LLC*, DOE/FE Order No. 3968-A, FE Docket No. 16-144-LNG, Order Amending Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from the Proposed Driftwood LNG Facility in Calcasieu Parish, Louisiana, to Free Trade Agreement Nations (Dec. 6, 2018).

<sup>18</sup> *Driftwood LNG LLC*, Supplement to Application for Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas to Non-Free Trade Agreement Nations for a 20-Year Period, Notice of Supplement, 83 Fed. Reg. 54,922, 54,923 (Nov. 1, 2018) [hereinafter Notice of Supplement] (stating that “DOE/FE may disregard comments or protests that do not bear directly on the Supplement—specifically, Driftwood LNG’s proposed decrease of its requested non-FTA export volume).

<sup>19</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>20</sup> *Industrial Energy Consumers of America*, Notice of Intervention, Protest, and Comment, FE Docket No. 16-144-LNG (Dec. 12, 2018) [hereinafter IECA Comments] (document #13 in docket, containing certificate of service dated Dec. 12, 2018).

<sup>21</sup> *Driftwood LNG LLC*, Answer of Driftwood LNG LLC in Opposition to Late Filed Motion to Intervene, Protest, and Comment, FE Docket No. 16-144-LNG (Dec. 20, 2018) [hereinafter Driftwood LNG Answer].

<sup>22</sup> See *Driftwood LNG LLC*, FE Docket No. 16-144-LNG, Order Dismissing Industrial Energy Consumers of America’s Motion to Intervene and Protest and Accepting Late-Filed Comments (Apr. 10, 2019).



accepted IECA's filing in the form of late-filed comments opposing the Supplement.<sup>23</sup> Under DOE/FE's regulations, both the Application and Supplement are thus uncontested.<sup>24</sup>

Most recently, on April 18, 2019, FERC issued an order authorizing Driftwood LNG to site, construct, and operate the Facility in the requested production capacity of 27.6 mtpa, and authorizing Driftwood Pipeline LLC to construct and operate the Driftwood Pipeline Project (*see supra* note 6).<sup>25</sup>

DOE/FE has reviewed the non-FTA portion of the Application and Supplement, the comments opposing the Application or Supplement, DOE's economic and environmental studies, the final environmental impact statement (EIS) for the Facility prepared 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 Driftwood LNG's proposed exports will be inconsistent with the public interest, as would be required to deny the Application and Supplement under NGA section 3(a). DOE/FE therefore grants the non-FTA portion of the Application in the volume requested in the Supplement—1,415.3 Bcf/yr of natural gas.<sup>26</sup> Because the export volumes authorized in Driftwood LNG's FTA order (DOE/FE Order No. 3968-A) and this Order each reflect the planned liquefaction capacity of the Facility as approved by FERC, the FTA and non-FTA volumes are not additive.

Additionally, as discussed below, DOE/FE participated as a cooperating agency in FERC's environmental review of the Driftwood LNG Facility under the National Environmental

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<sup>23</sup> *See id.*

<sup>24</sup> 10 C.F.R. § 590.102(b).

<sup>25</sup> *Driftwood LNG LLC and Driftwood Pipeline LLC*, Order Granting Authorizations Under Sections 3 and 7 of the Natural Gas Act, 167 FERC ¶ 61,054 (Apr. 18, 2019) [hereinafter FERC Order].

<sup>26</sup> *See infra* §§ IX-XI.

Policy Act of 1969 (NEPA), 42 U.S.C. § 4321 *et seq.* FERC issued the final EIS for the Facility on January 18, 2019.<sup>27</sup> After an independent review, DOE/FE adopted the final EIS on January 30, 2019 (DOE/EIS-0538),<sup>28</sup> and the U.S. Environmental Protection Agency (EPA) published a notice of the adoption on February 8, 2019.<sup>29</sup> As an Appendix to this Order, DOE/FE is issuing the Record of Decision (ROD) under NEPA for the proposed Facility. This Order requires Driftwood LNG’s compliance with the 111 environmental conditions recommended in the final EIS and adopted in the FERC Order.<sup>30</sup>

Concurrently with this Order, DOE/FE is issuing Order No. 4372 to Port Arthur LNG, LLC (FE Docket No. 15-96-LNG) in a volume equivalent to 698 Bcf/yr of natural gas (1.91 Bcf/d).<sup>31</sup> The volumes approved in the Port Arthur LNG order and this Order—1.91 and 3.88 Bcf/d of natural gas, respectively—bring DOE/FE’s cumulative total of approved non-FTA exports of LNG and compressed natural gas to 32.27 Bcf/d of natural gas.<sup>32</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,

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<sup>27</sup> Federal Energy Regulatory Comm’n, *Driftwood LNG Project Final Environmental Impact Statement*, Docket Nos. CP 17-117-000 and CP17-118-000 (Jan. 18, 2019), *available at*: <https://www.energy.gov/sites/prod/files/2019/01/f59/final-eis-0538-driftwood-2019-01-18-main-volume.pdf> [hereinafter final EIS].

<sup>28</sup> Letter from Amy Sweeney, DOE/FE, to Julie Roemele, U.S. EPA (Jan. 30, 2019) (adoption of final EIS).

<sup>29</sup> U.S. Env’tl. Protection Agency, Environmental Impact Statements; Notice of Availability, 84 Fed. Reg. 2,860 (Feb. 8, 2019).

<sup>30</sup> *See also infra* § XI (Ordering Para. H); *see also infra* § VI.

<sup>31</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>32</sup> *See infra* § VIII.D.

assessed how specified scenarios of increased natural gas exports could affect domestic energy markets. Specifically, EIA examined how prescribed levels of natural gas exports (at 6 Bcf/d and 12 Bcf/d) above baseline cases could affect domestic energy markets.

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

In December 2012, DOE/FE published a notice of availability of the 2012 LNG Export Study in the *Federal Register* for public comment.<sup>33</sup> DOE/FE subsequently responded to the public comments in connection with the LNG export proceedings identified in that notice.<sup>34</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>35</sup> DOE announced plans to undertake new

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<sup>33</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>34</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>35</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>36</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>37</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>38</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>39</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>36</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>37</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>38</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>39</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>40</sup> DOE/FE subsequently responded to the public comments in connection with the LNG export proceedings identified in that notice.<sup>41</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>42</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>43</sup> Accordingly, DOE/FE, through its support contractor KeyLogic Systems, Inc., commissioned NERA to conduct the 2018 LNG Export

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<sup>40</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>41</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>42</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>43</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>44</sup> and concurrently provided notice of the availability of the Study, as discussed below.<sup>45</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>46</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>47</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>48</sup> The 2018 Study develops 54 scenarios by identifying various assumptions for domestic and

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<sup>44</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>45</sup> See 2018 Study Notice.

<sup>46</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>47</sup> See 2018 Study Notice, 83 Fed. Reg. at 27,316.

<sup>48</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].

international supply and demand conditions to capture a wide range of uncertainty in natural gas markets. The scenarios include three baseline cases based on EIA's AEO 2017 projections (the most recent EIA projections available at the time), with varying assumptions about U.S. natural gas supply.<sup>49</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>50</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>51</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>49</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>50</sup> *See id.*

<sup>51</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>52</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>53</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>52</sup> *See id.*

<sup>53</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>54</sup>

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<sup>54</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>55</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>56</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>57</sup> Of those, nine comments supported the Study,<sup>58</sup> eight comments opposed the 2018 Study and exports of LNG,<sup>59</sup> one comment took no position,<sup>60</sup> and one comment was non-responsive.<sup>61</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>62</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>63</sup>

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<sup>55</sup> See 2018 Study Notice.

<sup>56</sup> *Id.*, 83 Fed. Reg. at 27,315.

<sup>57</sup> The public comments are posted on the DOE/FE website at: <https://fossil.energy.gov/app/docketindex/docket/index/10>.

<sup>58</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>59</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>60</sup> Comment of John Young.

<sup>61</sup> Comment of Vincent Burke.

<sup>62</sup> See 2018 Study Response to Comments, 83 Fed. Reg. at 67,260-72.

<sup>63</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>64</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>65</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>66</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>67</sup>
- “Overall [U.S.] GDP improves as LNG exports increase for all scenarios with the same U.S. natural gas supply condition.”<sup>68</sup>
- “There is no support for the concern that LNG exports would come at the expense of domestic natural gas consumption.”<sup>69</sup>
- “[A] large share of the increase in LNG exports is supported by an increase in domestic natural gas production.”<sup>70</sup>

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<sup>64</sup> *See id.*

<sup>65</sup> *See id.*

<sup>66</sup> *Id.* (quoting 2018 LNG Export Study at 55).

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

<sup>68</sup> *Id.* (quoting 2018 LNG Export Study at 67).

<sup>69</sup> *Id.* (quoting 2018 LNG Export Study at 77).

<sup>70</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>71</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>72</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>73</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>74</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>75</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>71</sup> *Id.* (quoting 2018 LNG Export Study at 70).

<sup>72</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>73</sup> 2018 Study Response to Comments, 83 Fed. Reg. at 67,273.

<sup>74</sup> *Id.* (citing 2018 LNG Export Study at 63 & Appendix F).

<sup>75</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>76</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>77</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>78</sup> DOE/FE also received public comments on the LCA GHG Report and responded to those comments in prior orders.<sup>79</sup>

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<sup>76</sup> 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>77</sup> 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>78</sup> 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>79</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.

### **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>80</sup> and three in a consolidated, unpublished opinion issued on November 1, 2017 (*Sierra Club II*).<sup>81</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>82</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 considered and disclosed the potential environmental impacts of its decision under NEPA. Sierra

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<sup>80</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>81</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>82</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)

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>83</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>84</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>85</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>86</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>87</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>88</sup>

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<sup>83</sup> *Sierra Club I*, 867 F.3d at 203.

<sup>84</sup> *Id.* at 192.

<sup>85</sup> *Id.* at 198.

<sup>86</sup> *Id.* at 201.

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

<sup>88</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>89</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>90</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>91</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>92</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 and Supplement:

[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>93</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>94</sup>

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<sup>89</sup> *Sierra Club I*, 867 F.3d at 203.

<sup>90</sup> *Id.*

<sup>91</sup> *Sierra Club II*, 703 Fed. Appx. 1, at \*2.

<sup>92</sup> *Id.*

<sup>93</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>94</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>95</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>96</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>97</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>95</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>96</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>97</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>98</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>99</sup>

In Order No. 1473, DOE stated that it was guided by DOE Delegation Order No. 0204-111.<sup>100</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>101</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>98</sup> *Id.* at 6685.

