UNITED STATES OF AMERICA
DEPARTMENT OF ENERGY
OFFICE OF FOSSIL ENERGY AND CARBON MANAGEMENT

In the Matter of:	)	
	)	**Docket No. 22 - 131 - LNG**
Venture Global CP2 LNG, LLC	)	

APPLICATION OF VENTURE GLOBAL CP2 LNG, LLC FOR LONG-TERM, MULTI-CONTRACT AUTHORIZATION TO EXPORT LIQUEFIED NATURAL GAS TO FREE TRADE AND NON-FREE TRADE AGREEMENT NATIONS

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Pursuant to Section 3 of the Natural Gas Act ("NGA") 1 and Part 590 of the regulations of the Department of Energy ("DOE"), 2 Venture Global CP2 LNG, LLC ("CP2 LNG") hereby submits for filing this application ("Application") to the Office of Fossil Energy and Carbon Management of the DOE ("DOE/FE") for long-term, multi-contract authority, as well as related short-term authority, 3 to export domestically produced liquefied natural gas ("LNG") from the CP2 LNG Project ("Project"). The Project is a planned natural gas liquefaction and LNG export terminal and related facilities to be located on the on the east side of the Calcasieu Ship Channel, and the nearby Monkey Island, in Cameron Parish, Louisiana.

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1 15 U.S.C. § 717b (2018). Authority to regulate the import and export of natural gas under the Section 3 has been delegated to the Assistant Secretary for Fossil Energy pursuant to Redelegation Order No. 00-002.04G issued on June 4, 2019.

2 10 C.F.R. § 590 (2021).

3 On December 18, 2020, DOE/FE issued a Policy Statement discontinuing its practice of issuing separate long-term and short-term authorizations for exports of natural gas from the same facility. "Including Short-Term Export Authority in Long-Term Authorizations for the Export of Natural Gas on a Non-Additive Basis," Policy Statement, 86 Fed. Reg. 2,243 (Jan. 12, 2021) (hereinafter "Including Short-Term Policy Statement"). Instead, long-term authorizations to export domestically produced natural gas may include additional authority to export the same approved volume pursuant to transactions with terms of less than two years on a non-additive basis (including commissioning volumes). Accordingly, CP2 LNG requests that its long-term authorizations also allow for the export of a portion of the approved volumes on a short-term or spot basis.

Specifically, CP2 LNG requests authorization to export LNG of up to the equivalent of 1,446 Billion cubic feet ("Bcf") of natural gas per year, or approximately 28 million metric tonnes per annum ("mtpa") of LNG, to any country which has, or in the future develops, the capacity to import LNG via ocean-going carriers and with which the United States either (1) has a Free Trade Agreement ("FTA") requiring national treatment for trade in natural gas 4 or (2) does not have such a FTA but with which trade is not prohibited by United States law or policy ("non-FTA" nations). CP2 LNG requests this authorization, on behalf of itself and as agent for other entities that may hold title to the LNG at the time of export from the Project for a period extending through the end of 2050, consistent with the Term Extension Policy Statement. 5

The Federal Energy Regulatory Commission ("FERC") approved on February 17, 2021 the request of CP2 LNG to initiate its "pre-filing" process for the Project, along with the related natural gas pipeline project proposed by the affiliated Venture Global CP Express, LLC ("CP Express"). Since then, CP2 LNG has been engaged in FERC's pre-filing process in its Docket No. PF21-1. During that process, CP2 LNG has participated in meetings with local, state, and federal agencies and interested parties to seek greater stakeholder involvement, identify interests, and resolve concerns early in the review of the Project, including through virtual public scoping

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4 The U.S. 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. In addition to current FTA nations, CP2 LNG expressly requests that its FTA authorization include any additional nation which DOE subsequently identifies publicly as having entered into a free trade agreement providing for national treatment for trade in natural gas, or that otherwise is treated as (or equivalent to) an FTA nation by the United States, provided that the destination nation has the capacity to import LNG. For ease of reference, CP2 LNG refers herein to all such nations simply as "FTA nations."

5 Effective August 25, 2020, DOE discontinued its practice of granting a standard 20-year export term for long-term authorizations to export domestically produced natural gas from the lower-48 states to non-FTA nations. DOE instead adopted a term through December 31, 2050, as the standard export term for long-term non-FTA authorizations, unless a shorter term is requested by the applicant. "Extending Natural Gas Export Authorizations to Non-Free Trade Agreement Countries Through the Year 2050," Notice of Final Policy Statement and Response to Comments, 85 Fed. Reg. 52,237 (Aug. 25, 2020) (hereinafter "Term Extension Policy Statement").

meetings held on May 11, 12, and 13, 2021. In addition, the Applicants have participated in bi-weekly conference calls with FERC Staff and its environmental third-party contractor, as well as other resource agencies including DOE/FE, and received comments on drafts of the environmental Resource Reports as required by the FERC process. On the same day as its filing of this Application, CP2 LNG also is submitting its formal application with FERC for its authorization under NGA Section 3 of the siting, construction, and operation of the CP2 LNG terminal facilities, in a joint filing with CP Express requesting approval of the related natural gas pipeline facilities.