<sup>99</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>100</sup> *See id.* at 13 and n.45.

<sup>101</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**

Driftwood LNG is a Delaware limited liability company with its principal place of business in Houston, Texas. At the time Driftwood LNG filed its Application, Driftwood LNG was an indirect wholly-owned subsidiary of Tellurian Investments Inc.<sup>102</sup> However, as a result of a change in control, Driftwood LNG is now an indirect wholly-owned subsidiary of Tellurian Inc.<sup>103</sup>

##### **B. Proposed Liquefaction Facility**

Driftwood LNG states that the proposed Driftwood LNG Facility will be located on the west side of the Calcasieu River in Calcasieu Parish, Louisiana, approximately five miles south of the town of Carlyss. The Facility will occupy approximately 720 acres of a 790-acre tract of land that Driftwood LNG has acquired by a combination of purchase (approximately 140 acres) and lease with the right to enter into a long-term lease of up to 50 years (approximately 650 acres).<sup>104</sup>

As approved by FERC, the Facility will consist of the following major components: five liquefaction plants, three LNG storage tanks, marine facilities, and associated infrastructure and support facilities. Each of the liquefaction plants, which will liquefy the natural gas delivered to the Facility, will consist of: one gas pre-treatment unit, one condensate stabilization unit, and four heavy hydrocarbon removal and liquefaction units. LNG produced by the five plants will be stored in the three LNG storage tanks. Each storage tank will have a net capacity of approximately 235,000 cubic meters.<sup>105</sup>

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<sup>102</sup> App. at 2.

<sup>103</sup> See, e.g., U.S. Dep't of Energy, re: Statement and Notice of Change in Control for Driftwood LNG LLC, FE Docket No. 16-144-LNG (July 17, 2017); see also Supp. at 2.

<sup>104</sup> App. at 2; see also *id.* at Appendix C (site map) and Appendix D (proof of site control).

<sup>105</sup> FERC Order at ¶ 6; see also App. at 2-3.

### **C. Project Pipeline**

As noted above, FERC has authorized Driftwood Pipeline LLC to develop the proposed Driftwood Pipeline Project, which will consist of a new 96-mile-long mainline pipeline, a new 3.4-mile-long lateral pipeline, 15 new meter stations, and three new compressor stations to transport natural gas to the Facility for liquefaction and export.<sup>106</sup> The proposed Pipeline will interconnect with 14 interstate pipelines along its route.<sup>107</sup>

### **D. Source of Natural Gas**

Driftwood LNG states that natural gas for the Facility will include supplies available from various producing regions throughout the eastern United States. Further, the Facility will have the capability to access the entire national natural gas pipeline grid through various interconnections.<sup>108</sup>

### **E. Business Model**

Driftwood LNG requests this authorization on its own behalf and as agent for other entities that will hold title to the LNG at the time of export.<sup>109</sup> Driftwood LNG states that, to date, it has not yet entered into contracts for the proposed exports from the Facility. However, Driftwood LNG states that it will file all long-term, binding contracts associated with the export of LNG from the Facility, once executed, in accordance with established policy and precedent, and will comply with all DOE/FE requirements for exporters and agents, including registration requirements.<sup>110</sup> Driftwood 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 set forth in recent DOE/FE orders.

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<sup>106</sup> FERC Order at ¶ 2; *see also* App. at 3.

<sup>107</sup> FERC Order at ¶ 12; *see also* App. at 3.

<sup>108</sup> App. at 6.

<sup>109</sup> *Id.* at 4.

<sup>110</sup> *Id.* at 5.

## V. APPLICANT’S PUBLIC INTEREST ANALYSIS

### A. Overview

Driftwood LNG asserts that the requested authorization to export LNG to non-FTA countries is not inconsistent with the public interest and should be granted.<sup>111</sup> In support of this position, Driftwood LNG addresses the following factors: (i) the economic impacts of the proposed exports, including regional benefits; (ii) international impacts; (iii) impacts on domestic natural gas supply and demand; and (iv) environmental impacts.

### B. Economic Impacts

Driftwood LNG maintains that the United States will experience net economic benefits from the exportation of LNG.<sup>112</sup> Driftwood LNG refers to the findings in DOE’s 2012 LNG Export Study, including the findings that: (1) across all scenarios studied, increasing volumes of LNG exports will yield increasing net economic benefits; and (2) while LNG exports will result in increased prices for natural gas, the price increases will be limited based on conditions within the United States and the broader global market.<sup>113</sup>

According to Driftwood LNG, the 2014 EIA LNG Export Study and the 2015 LNG Export Study likewise support the Application. In particular, Driftwood LNG cites the conclusion of the 2014 EIA LNG Export Study that “increasing LNG exports leads to higher economic output, as measured by real gross domestic product (GDP), as increased energy production spurs investment.”<sup>114</sup>

In addition, Driftwood LNG maintains that the proposed exports will produce economic benefits on a regional basis in Calcasieu Parish, Louisiana. Driftwood LNG states that the

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<sup>111</sup> *Id.* at 6.

<sup>112</sup> *Id.* at 9-12.

<sup>113</sup> *Id.* at 9.

<sup>114</sup> App. at 10 (quoting 2014 Study at 12).

Facility will enhance the value of existing pipeline infrastructure and add to the local property tax base with very few operating expenditures required from Calcasieu Parish. Driftwood LNG further asserts that the Facility will generate jobs in the construction industry during development of the Facility and will create approximately 250 long-term jobs related to operation and maintenance.<sup>115</sup>

In sum, Driftwood LNG asserts that “the economic benefits associated with the Facility will continue for the life of the operation, bringing stable, long-term economic value to the State of Louisiana and specifically Calcasieu Parish and the surrounding area.”<sup>116</sup>

### **C. International Impacts**

Driftwood LNG states that the proposed LNG exports “will help to improve economic trade and ties between the U.S. and the destination countries, which could include key industrialized nations in Europe and Asia, as well as developing nations in Asia, South America, the Middle East, and the Caribbean.”<sup>117</sup> According to Driftwood LNG, this result is consistent with DOE’s policy of promoting competition in the marketplace.<sup>118</sup>

Driftwood LNG further states that its proposed exports will promote free and open trade and could have wider geopolitical benefits. Driftwood LNG asserts that natural gas exports from the United States: (i) will encourage customers outside of the United States who are currently burning coal, diesel, or fuel oil for electric generation to switch to U.S. LNG;<sup>119</sup> (ii) could help to reduce European reliance on Russian natural gas supplies; (iii) could improve energy security

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

<sup>116</sup> *Id.* at 11-12.

<sup>117</sup> *Id.* at 12.

<sup>118</sup> *Id.*

<sup>119</sup> *Id.*

and provide price relief to importers of natural gas in Asia; and (iv) could offer a predictable source of natural gas relatively free from unexpected disruptions.<sup>120</sup>

#### **D. Impacts on Domestic Natural Gas Supply and Demand**

Driftwood LNG maintains that, during the period of the requested export authorization, U.S. total and recoverable reserves of natural gas will be far in excess of total natural gas demand. Therefore, according to Driftwood LNG, its requested non-FTA authorization will not have a detrimental impact on the domestic supply of natural gas.<sup>121</sup>

In support of this position, Driftwood LNG points to several studies. With respect to natural gas supply, Driftwood LNG cites EIA's *Annual Energy Outlook 2016* (AEO 2016), which projects that, by 2017, domestic natural gas production will exceed demand, even with LNG exports factored in, and finds that by 2040, production will be 55% higher than production in 2015.<sup>122</sup> Based on these projections, Driftwood LNG contends that the United States will become a net exporter of natural gas beginning in 2018 and continuing through 2040.<sup>123</sup> We take administrative notice that the United States, in fact, became a net exporter of natural gas on an annual basis even earlier than anticipated, in 2017.<sup>124</sup>

Further, Driftwood LNG points to EIA's *Annual Energy Outlook 2015* (AEO 2015), which found that dry reserves of natural gas in the lower-48 states at the end of 2013 totaled 293 trillion cubic feet (Tcf) and projected that number to increase to 345 Tcf by 2040.<sup>125</sup> With respect to proved natural gas reserves, Driftwood LNG cites EIA data from 2014 in asserting that

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<sup>120</sup> App. at 13-14.

<sup>121</sup> *Id.* at 14.

<sup>122</sup> *Id.* at 14-15.

<sup>123</sup> *Id.* at 15.

<sup>124</sup> U.S. Energy Info. Admin., U.S. Natural Gas Summary (Annual) (Jan. 31, 2019), *available at*: [https://www.eia.gov/dnav/ng/ng\\_sum\\_lsum\\_dcunus\\_a.htm](https://www.eia.gov/dnav/ng/ng_sum_lsum_dcunus_a.htm) (2017 data).

<sup>125</sup> App. at 15.

the increase in proved natural gas reserves in 2014 was at a record-high level for the second consecutive year.<sup>126</sup>

As for domestic natural gas demand, Driftwood LNG states that, based on the AEO 2016 estimates, domestic natural gas demand will grow from 26.70 Tcf per year in 2014 to 34.42 Tcf per year in 2040, while natural gas production will exceed demand beginning in 2017.<sup>127</sup>

Driftwood LNG also contends that, “due to the long construction lead time for LNG export facilities, producers will be able to anticipate new demand and ramp up production in advance, and commencement of LNG exports will not shock the market in any way.”<sup>128</sup> As a result, Driftwood LNG asserts that “natural gas demand to meet LNG export needs will have a leveling effect on the natural gas market as a whole, providing insulation against supply and demand shocks.”<sup>129</sup>

#### **E. Environmental Impacts**

Driftwood LNG maintains that LNG exports can have significant environmental benefits because natural gas is cleaner burning than other fossil fuels. Driftwood LNG cites DOE’s LCA GHG Report (discussed above) in stating that, in most scenarios analyzed, power generation from imported natural gas results in lower GHG emissions than coal.<sup>130</sup> Therefore, according to Driftwood LNG, an increased supply of natural gas made possible through LNG exports can help countries break their dependence on less environmentally friendly fuels.<sup>131</sup>

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

<sup>127</sup> *Id.* at 16.

<sup>128</sup> *Id.* at 17.

<sup>129</sup> *Id.*

<sup>130</sup> *Id.* (citing LCA GHG Report at 9).

<sup>131</sup> App. at 17.



## **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>132</sup> and a formal application process that starts no sooner than 180 days after issuance of a notice that the pre-filing process has commenced.<sup>133</sup>

On June 6, 2016, FERC began its pre-filing review of the Driftwood LNG Facility.<sup>134</sup> FERC established pre-filing Docket No. PF16-6-000 to place information related to the Facility into the public record.<sup>135</sup> On October 3, 2016, FERC issued a Notice of Intent to Prepare an Environmental Impact Statement for the proposed project.<sup>136</sup> DOE agreed to participate as a cooperating agency in FERC's environmental review.<sup>137</sup>

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

On March 31, 2017, Driftwood LNG filed an application with FERC under section 3 of the NGA to site, construct, and operate the Facility.<sup>138</sup> FERC assigned Docket No. CP17-117-000 to Driftwood LNG's proposal.

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<sup>132</sup> 18 C.F.R. § 157.21.

<sup>133</sup> *Id.* § 157.21(a)(2)(i-ii).

<sup>134</sup> *Driftwood LNG LLC & Driftwood LNG Pipeline Company, LLC*, Approval of Pre-Filing Request, FERC Docket No. PF16-6-000 (June 6, 2016).

<sup>135</sup> *See id.*

<sup>136</sup> *Driftwood LNG LLC & Driftwood LNG Pipeline Company, LLC*, Notice of Intent to Prepare an Environmental Impact Statement for the Planned Driftwood LNG Project, Request for Comments on Environmental Issues, and Notice of Public Scoping Sessions, FERC Docket No. PF16-6-000, 81 Fed. Reg. 69,805 (Oct. 7, 2016).

<sup>137</sup> *See id.* at 69,807.

<sup>138</sup> *Driftwood LNG LLC & Driftwood Pipeline LLC*, Application for Authorizations under the Natural Gas Act, FERC Docket Nos. CP17-117-000 and CP17-118-000 (Mar. 31, 2017).

In compliance with NEPA, FERC staff issued a Notice of Availability of a Draft Environmental Impact Statement on September 14, 2018, and placed the draft EIS into the public record.<sup>139</sup> On January 18, 2019, FERC staff issued the final EIS for the Facility.<sup>140</sup> The final EIS responded to comments received on the draft EIS, and addressed numerous potential impacts of the proposed Facility, including (but not limited to) wetlands, geological conditions, water resources, air quality, and cumulative impacts.

Based on its environmental analysis, FERC staff concluded in the final EIS that “approval of the proposed project, with the mitigation measures recommended in the EIS, would result in adverse impacts on the environment; however, impacts on the environment would be reduced to less than significant levels with the implementation of Driftwood’s proposed impact avoidance, minimization, and mitigation measures and the additional measures recommended by staff in the final EIS.”<sup>141</sup> The final EIS contained 111 site-specific environmental mitigation measures, which it recommended that FERC attach as conditions to any authorization of the Facility.<sup>142</sup>

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

On April 18, 2019, FERC issued its Order authorizing Driftwood LNG to site, construct, and operate the Facility with a liquefaction capacity of up to 27.6 mtpa of LNG. FERC also authorized Driftwood Pipeline LLC to construct and operate the associated pipeline.<sup>143</sup>

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<sup>139</sup> *Driftwood LNG LLC & Driftwood Pipeline LLC*, Federal Energy Regulatory Comm’n, Notice of Availability of the Draft Environmental Impact Statement for the Proposed Driftwood LNG Project, Docket Nos. CP17-117-000 and CP17-118-000 (Sept. 14, 2018).

<sup>140</sup> See FERC Order at ¶ 67; see *supra* note 27 (link to final EIS).

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

<sup>142</sup> See *id.* at 5-16 to 5-34 (list of mitigation measures).

<sup>143</sup> FERC Order at ¶ 3.

In granting the authorization, FERC cited the final EIS in stating that “most of the direct environmental impacts from construction of the proposed facilities are expected to be temporary or short term.”<sup>144</sup> FERC further concluded that “[a]ll impacts from construction and operation of the facilities will be reduced to less than significant levels if the projects are constructed and operated in accordance with applicable laws and regulations and the environmental mitigation measures recommended in the final EIS and adopted by this order.”<sup>145</sup> On this basis, FERC approved Driftwood LNG’s proposal for the Facility and Driftwood Pipeline LLC’s proposal for the Pipeline under NGA sections 3 and 7, respectively.<sup>146</sup> FERC also adopted the 111 environmental mitigation measures recommended in the final EIS and included them as conditions in the appendix of 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 final EIS’s estimate that “operation of the projects, including the LNG terminal and pipeline facilities, may result in direct and indirect emissions of up to 10,641,908 tons per year of carbon dioxide equivalent (CO<sub>2</sub>e).”<sup>149</sup> FERC further stated that the “operational emissions of these facilities could potentially increase annual CO<sub>2</sub>e emissions based on the 2016 levels by 0.17% 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 projects will contribute

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<sup>144</sup> *Id.* at ¶ 25 (citing final EIS at 5-1).

<sup>145</sup> *Id.* (citing final EIS at ES-14 to ES-15 and 5-1).

<sup>146</sup> *Id.* at ¶¶ 28, 35.

<sup>147</sup> *Id.* at ¶ 119 and Appendix.

<sup>148</sup> *See generally* FERC Order at ¶¶ 66-121.

<sup>149</sup> *Id.* at ¶ 99 (citing final EIS at Tables 4.12-4, 4.12-8, 4.12-9, 4.12-10, and 4.12-14).

<sup>150</sup> FERC Order at ¶ 99.

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 Facility with other projects or actions in the same geographic and temporal scope.<sup>153</sup> Citing the final EIS, FERC observed that “for resources where a level of impact could be ascertained, the projects’ contribution to cumulative impacts on resources affected by the projects would not be significant, and that the potential cumulative impacts of the projects and the other projects considered would be minor or insignificant.”<sup>154</sup>

In sum, FERC agreed with “the conclusions presented in the final EIS” and found that “the projects, if constructed and operated as described in the final EIS, are environmentally acceptable actions.”<sup>155</sup>

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

### **A. Comment of Dan Ehlers**

Dan Ehlers filed comments opposing the Application on March 13, 2017.<sup>156</sup> Mr. Ehlers contends that environmental impacts from methane leakage and shipping emissions are not being fully considered. According to Mr. Ehlers, “[e]nvironmental impact, in the case of LNG production for global distribution, is most costly for the local source and shipment routes.”<sup>157</sup>

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<sup>151</sup> *Id.* at ¶ 100 (citing final EIS at 5-16).

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

<sup>153</sup> *Id.* at ¶ 105 (citing final EIS at ES-12 to ES-13 and 4-260 to 4-298).

<sup>154</sup> *Id.* (citing final EIS at 5-14 to 5-16).

<sup>155</sup> *Id.* at ¶ 120.

<sup>156</sup> Comment of Dan Ehlers, FE Docket No. 16-144-LNG (Mar. 13, 2017).

<sup>157</sup> *Id.*

Mr. Ehlers suggests that exports from the proposed Facility will impose both “known and unknown costs” on the American people, while Driftwood LNG’s corporate entity (now Tellurian Inc.) and its investors reap the economic benefits.<sup>158</sup> Mr. Ehlers also states that “it does not make sense for the United States’ natural resources to be inefficiently extracted and hurriedly sold to appease foreign markets and investors.”<sup>159</sup>

### **B. Comments of Industrial Energy Consumers of America**

IECA did not submit a filing in response to the Notice of Application. However, on December 12, 2018, DOE/FE received a filing from IECA opposing the Supplement,<sup>160</sup> which DOE/FE subsequently accepted in the form of late-filed comments.<sup>161</sup> IECA opposes the Supplement on procedural and substantive grounds, which we briefly summarize.

First, IECA contends that DOE/FE should not rely upon the 1984 Policy Guidelines (discussed *supra* § III) in reviewing LNG export applications.<sup>162</sup> IECA argues that the 1984 Policy Guidelines were drafted to address natural gas imports, and thus they should not be used to inform decision-making on LNG exports.<sup>163</sup> IECA contends that the NGA, on the other hand, is intended to protect the public interest by encouraging the orderly development of plentiful supplies of electricity and natural gas at reasonable prices and protecting consumers against exploitation by natural gas companies. IECA maintains these statutory purposes are frustrated by LNG exports because the exports will tend to reduce domestic supplies and increase domestic

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<sup>158</sup> *Id.*

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

<sup>160</sup> Industrial Energy Consumers of America, Notice of Intervention, Protest, and Comment, FE Docket No. 16-144-LNG (Dec. 12, 2018) [hereinafter IECA Comments].

<sup>161</sup> As discussed in the Introduction (*supra* § I), DOE/FE accepted IECA’s pleading solely as late-filed comments and dismissed its motion to intervene and protest. *See Driftwood LNG LLC*, FE Docket No. 16-144-LNG, Order Dismissing Industrial Consumers of America’s Motion to Intervene and Protest and Accepting Late-Filed Comments (April 10, 2019).

<sup>162</sup> IECA Comments at 2.

<sup>163</sup> *Id.*

prices.<sup>164</sup> IECA therefore argues that DOE should undertake a rulemaking to “define the public interest for LNG exports to [non-FTA] countries before giving consideration to this and future application[s] to export.”<sup>165</sup>

Second, IECA claims that only natural gas producers and the exporters of natural gas will benefit from LNG exports. By comparison, according to IECA, “everyone else in the economy [will be] losers”—and will face significantly higher natural gas prices, wage decreases, capital investment decreases (especially in manufacturing), and reduced indirect economic income.<sup>166</sup>

In particular, IECA states that “DOE approval of LNG export volumes connects low U.S. natural gas prices (\$3.00 MMBtu) to high global LNG prices (Asia \$12.00 MMBtu),” which will drive up prices for U.S. consumers.<sup>167</sup> IECA points to increased U.S. gasoline prices, which it states are the result of “[g]lobal demand from other countries ... dictating demand and price,” instead of U.S. supply and demand.<sup>168</sup> By analogy, IECA claims that exports of LNG will expose U.S. natural gas consumers to global LNG markets—thus “connecting the low U.S. price of natural gas to the high global market price,” which IECA contends is not in the public interest.<sup>169</sup> IECA also charges that natural gas consumers in Australia currently pay higher prices for natural gas (specifically, the “Asian LNG net back price” as opposed to Australian domestic consumer prices) as a result of exporting Australian LNG.<sup>170</sup> According to IECA, the 2018 LNG Export Study “confirms that market determined U.S. LNG prices will connect U.S. prices to higher global LNG prices.”<sup>171</sup>

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<sup>164</sup> *Id.* at 2-3.

<sup>165</sup> *Id.* at 5.

<sup>166</sup> *Id.* at 1; *see also id.* at 3.

<sup>167</sup> *Id.* at 1.

<sup>168</sup> IECA Comments at 3-4.

<sup>169</sup> *Id.* at 4.

<sup>170</sup> *Id.*

<sup>171</sup> *Id.*

Third, IECA argues that DOE’s LNG export studies, including the 2018 LNG Export Study, violate the Data Quality Act and thus should be “legally disqualified” for use in DOE/FE’s decision-making.<sup>172</sup> Specifically, IECA asserts that DOE’s studies “have used proprietary economic modeling whose results cannot be duplicated by others,” in violation of the Data Quality Act.<sup>173</sup>

Fourth, IECA maintains that DOE has not addressed several short and long-term risks to consumers and the economy that bear on the public interest.<sup>174</sup> These alleged risks include, for example, “existing and future limitations in natural gas pipeline and storage infrastructure capacity and ‘maximum’ deliverability capacity ....”<sup>175</sup> According to IECA, the 2018 LNG Export Study (and DOE’s prior economic studies) wrongly assume that pipeline and storage capacity will be adequate to support both peak domestic demand and exports of LNG. IECA asserts that capacity constraints on natural gas pipelines already exist, and the ability to build out new capacity is threatened by legal and public opposition.<sup>176</sup> IECA points to natural gas marketers and industrial companies, which (according to IECA) “have difficulty securing capacity on pipelines because gas producers have locked in firm capacity and there is no excess capacity for manufacturing companies.”<sup>177</sup> IECA also argues, among other points, that DOE has failed to consider:

- Price impacts to U.S. natural gas due to importing nations (via state-owned enterprises or government-controlled utilities) purchasing U.S. LNG in the greatest volume during peak demand periods in the United States without regard to price (due to automatic cost pass-through provisions);<sup>178</sup>

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<sup>172</sup> *Id.* at 1.

<sup>173</sup> *Id.* at 5.

<sup>174</sup> IECA Comments at 5.

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

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

<sup>177</sup> *Id.* at 5.

<sup>178</sup> *Id.* at 6.

- The “uncertain” nature of technically recoverable resources—which IECA asserts may not be economical to produce and warns that “caution is warranted”;<sup>179</sup>
- Future political decisions, especially by new presidential administrations, that may limit acreage available for drilling or impose regulations to control drilling processes, thus increasing the cost of natural gas production;<sup>180</sup>
- The fact (according to IECA) that the majority of natural gas producers do not have a positive cash flow business, which allegedly means that their businesses are not sustainable long-term without raising the price at which natural gas is sold;<sup>181</sup> and
- The fact (according to IECA) that the use of U.S. infrastructure by “foreign consumers” of U.S. LNG will increase costs of U.S. natural gas.<sup>182</sup>

### C. Driftwood LNG’s Answer

In its Answer, Driftwood LNG points out that its Supplement to the Application—which IECA opposes—“seeks a very minor adjustment in the total LNG volumes to be exported” from the Driftwood LNG Facility.<sup>183</sup> Driftwood LNG contends that IECA, however, “takes no issue with the amount of, or reason for, such adjustment,” and instead “serves purely as a broad attack on DOE/FE policies.”<sup>184</sup> Because IECA’s comments are “devoid of any substantive factual content or legal arguments bearing with particularity on the Supplement,” Driftwood LNG urges DOE/FE to disregard these arguments.<sup>185</sup>

Turning to the merits of IECA’s comments, Driftwood LNG argues that IECA’s comments are “comprised of outdated data, false assertions, and faulty logic that do not advance the record.”<sup>186</sup>

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<sup>179</sup> IECA Comments at 6.

<sup>180</sup> *Id.* at 7.

<sup>181</sup> *Id.*

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

<sup>183</sup> Driftwood LNG LLC, Answer of Driftwood LNG LLC in Opposition to Late Filed Motion to Intervene, Protest, and Comment, FE Docket No. 16-144-LNG, at 4 (Dec. 20, 2018) [hereinafter Driftwood LNG Answer].

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

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

<sup>186</sup> *Id.* at 1, 4.



First, Driftwood LNG argues that IECA's claims regarding the adequacy of pipeline and storage capacity to support LNG export operations are outside the scope of this proceeding and, in any event, erroneous. Driftwood LNG disputes IECA's assertion that LNG export applications should lag the build-out of additional pipeline capacity. Instead, Driftwood LNG maintains that consideration of LNG export applications should precede the build-out of capacity because the lead-time for development of a LNG export facility is considerably longer than the lead-time for the natural gas pipeline and storage infrastructure needed to support such a facility. Driftwood LNG states that its recommended approach will result in the contemporaneous completion of both the export facility and the related pipeline and storage infrastructure, thereby reducing financing costs and keeping the supply and demand components of the LNG and natural gas industries in balance.<sup>187</sup> Driftwood LNG further states that LNG export terminal developers generally stimulate pipeline and storage capacity expansions by supplying the long-term commitments necessary to develop and finance such projects, thereby mitigating IECA's concerns over the adequacy of capacity.<sup>188</sup>

Second, Driftwood LNG states that IECA has relied on stale data from the 2012 LNG NERA Study to support the argument that the benefits of LNG exports will be limited to producers and exporters. According to Driftwood LNG, the more recent 2018 LNG Export Study shows that all sectors of the economy, including energy intensive consumers of natural gas, will grow robustly at higher levels of LNG exports, albeit at slightly lower rates of increase as compared to lower levels of exports.<sup>189</sup>

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<sup>187</sup> *Id.* at 4-5.

<sup>188</sup> Driftwood LNG Answer at 7-8.

<sup>189</sup> *Id.* at 5-6 (citing 2018 LNG Export Study).

Third, Driftwood LNG argues that IECA has cherry-picked data to support an inaccurate analogy between the impact of LNG exports on domestic natural gas prices, and the impact of crude oil exports on the domestic price of gasoline. Driftwood LNG asserts that EIA’s data shows that the historical movements of gasoline prices and crude oil exports are not correlated. Therefore, Driftwood LNG maintains, there is no basis for concluding that the U.S. experience with crude oil exports means that increased LNG exports will result in any meaningful increase in the domestic price of natural gas.<sup>190</sup>

Fourth, Driftwood LNG states that IECA has raised its allegations concerning the Data Quality Act in another DOE/FE proceeding (*i.e.*, the 2018 LNG Export Study proceeding), and the current proceeding is not the proper forum for these arguments.<sup>191</sup>

Finally, Driftwood LNG asserts that IECA’s list of alleged risks to the public interest are “sound-bite arguments” that are unsupported or irrelevant to this proceeding—and, in particular, to the Supplement which IECA is opposing.<sup>192</sup> Driftwood LNG urges DOE/FE to disregard IECA’s arguments including, but not limited to: its argument about the timing of and prices paid for U.S. LNG purchased by LNG-consuming nations; its argument about the future political decisions of new presidential administrations; and its claim that few oil and natural gas producers had positive cash flows during the first half of 2018.<sup>193</sup>

## VIII. DISCUSSION AND CONCLUSIONS

In reviewing the non-FTA portion of Driftwood LNG’s Application and Supplement (which are uncontested under DOE/FE’s regulations), DOE/FE has considered both its obligations under NGA section 3(a) and NEPA. To accomplish these purposes, DOE/FE has

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<sup>190</sup> *Id.* at 6-7.

<sup>191</sup> *Id.* at 7.

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

<sup>193</sup> *Id.* at 8-9.

examined a wide range of information addressing environmental and non-environmental factors, including:

- The Application, the Supplement, the comments filed by Dan Ehlers in opposition to the Application, and the comments filed by IECA in opposition to the Supplement;<sup>194</sup>
- FERC’s final EIS and April 18, 2019 Order, including the 111 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. Non-Environmental Issues**

##### **1. Public Interest Standard and DOE/FE Regulatory Framework**

NGA section 3(a) requires DOE to consider whether a proposed export of natural gas will be “consistent with the public interest.”<sup>195</sup> IECA asserts that DOE/FE may not rely on the 1984 Policy Guidelines in evaluating the public interest in this proceeding, as those Guidelines were promulgated for natural gas imports rather than exports.<sup>196</sup> IECA further contends that “one can only assume” that Congress was “referring to cumulative LNG export volumes” in the NGA section 3(a) public interest standard “because incremental volumes are too small to measure impact to the price of natural gas.”<sup>197</sup> Additionally, IECA states that DOE/FE must conduct a rulemaking to “define the public interest” under NGA section 3(a).<sup>198</sup>

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<sup>194</sup> As discussed in the Introduction (§ I), we note that IECA did not submit a response to the 2017 Notice of Application, and therefore we must consider its arguments in the context of the Supplement—specifically, the requested 81.2 Bcf/yr decrease in Driftwood LNG’s requested export volume.

<sup>195</sup> 15 U.S.C. § 717b(a); *supra* § III.

<sup>196</sup> IECA Comments at 2.

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

<sup>198</sup> *Id.* at 5.

We disagree with IECA’s arguments regarding both the public interest standard in NGA section 3(a) and DOE/FE’s 1984 Policy Guidelines. We begin by noting that, in *Sierra Club I*, the D.C. Circuit observed that “Congress enacted the Natural Gas Act with the ‘principal purpose’ of ‘encourag[ing] the orderly development of plentiful supplies of ... natural gas at reasonable prices.’”<sup>199</sup> The Court also made clear that the public interest standard in NGA section 3(a) contains a general presumption in favor of exports.<sup>200</sup> Further, we understand that a public interest standard in a statute is an “‘instrument for the exercise of discretion by the expert body which Congress has charged to carry out its legislative policy.’”<sup>201</sup>

In dozens of LNG export proceedings to date, DOE/FE has reasonably exercised this discretion by considering a range of relevant factors in evaluating the public interest. DOE’s review of an application to export U.S. LNG has generally focused on: (i) the domestic need for the natural gas proposed to be exported, (ii) whether the proposed exports pose a threat to the security of domestic natural gas supplies, (iii) whether the arrangement is consistent with DOE’s policy of promoting market competition, and (iv) any other factors bearing on the public interest, as determined by DOE.<sup>202</sup> Contrary to IECA’s comments, DOE/FE previously determined that the goals of the 1984 Policy Guidelines—to minimize federal control and involvement in energy markets and to promote a balanced and mixed energy resource system—apply to exports of natural gas, as well as to imports.<sup>203</sup> Additionally, although we disagree with IECA’s

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<sup>199</sup> *Sierra Club I*, 867 F3d. at 202 (quoting *NAACP v. Fed. Power Comm’n*, 425 U.S. 662, 669-70 (1976)) (alteration in original) (also acknowledging other “subsidiary purposes”).

<sup>200</sup> *Id.* at 203 (citations omitted).

<sup>201</sup> See, e.g., *Federal Comm. Comm’n v. WNCN Listeners Guild, et al.*, 450 U.S. 582, 593 (1981) (quoting *Federal Comm. Comm’n v. Pottsville Broadcasting Co.*, 309 U.S. 134, 308 (1940)).

<sup>202</sup> See *supra* § III.

<sup>203</sup> See *Phillips Alaska Natural Gas Corp., et al.*, DOE/FE Order No. 1473, FE Docket No. 96-99-LNG, Order Extending Authorization to Export Liquefied Natural Gas from Alaska (Apr. 2, 1999), at 14; see also *supra* § III.

“assumption” as to Congress’s intent in NGA section 3(a),<sup>204</sup> we note that DOE/FE does, in fact, consider both the cumulative export volumes approved to date *and* the incremental volume requested in each long-term export proceeding.<sup>205</sup> In *Sierra Club I* and *II*, the D.C. Circuit upheld DOE/FE’s decision-making on the basis of this statutory and regulatory framework.<sup>206</sup>

IECA does not acknowledge the numerous issues and potential impacts that DOE/FE considers in LNG export proceedings under NGA section 3(a).<sup>207</sup> The 2018 LNG Export Study (like DOE’s prior economic studies) is one essential part of that analysis. EIA’s most recent projections on natural gas supply and demand are another. Although IECA expresses its disagreement with DOE/FE’s analysis of the public interest, it neither acknowledges the *Sierra Club I* and *II* precedent, nor explains why DOE/FE’s analysis of the public interest in this proceeding should be different than DOE/FE’s analysis upheld in those 2017 decisions.

Accordingly, we reject IECA’s argument that DOE/FE should not rely on the 1984 Policy Guidelines—and DOE/FE’s long-standing regulatory framework—in reviewing LNG export applications, including Driftwood LNG’s Application. Moreover, because Congress has entrusted DOE/FE to reasonably exercise its discretion in reviewing the public interest, we also reject IECA’s contention that DOE/FE needs to undertake a rulemaking to “define” the public interest.

Next, IECA argues that DOE/FE “has not addressed vital short and long-term risks to consumers and the economy that are core issues in considering whether an LNG export

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<sup>204</sup> IECA Comments at 2.

<sup>205</sup> See *infra* § VIII.D.

<sup>206</sup> See *Sierra Club I*, 867 F3d. at 193-94, 202-03; *Sierra Club II*, 703 Fed. Appx. 1, at \*2-3.

<sup>207</sup> Relevant to IECA’s arguments, for example, the 2018 Study determined that chemical industry subsectors of the economy that rely heavily on natural gas for energy and as a feedstock will continue to exhibit robust growth even at higher LNG export levels, and that this growth is only insignificantly slower than cases with lower LNG export levels. See 2018 Study Response to Comments, 83 Fed. Reg. at 67,259; *supra* § II.A.3. However, IECA does not address (or dispute) these findings.

application is consistent with the public interest.”<sup>208</sup> IECA identifies several such “risks” and contends that “DOE/FE [has] failed to consider” them in evaluating the public interest under NGA section 3(a).<sup>209</sup> This proceeding, however, is not an open-ended rulemaking on the possible factors or policies to be considered by DOE/FE as part of its LNG export program—regardless of IECA’s desire for such an outcome. Rather, DOE/FE is adjudicating Driftwood LNG’s Application and Supplement under the well-established framework described above.

For example, IECA asserts that it is “troubling” that consumers of U.S. LNG are principally “countries who have the ability to buy LNG from the U.S. at any price”—even during peak winter demand.<sup>210</sup> Likewise, IECA urges that “[c]aution is warranted” by DOE/FE because “future political decisions” could affect aspects of natural gas production and because technically recoverable resources may be “uncertain.”<sup>211</sup> These sentiments are not only speculative, but advisory. They demonstrate that IECA is attempting to counsel DOE/FE on IECA’s own concerns and policy preferences, rather than to provide evidence to show that Driftwood LNG’s proposed exports are inconsistent with the public interest (as would be required to deny Driftwood LNG’s Application and Supplement).

Indeed, IECA’s comments seek to address Driftwood LNG’s “increase” in its requested volume of LNG when, in fact, the Notice of Supplement explicitly provided notice of “Driftwood LNG’s proposed *decrease* of its requested non-FTA export volume.”<sup>212</sup> This discrepancy further demonstrates IECA’s failure to address the merits of Driftwood LNG’s Supplement.

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<sup>208</sup> IECA Comments at 5.

<sup>209</sup> *Id.* at 5-6.

<sup>210</sup> *Id.* at 6.

<sup>211</sup> *Id.* at 6-7.

<sup>212</sup> *Compare* IECA Comments at 1 and 83 Fed. Reg. at 54,922 (emphasis added).

In sum, we agree with Driftwood LNG that IECA’s residual arguments as to the topics for DOE/FE to consider in the public interest analysis are outside the scope of this proceeding.<sup>213</sup> We further find that IECA has not shown that DOE/FE’s analysis of factors in evaluating the public interest is unreasonable as applied to this proceeding.

## **2. 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 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>214</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>215</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>216</sup> DOE/FE has assessed AEO 2019 to evaluate any differences from AEO 2017, which formed the basis for the 2018 LNG Export Study. The Reference case for AEO 2017 includes the effects of the Clean Power Plan (CPP) final rule, which was intended to reduce

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<sup>213</sup> IECA also argues (at 5-7) that certain issues—such as pipeline and storage infrastructure capacity and the “cash flow business” status of natural gas producers—were not considered in DOE’s economic studies, such as the 2018 LNG Export Study. In addition to those allegations being outside the scope of this proceeding, we note that IECA failed to raise those arguments in its comments submitted on the 2018 LNG Export Study proceeding, where such comments could have been properly evaluated.

<sup>214</sup> See 2018 Study Response to Comments, 83 Fed. Reg. at 67,272; see also *supra* § II.A.3.

<sup>215</sup> See 2018 Study Response to Comments, 83 Fed. Reg. at 67,273.

<sup>216</sup> U.S. Energy Info. Admin., *Annual Energy Outlook 2019* (Jan. 24, 2019), available at: <https://www.eia.gov/outlooks/aeo/pdf/aeo2019.pdf>.

GHG emissions from the power sector.<sup>217</sup> AEO 2017 also included a Reference case without implementation of the CPP. Both AEO 2017 Reference cases show natural gas production levels that favor exports, but that also have lower net LNG exports in 2050 (12.0 Bcf/d for the Reference case with the CPP and 12.5 Bcf/d for the Reference case without the CPP), compared with AEO 2019 that shows net LNG exports of 13.8 Bcf/d in 2050. As discussed below, AEO 2019—which does not include the CPP in its Reference case—is even more supportive of exports than both Reference cases for AEO 2017.

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 cases, both with and without the CPP, 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.

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 Driftwood LNG’s proposed authorization will not be inconsistent with the public interest.<sup>218</sup>

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<sup>217</sup> U.S. Env’tl. Prot. Agency, Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units; Final Rule, 80 Fed. Reg. 64,662 (Oct. 23, 2015). On February 9, 2016, the U.S. Supreme Court issued a stay of the effectiveness of the CPP final rule pending review by the D.C. Circuit in consolidated cases challenging the rule. See *Chamber of Commerce, et al. v. EPA, et al.*, No. 15A787, Order in Pending Case (U.S. Feb. 9, 2016). The litigation over the CPP final rule pending in the D.C. Circuit has been held in abeyance as the U.S. Environmental Protection Agency (EPA) reviews the CPP and considers an alternative regulatory approach. See *West Virginia, et al. v. EPA, et al.*, Case Nos. 15-1363 *et al.*, Per Curiam Order (D.C. Cir. Apr. 5, 2019); see also *West Virginia, et al. v. EPA, et al.*, Case Nos. 15-1363 *et al.*, EPA Status Report, at 2-3 (D.C. Cir. Mar. 11, 2019) (describing status of EPA’s rulemaking activities).

<sup>218</sup> As Driftwood LNG points out, DOE/FE has already reviewed and responded to IECA’s claims that the 2018 LNG Export Study violates the Data Quality Act (Section 515, Treasury & General Gov’t Appropriations Act for Fiscal Year 2001, Pub.L. 106-554; 114 Stat. 2763A-154). We reaffirm that response in this proceeding. DOE/FE determined, in relevant part, that the 2018 Study fulfills the objectives of the Data Quality Act in both providing transparency about the Study and ensuring the quality of information disseminated to the public. On this basis, DOE’s Office of the Chief Information Officer denied IECA’s request for correction of the 2018 LNG Export Study under the Data Quality Act. See Ltr. from Stephen (Max) Everett, DOE Chief Information Officer, to Paul Cicio of IECA, Docket No. 2018-12621 (Mar. 20, 2019), available at: <https://www.energy.gov/cio/downloads/letter-ieca-data-quality-act-request-correction>; see also 2018 Study Response to Comments, 83 Fed. Reg. at 67,269-71 (§ VI.I.1, “Compliance with Data Quality Act”).



### 3. Driftwood LNG's Application and Supplement

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 Driftwood LNG's requested authorization under NGA section 3(a).

First, due to the vintage of the Application, Driftwood LNG points to DOE's 2012, 2014, and 2015 Studies in asserting that the United States has significant natural gas resources available to meet both projected future domestic needs and demand for the proposed exports. We agree, based on more recent projections and analyses. Specifically, we find that the 2018 LNG Export Study and AEO 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>219</sup> We, therefore, reject IECA's claim that forecasted demand for natural gas, including the demand related to Driftwood LNG's proposed exports, will outstrip new resources.

Second, the 2018 LNG Export Study indicates that exports of LNG will generate net macroeconomic benefits in the United States.<sup>220</sup> Indeed, the 2018 Study consistently shows macroeconomic benefits in every scenario, as well as positive annual growth across the energy intensive sectors of the U.S. economy.<sup>221</sup> Therefore, we reject IECA's contention that the net economic benefits projected in DOE/FE's 2018 LNG Export Study (and in its prior economic studies) will be limited to producers and exporters of natural gas. We likewise reject IECA's argument that the proposed exports likely will have a negative impact on the U.S. economy by "substantially increas[ing]" the price of natural gas (discussed below)<sup>222</sup> and causing leading

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<sup>219</sup> See, e.g., 2018 Study Response to Comments, 83 Fed. Reg. at 67,262.

<sup>220</sup> *Id.* at 67,272.

<sup>221</sup> See *id.* 67,268-69 (citing 2018 LNG Export Study at 67, 70).

<sup>222</sup> IECA Comments at 4.

manufacturers to lose the competitive advantage of relatively low natural gas prices, leading to serious long-term implications for the manufacturing sector and associated jobs and investment.<sup>223</sup>

Third, in response to IECA's and Mr. Ehlers' concerns about the costs of LNG exports falling on American citizens such that U.S. consumers will be "exploit[ed]" by the export of LNG,"<sup>224</sup> we note that in the *Sierra Club II* case, the D.C. Circuit rejected Sierra Club's argument that DOE "erred by failing to consider distributional impacts" when evaluating the public interest under NGA section 3(a).<sup>225</sup> The Court upheld DOE/FE's conclusion that "given that exports will benefit the economy as a whole and absent stronger record evidence on the distributional consequences, [DOE/FE] could not say that ... exports were inconsistent with the public interest on these grounds."<sup>226</sup> On this basis, the Court held that DOE/FE had "adequately addressed" concerns regarding distributional impacts.<sup>227</sup> Likewise, in this proceeding, no commenter has provided a quantitative analysis of the distributional consequences of authorizing LNG exports at the household level. Given the evidence of broad net macroeconomic benefits and absent stronger record evidence on the alleged distributional consequences, we cannot say that increased LNG exports are inconsistent with the public interest on these grounds.

Fourth, over the 20-year term of the authorization, the proposed exports will improve the United States' ties with its trading partners and make a positive contribution to the United States' trade balance. Other benefits of this international trade are discussed below. For these reasons,

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<sup>223</sup> *Id.* at 5.

<sup>224</sup> IECA Comments at 3.

<sup>225</sup> See *Sierra Club II*, 703 Fed. Appx. at \*3 (discussed *supra* § II.C).

<sup>226</sup> *Id.* (internal quotations omitted and alteration in original).

<sup>227</sup> *Id.*

we agree with Driftwood LNG that its proposed exports are consistent with the interests of the United States.<sup>228</sup>

On review, DOE/FE finds that the record evidence showing that the proposed exports will be in the public interest outweighs IECA's and Mr. Ehlers' concerns. DOE/FE has considered and rejected IECA's economic arguments in earlier proceedings based on the 2012, 2014, and 2015 LNG Export Studies and, more recently, in the 2018 LNG Export Study proceeding. The 2018 Study showed, for example, that "[o]verall GDP improves as LNG exports increase for all scenarios with the same U.S. natural gas supply conditions."<sup>229</sup> The 2018 Study also showed that energy intensive industries will continue to grow robustly even at higher levels of LNG exports, albeit at slightly lower rates of increase than they would at lower levels.<sup>230</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 Driftwood LNG's Supplement (1,415.3 Bcf/yr) over the authorization term without negative economic impacts, including domestic price impacts (discussed below).

#### **4. Price Impacts**

IECA alleges that higher volumes of LNG exports, including Driftwood LNG's proposed exports, will lead to large increases in domestic prices of natural gas.<sup>231</sup> We disagree. 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 exports authorized in the final non-FTA export authorizations to date (equivalent to a total of 32.27 Bcf/d

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<sup>228</sup> App. at 12-14.

<sup>229</sup> 2018 Study Response to Comments, 83 Fed. Reg. at 67,259.

<sup>230</sup> *Id.*; see also *supra* § II.A.3.

<sup>231</sup> IECA Comments at 1, 3-5.

of natural gas with the issuance of today’s orders). 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>232</sup>

We further note IECA’s assertion, without citation, that the 2018 LNG Export Study “confirms that market determined U.S. LNG exports will connect U.S. prices to higher global LNG prices.”<sup>233</sup> This is an inaccurate characterization of the 2018 Study. IECA and other commenters raised this issue in the 2018 LNG Export Study proceeding, and DOE/FE examined it thoroughly—concluding that “the 2018 Study shows that U.S. natural gas prices *will not* rise to the same levels as global natural gas prices as a result of increased LNG exports.”<sup>234</sup> DOE/FE added that “[t]his result is consistent with the 2015 Study’s analysis of the linkages between U.S. and global natural gas prices, as DOE/FE previously discussed.”<sup>235</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 Reference case projections from AEO 2017) 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 and demand coupled with lower prices. For example, for the year 2050, the AEO 2019 Reference case anticipates nearly 8% and 10% more natural gas production in the lower-48 than the AEO 2017 Reference case with the CPP and without the CPP, respectively. It also projects an average Henry Hub natural gas price that is lower than the AEO 2017 Reference cases by nearly 20% for

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<sup>232</sup> 2018 Study Response to Comments, 83 Fed. Reg. at 67,258 (citing 2018 LNG Export Study at 55).

<sup>233</sup> IECA Comments at 4.

<sup>234</sup> See 2018 Study Response to Comments, 83 Fed. Reg. at 67,268 (emphasis added).

<sup>235</sup> *Id.* (citation omitted).

the Reference case with the CPP and 17% for the Reference case without the CPP. Table 1 below shows these comparisons:

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

	<b>AEO 2017 Reference Case With Clean Power Plan</b>	<b>AEO 2017 Reference Case Without Clean Power Plan</b>	<b>AEO 2019 Reference Case Without Clean Power Plan</b>
<b>Lower-48 Dry Natural Gas Production (Bcf/d)</b>	109.6	107.9	118.3
<b>Total Natural Gas Consumption (Bcf/d)</b>	94.8	92.4	95.8
<b>Electric Power Sector Consumption (Bcf/d)</b>	34.2	31.8	33.3
<b><u>Net</u> Exports by Pipeline (Bcf/d)</b>	3.2	3.4	8.9
<b><u>Net</u> LNG Exports (Bcf/d)</b>	12.0	12.5	13.8
<b>LNG Exports – Total (Bcf/d)</b>	12.2	12.7	14.1
<b>Henry Hub Spot Price (\$/MMBtu) <sup>(Note 1)</sup></b>	\$6.07 (2018\$)	\$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 IECA's arguments concerning domestic price increases are not supported by the record evidence.<sup>236</sup>

## **5. 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. The United States is committed to free trade because an efficient, transparent international market for natural gas with diverse sources of supply provides both economic and strategic benefits to the United States and its 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 the United States' 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 Driftwood LNG that authorizing its exports may advance the public interest for reasons that are distinct from and additional to the economic benefits identified in the 2018 LNG Export Study.

### **B. Environmental Issues**

In reviewing the potential environmental impacts of Driftwood 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.

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<sup>236</sup> See 2018 Study Response to Comments, 83 Fed. Reg. at 67,267-69 (DOE/FE's response to comments on natural gas price impacts). Additionally, we note that IECA has not attempted to explain how Driftwood LNG's decreased export volume requested in the Supplement could produce the harms it asserts—including increased prices of natural gas.

## **1. Adoption of FERC's Final EIS**

DOE/FE participated in FERC's environmental review of the proposed Facility 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>237</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-0538) (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 Facility.

## **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>238</sup> Nevertheless, a decision by DOE/FE to authorize exports to non-FTA nations could accelerate that development by some increment. As discussed above, the Addendum reviewed the academic and technical literature covering the most significant issues associated with unconventional 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

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<sup>237</sup> See 40 C.F.R. § 1506.3(c).

<sup>238</sup> Addendum at 2.

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 suggested by Mr. Ehlers in this proceeding and by intervenors in other proceedings.

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>239</sup>

### **3. 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

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<sup>239</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.



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>240</sup> The key findings for U.S. LNG exports to Europe and Asia are summarized in Figures 1 and 2 below:

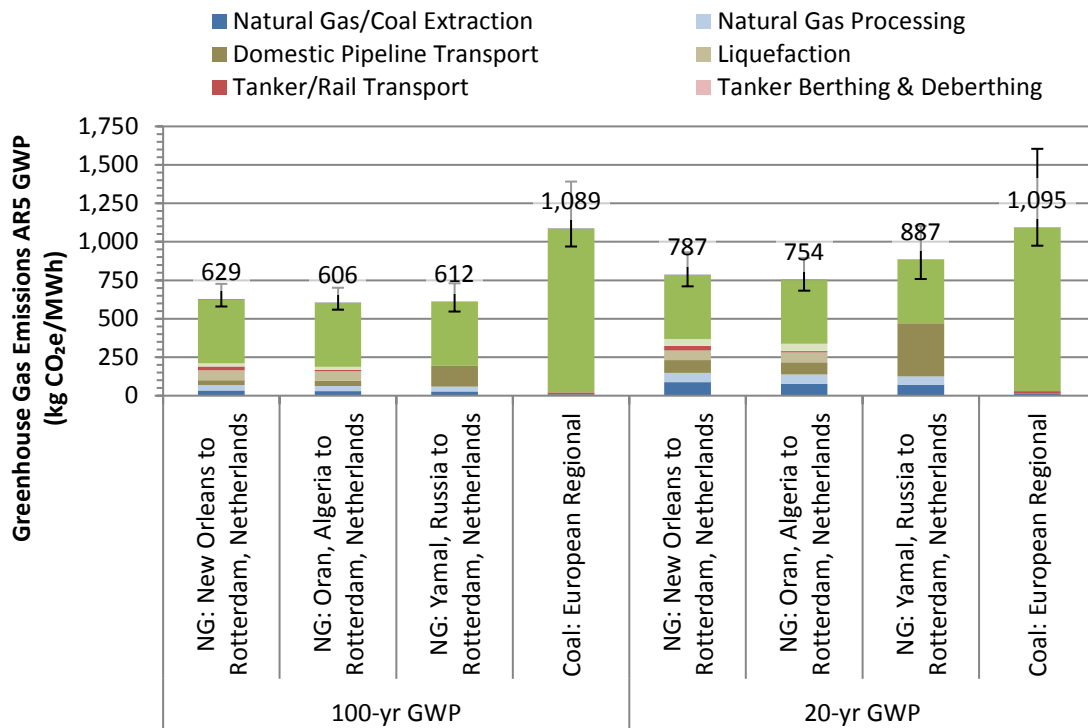
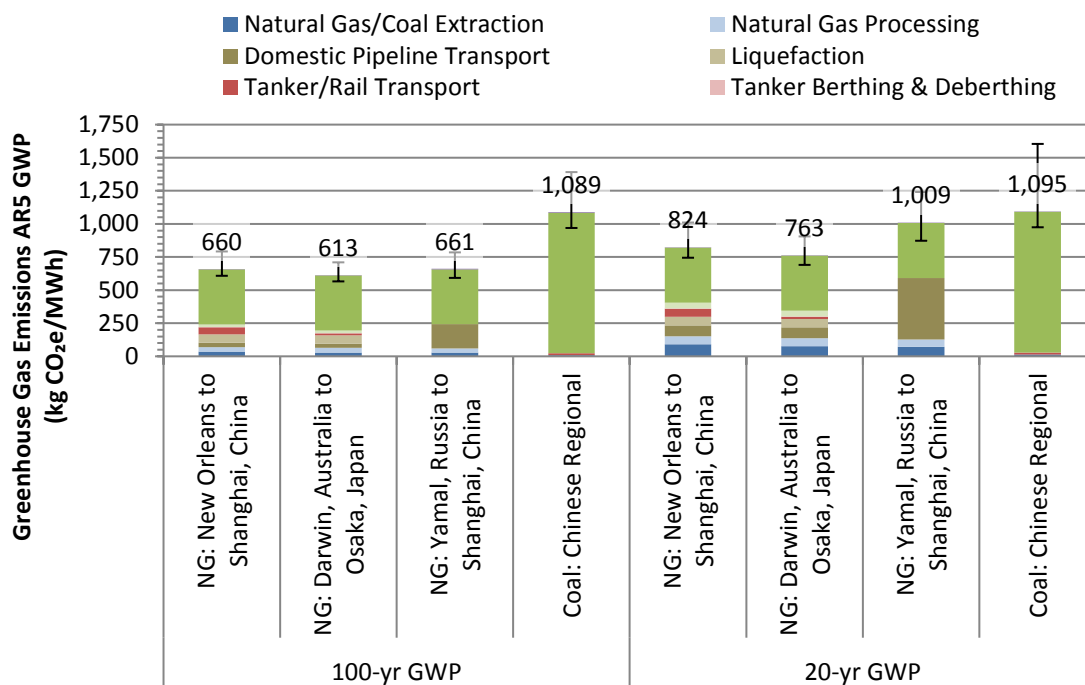


Figure 1: Life Cycle GHG Emissions for Natural Gas and Coal Power in Europe<sup>241</sup>

<sup>240</sup> See *supra* § II.B.

<sup>241</sup> LCA GHG Report at 9 (Figure 6-1).



**Figure 2: Life Cycle GHG Emissions for Natural Gas and Coal Power in Asia<sup>242</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>243</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>242</sup> LCA GHG Report at 10 (Figure 6-2).

<sup>243</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.

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>244</sup> We find that the Court's conclusions and reasoning control in this proceeding.

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<sup>244</sup> *Sierra Club I*, 867 F.3d at 202 (internal quotations and citation omitted).

### C. 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>245</sup> that, under most circumstances, the market is the most efficient means of allocating natural gas supplies. However, agency intervention may be necessary to protect the public in the event there is insufficient domestic natural gas for domestic use. There may be other circumstances as well that cannot be foreseen that would require agency action.<sup>246</sup> Given

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<sup>245</sup> 1984 Policy Guidelines, 49 Fed. Reg. 6684.

<sup>246</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.

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

#### **D. 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 Driftwood LNG's proposed exports will be inconsistent with the public interest. We further find that the commenters in this proceeding—Dan Ehlers and IECA—have failed to overcome the statutory presumption that the proposed export authorization is in 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 today's issuance of this Order and the order for Port Arthur LNG, LLC, there are currently 34 final non-FTA authorizations in a cumulative volume of exports totaling 32.27 Bcf/d of natural gas, or approximately 11.8 Tcf per year, as follows: Sabine Pass Liquefaction, LLC (2.2 Bcf/d),<sup>247</sup> Carib Energy (USA) LLC (0.04 Bcf/d),<sup>248</sup> Cameron LNG, LLC (1.7 Bcf/d),<sup>249</sup> FLEX I (1.4

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<sup>247</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).

<sup>248</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>249</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).

Bcf/d),<sup>250</sup> FLEX II (0.4 Bcf/d),<sup>251</sup> Dominion Cove Point LNG, LP (0.77 Bcf/d),<sup>252</sup> Cheniere Marketing, LLC and Corpus Christi Liquefaction, LLC (2.1 Bcf/d),<sup>253</sup> Sabine Pass Liquefaction, LLC Expansion Project (1.38 Bcf/d),<sup>254</sup> American Marketing LLC (0.008 Bcf/d),<sup>255</sup> Emera CNG, LLC (0.008 Bcf/d),<sup>256</sup> Floridian Natural Gas Storage Company, LLC,<sup>257</sup> Air Flow North American Corp. (0.002 Bcf/d),<sup>258</sup> Bear Head LNG Corporation and Bear Head LNG (USA),

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<sup>250</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>251</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>252</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>253</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>254</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>255</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>256</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>257</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).

<sup>258</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).

LLC (0.81 Bcf/d),<sup>259</sup> Pieridae Energy (USA) Ltd.,<sup>260</sup> Sabine Pass Liquefaction, LLC Design Increase (0.56 Bcf/d),<sup>261</sup> Cameron LNG, LLC Design Increase (0.42 Bcf/d),<sup>262</sup> Cameron LNG, LLC Expansion Project (1.41 Bcf/d),<sup>263</sup> Lake Charles Exports, LLC (2.0 Bcf/d),<sup>264</sup> Lake Charles LNG Export Company, LLC,<sup>265</sup> Carib Energy (USA), LLC (0.004),<sup>266</sup> Magnolia LNG, LLC (1.08 Bcf/d),<sup>267</sup> Southern LNG Company, L.L.C. (0.36 Bcf/d),<sup>268</sup> the FLEX Design Increase

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<sup>259</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>260</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>261</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>262</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>263</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>264</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>265</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>266</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>267</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).

<sup>268</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).

(0.34 Bcf/d),<sup>269</sup> Golden Pass Products LLC (2.21 Bcf/d),<sup>270</sup> Delfin LNG LLC (1.8 Bcf/d),<sup>271</sup> the Lake Charles LNG Export Company, LLC Design Increase (0.33 Bcf/d),<sup>272</sup> the Lake Charles Exports, LLC Design Increase,<sup>273</sup> Eagle LNG Partners Jacksonville II LLC (0.01 Bcf/d),<sup>274</sup> Mexico Pacific Limited LLC (1.7 Bcf/d),<sup>275</sup> Venture Global Calcasieu Pass, LLC (1.7 Bcf/d),<sup>276</sup> Energía Costa Azul, S. de R.L. de C.V. (Mid-Scale Project) (0.44 Bcf/d),<sup>277</sup> Energía Costa Azul, S. de R.L. de C.V. (Large-Scale Project) (1.3 Bcf/d),<sup>278</sup> Port Arthur LNG, LLC (1.91 Bcf/d),<sup>279</sup> and this Order.

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<sup>269</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>270</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>271</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>272</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>273</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>274</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>275</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>276</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 (Mar. 5, 2019).

<sup>277</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).

<sup>278</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>279</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).



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>280</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>281</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 0.81 Bcf/d to reflect the current capacity of the Maritimes Northeast Pipeline at the U.S.-Canadian border.<sup>282</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>283</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

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<sup>280</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>281</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.”).

<sup>282</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>283</sup> See 2018 Study Response to Comments, 83 Fed. Reg. at 67,273 (citing 2018 LNG Export Study at 63 & Appendix F).

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.

## **IX. FINDINGS**

On the basis of the findings and conclusions set forth above, DOE/FE grants Driftwood LNG's Application and Supplement in FE Docket No. 16-144-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. Driftwood LNG must abide by each Term and Condition or face appropriate sanction.

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

Driftwood LNG requests a 20-year term for the authorization. Driftwood LNG's requested 20-year non-FTA 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 Driftwood LNG commences commercial export of domestically produced LNG from the Facility, but not before.

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

Consistent with our final non-FTA authorizations issued to date, DOE/FE will add as a condition of the authorization that Driftwood 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 or re-export operations.

### **C. Commissioning Volumes**

Driftwood 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 Facility. “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 Driftwood LNG’s long-term contracts.<sup>284</sup> The Commissioning Volumes will not be counted against the maximum level of volumes previously authorized in Driftwood LNG’s FTA authorization or in this Order.

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

Driftwood 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

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<sup>284</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).

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 Driftwood LNG’s FTA authorization (DOE/FE Order No. 3968-A) or in this Order. Insofar as Driftwood 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>285</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 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>286</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>287</sup>

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<sup>285</sup> 10 C.F.R. § 590.405.

<sup>286</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>287</sup> See *id.*

## **F. Agency Rights**

Driftwood 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>288</sup>

To ensure that the public interest is served, this authorization shall be conditioned to require that where Driftwood LNG proposes to export LNG from the Facility 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 Driftwood LNG file or cause to be filed with DOE/FE any relevant long-term commercial agreements, including liquefaction tolling agreements, pursuant to which Driftwood 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

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<sup>288</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).

procedures described below will be consistent with the “to the extent practicable” requirement of section 590.202(b).<sup>289</sup>

In addition, DOE/FE finds that section 590.202(c) of DOE/FE’s regulations<sup>290</sup> requires that Driftwood LNG file, or cause to be filed, all long-term contracts associated with the long-term supply of natural gas to the Facility, whether signed by Driftwood LNG or the Registrant, within 30 days of their execution.

DOE/FE recognizes that some information in Driftwood 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 Facility, may be commercially sensitive. DOE/FE therefore will provide Driftwood LNG the option to file or cause to be filed either unredacted contracts, or in the alternative (A) Driftwood 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 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>291</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.

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<sup>289</sup> 10 C.F.R. § 590.202(b).

<sup>290</sup> *Id.* § 590.202(c).

<sup>291</sup> *Id.* § 590.202(e) (allowing confidential treatment of information in accordance with 10 C.F.R. § 1004.11).

## **H. Export Quantity**

This Order grants Driftwood LNG's Application, as modified by the Supplement, in the full volume of LNG requested for export to non-FTA countries, up to the equivalent of 1,415.3 Bcf/yr of natural gas.

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

The volumes of LNG authorized for export in Driftwood LNG's FTA authorization (DOE/FE Order No. 3968-A) and this Order reflect the planned liquefaction capacity of the Facility, as approved by FERC. Accordingly, Driftwood 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. Driftwood LNG LLC (Driftwood LNG) is authorized to export domestically produced LNG by vessel from the proposed Driftwood LNG Facility to be located in Calcasieu Parish, Louisiana, in a volume up to the equivalent of 1,415.3 Bcf/yr of natural gas. This authorization is for a term of 20 years to commence from the date of first commercial export, but not before. Driftwood 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. Driftwood 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 Driftwood LNG's FTA authorization or in this Order.

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

D. Driftwood 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 1,415.3 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. Driftwood 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. Driftwood LNG shall ensure compliance with all terms and conditions established by FERC in the final EIS, including the 111 environmental conditions adopted in the FERC Order issued on April 18, 2019. Additionally, this authorization is conditioned on Driftwood LNG's on-going compliance with any other preventative and mitigative measures at the Facility imposed by federal or state agencies.



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

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

J. Driftwood 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 Driftwood LNG with all information necessary to permit Driftwood 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. Driftwood LNG, or others for whom Driftwood 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. 4373, issued May 2, 2019, in FE Docket No. 16-144-LNG, and/or to purchasers that have agreed in writing to limit their direct or indirect resale or transfer of such natural gas or LNG to such countries. Customer or purchaser further commits to cause a report to be provided to Driftwood LNG 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 Driftwood LNG LLC is made aware of all such actual destination countries.

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

M. Driftwood LNG shall file with the Office of Regulation, Analysis, and Engagement, on a semi-annual basis, written reports describing the status of the proposed Facility. 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 Facility, the date the Facility 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, Driftwood LNG must comply with DOE/FE's Procedures for Change in Control Affecting Applications and Authorizations to Import or Export Natural Gas.<sup>292</sup>

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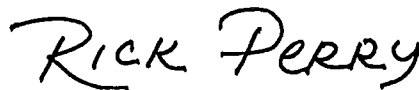
<sup>292</sup> See 79 Fed. Reg. at 65,541-42.

O. Monthly Reports: With respect to the exports authorized by this Order, Driftwood 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 have occurred, the report must give the following details of each LNG cargo: (1) the name(s) of the authorized exporter registered with DOE/FE; (2) the name of the U.S. export terminal; (3) the name of the LNG tanker; (4) the date of departure from the U.S. export terminal; (5) the country (or countries) into which the LNG was actually delivered; (6) the name of the supplier/seller; (7) the volume in thousand cubic feet (Mcf); (8) the price at point of export per million British thermal units (MMBtu); (9) the duration of the supply agreement; and (10) the name(s) of the purchaser(s).

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

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

Issued in Brussels, Belgium, on May 2, 2019.



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Rick Perry  
U.S. Secretary of Energy

## 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>293</sup> and in compliance with the Council on Environmental Quality (CEQ) implementing regulations for NEPA,<sup>294</sup> DOE’s implementing procedures for NEPA,<sup>295</sup> and DOE’s “Compliance with Floodplain and Wetland Environmental Review Requirements.”<sup>296</sup>

As discussed above, DOE/FE participated as a cooperating agency with FERC in preparing an environmental impact statement (EIS) analyzing the potential environmental impacts of the proposed Driftwood LNG Facility (Facility) (including the associated pipeline) that would be used to support the export authorization sought from DOE/FE.<sup>297</sup> In accordance with 40 C.F.R. § 1506.3, DOE/FE adopted the EIS on January 30, 2019 (DOE/EIS-0538),<sup>298</sup> and EPA published a notice of the adoption on February 8, 2019.<sup>299</sup>

### **A. Alternatives**

The EIS assessed alternative methods that could be used to achieve the Driftwood LNG Facility objectives. The range of alternatives analyzed included the No-Action Alternative, system alternatives, LNG facility alternatives, pipeline route alternatives, and aboveground facility alternatives.<sup>300</sup> Alternatives were evaluated and compared to the Facility to determine if

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<sup>293</sup> 42 U.S.C. § 4321 *et seq.*

<sup>294</sup> 40 C.F.R. § 1500-08.

<sup>295</sup> 10 C.F.R. § 1021.

<sup>296</sup> *Id.* § 1022.

<sup>297</sup> Federal Energy Regulatory Comm’n, Driftwood LNG Project *Final Environmental Impact Statement*, Docket Nos. CP17-117-000 and CP17-118-000 (Jan. 18, 2019) [hereinafter ROD].

<sup>298</sup> Letter from Amy Sweeney, DOE/FE, to Julie Roemele, U.S. EPA (Jan. 30, 2019) (adoption of final EIS).

<sup>299</sup> U.S. Env’tl. Protection Agency, Environmental Impact Statements; Notice of Availability, 84 Fed. Reg. 2,860 (Feb. 8, 2019).

<sup>300</sup> Final EIS at 3-1 to 3-47.

the alternatives were environmentally preferable.

In analyzing the No-Action Alternative, the EIS reviewed the effects and actions that could result if the Facility was not constructed. The EIS determined that other LNG export projects could be developed that could result in equal or greater environmental impacts in the region.<sup>301</sup> FERC staff concluded that the No-Action Alternative would not meet the objectives of the Facility, and an alternative project to meet market demand would not likely provide a significant environmental advantage over the proposed action.<sup>302</sup>

The EIS evaluated system alternatives for the Facility's LNG export terminal by reviewing LNG facility system alternatives and pipeline system alternatives. The EIS reviewed 21 existing, approved, or proposed liquefaction projects.<sup>303</sup> Based on this evaluation, the EIS concluded that each of the potential alternatives lacked significant environmental advantages over the Facility.<sup>304</sup> The EIS also reviewed two pipelines near the Facility as potential alternatives to the Facility's pipeline.<sup>305</sup> The EIS concluded that neither had sufficient capacity on existing pipelines and were therefore not technically feasible alternatives to the proposed action.<sup>306</sup>

The EIS also evaluated LNG facility alternatives, including both facility site alternatives and facility configuration alternatives. The EIS assessed six potential alternative sites within the Gulf Coast region that met minimum Facility site criteria for size and shipping access.<sup>307</sup> The EIS concluded that none of the alternatives offered significant environmental advantages over

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<sup>301</sup> *Id.* at 3-3.

<sup>302</sup> *Id.*

<sup>303</sup> *Id.* at 3-5 to 3-6.

<sup>304</sup> *Id.* at 3-9.

<sup>305</sup> *Id.*

<sup>306</sup> Final EIS at 3-10.

<sup>307</sup> *Id.* at 3-10 to 3-15.

the proposed site.<sup>308</sup> The EIS examined six alternative facility configurations for their potential to reduce environmental impacts on nearby residences. The EIS found that no alternatives offered an environmental advantage over the proposed configuration.<sup>309</sup>

Additionally, the EIS evaluated three major pipeline route alternatives, as well as five minor route variations. The EIS concluded that the three major route variations and three of the five minor route variations did not offer significant environmental advantages over the proposed routing.<sup>310</sup> However, the EIS also concluded that two of the minor variations (the MP 12.9 Route Variation and the Port Arthur Route Variation) offered environmental advantages and recommended that they be adopted into the pipeline route.<sup>311</sup>

Finally, the EIS evaluated alternative aboveground facility locations, with more in-depth evaluation of alternative locations for compressor stations. The EIS concluded that no other aboveground facilities warranted more in-depth evaluation.<sup>312</sup> The EIS also concluded that there were no significant environmental concerns with one compressor station, and that alternatives for two other compressor stations did not offer significant environmental advantages over the proposed locations.<sup>313</sup>

## **B. Environmentally Preferred Alternative**

When compared against the alternatives assessed in the EIS, the Facility—as modified by the mitigation measures recommended in the EIS—is the environmentally preferred alternative that can best achieve the Facility’s objectives. Although the No-Action Alternative would avoid

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<sup>308</sup> *Id.* at 3-11, 3-12, and 3-15.

<sup>309</sup> *Id.* at 3-15 and 3-17.

<sup>310</sup> *Id.* at 3-27, 3-28, 3-31, 3-33, 3-35, and 3-41.

<sup>311</sup> *Id.* at 3-33 and 3-39.

<sup>312</sup> Final EIS at 3-43.

<sup>313</sup> *Id.* at 3-43 and 3-47.

the environmental impacts identified in the EIS, the adoption of this alternative would not meet the objectives of the Facility.<sup>314</sup>

### **C. Decision**

DOE/FE has decided to issue Order No. 4373 authorizing Driftwood LNG LLC to export domestically produced LNG by vessel from the proposed Driftwood LNG Facility to non-FTA countries in a volume equivalent to 1,415.3 Bcf of natural gas per year 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 opponents of Driftwood LNG's Application and Supplement have failed to show that the proposed exports will be inconsistent with the public interest, as would be required to deny the Application and Supplement under NGA section 3(a).<sup>315</sup> DOE also considered the Addendum, which summarizes available information on potential upstream impacts associated with unconventional natural gas activities, such as hydraulic fracturing.

### **D. Mitigation**

As a condition of its decision to issue Order No. 4373, DOE/FE is imposing requirements that will avoid or minimize the environmental impacts of the Facility. These conditions include the 111 environmental conditions recommended in the EIS and adopted by FERC in its order authorizing the Facility on April 18, 2019.<sup>316</sup> Mitigation measures beyond those included in DOE/FE Order No. 4373 that are enforceable by other federal and state agencies are additional conditions of DOE/FE Order No. 4373. With these conditions, DOE/FE has determined that all

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<sup>314</sup> *Id.* at 5-1.

<sup>315</sup> 15 U.S.C. § 717b(a).

<sup>316</sup> *Driftwood LNG LLC and Driftwood Pipeline LLC*, Order Granting Authorizations Under Sections 3 and 7 of the Natural Gas Act, 167 FERC ¶ 61,054 (April 18, 2019).

practicable means to avoid or minimize environmental harm from the Facility 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>317</sup> The required floodplain assessment was conducted during development and preparation of the EIS, which determined that portions of the Facility would be located in the 100-year and 500-year flood plain. Driftwood LNG has proposed to design the Facility to withstand a 500-year flood event, in accordance with FERC recommendations.<sup>318</sup> While the placement of the Facility within floodplains would be unavoidable, DOE/FE has determined that the proposed design for the Facility minimizes floodplain impacts to the extent practicable.

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<sup>317</sup> 10 C.F.R. § 1022.

<sup>318</sup> Final EIS at 4-225 to 4-226.