Consistent with the different standards under Section 3 of the NGA applicable to LNG exports to FTA and non-FTA nations, 6 and with previous orders of DOE/FE, CP2 LNG requests that DOE/FE issue two separate orders authorizing the LNG exports proposed here, first, to FTA nations and, second, to non-FTA nations. CP2 LNG requests authority to export the same 1,446 Bcf of natural gas per year as LNG to both FTA and non-FTA nations: that is, the proposed volumes for export to FTA and non-FTA nations are not additive.

In support of this Application, CP2 LNG respectfully states the following:

I. DESCRIPTION OF THE APPLICANT AND AFFILIATED PROJECTS

The exact legal name of CP2 LNG is Venture Global CP2 LNG, LLC. CP2 LNG is a limited liability company organized under the laws of the State of Delaware with its principal place of business located at 1001 19th Street North, Suite 1500, Arlington, VA 22209. CP2

6 NGA Section 3(c) provides that the export of natural gas to a nation with which there is in effect a FTA requiring national treatment for trade in natural gas shall be deemed to be consistent with the public interest and requires that such applications be granted without modification or delay. Section 3(a) provides that applications to export LNG to non-FTA nations shall be authorized unless the Secretary finds that the proposed exports will not be consistent with the public interest. Such exports are presumptively in the public interest and that presumption can be overcome only through an affirmative demonstration that the proposed export is inconsistent with the public interest, as explained below.

LNG is a single-purpose entity primarily engaged in the business of developing the proposed LNG Terminal in Cameron Parish, Louisiana as described herein.

CP2 LNG is a wholly-owned, direct subsidiary of Venture Global LNG, Inc. ("Venture Global"), a privately held Delaware corporation with the same principal place of business as CP2 LNG. Venture Global is the developer of LNG export projects using modular mid-scale plant configuration with reliable, proven technology and innovative design to offer low-cost, clean, and reliable U.S. natural gas supplies to the world. Additional information regarding Venture Global and its leadership and personnel is available at the company's website at http://venturegloballng.com/.

Venture Global was founded by and originally owned and controlled by its sole member Venture Global Partners, LLC ("VG Partners"), which in turn is owned and controlled by Robert B. Pender and Michael A. Sabel (the "Principals"). To further develop and finance its projects, Venture Global has sold small, passive ownership interests to a number of U.S. institutional and related investors. Currently, approximately 63.54% of the common stock of Venture Global remains held by VG Partners, while 36.46% of the common stock is owned by various institutional investors. Each of the institutional investors owns only a small passive interest of less than ten percent and has no power to direct Venture Global's management or policies. VG Partners, which remains wholly owned 50/50 by the Principals, retains the sole right to control Venture Global and to appoint its board of directors who direct its management and policies.

Venture Global's first project – the Venture Global Calcasieu Pass, LLC ("Calcasieu Pass") export project located in Cameron Parish, Louisiana and the associated natural gas pipeline of the affiliated TransCameron Pipeline, LLC – is currently under construction

following authorization by FERC in Docket Nos. CP15-550 and CP15-551, 7 issuance of long-term export authorizations by DOE/FE, 8 and the receipt of all other necessary permits. Calcasieu Pass has entered into binding, 20-year, LNG sale and purchase agreements ("SPAs") with six off-takers – Shell, BP, Edison S.p.A., Galp, Repsol, and PGNiG – for a total of 8.5 mtpa of its 10 mtpa nameplate capacity (as well as another SPA of 1 mtpa for a 3-year term and an SPA for available LNG in excess of the nameplate capacity). Venture Global announced its Final Investment Decision ("FID") and the closing of project financing for Calcasieu Pass (including an equity investment of $1.3 billion and $5.8 billion of construction debt) in August 2019. 9 Calcasieu Pass is proceeding with construction of the Export Terminal so as to commence operations in an expedient and safe manner and construction is progressing well. Calcasieu Pass anticipates that it will commence full operations of its project in mid-2022, with a phased operational start-up that (subject to the requisite review and approvals from the FERC Staff) could include the first exports of LNG in early 2022.

Venture Global's second project – the Venture Global Plaquemines LNG, LLC ("Plaquemines LNG") export project located in Plaquemines Parish, Louisiana, and the associated Venture Global Gator Express, LLC pipeline – was authorized by FERC in Docket Nos. CP17-66 and CP17-67, 10 and also has received long-term export authorizations from

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7 *Venture Global Calcasieu Pass, LLC, et al.*, 166 FERC ¶ 61,144 (2019).

8 The non-FTA export authorization for Calcasieu Pass were issued in DOE/FE Order No. 4346 in FE Docket Nos. 13-69-LNG, 14-88-LNG, and 15-25-LNG on March 5, 2019. The FTA authorizations were previously issued in those same dockets in three separate orders: DOE/FE Order No. 3345 (Sept. 27, 2013), No. 3520 (Oct. 10, 2014), and No. 3662 (June 17, 2015).

9 *See* https://ventureglobalIng.com/press/venture-global-announces-final-investment-decision-and-financial-close-for-calcasieu-pass-lng/.

10 *Venture Global Plaquemines LNG, LLC, et al.*, 168 FERC ¶ 61,204 (2019).

DOE/FE. 11 Plaquemines LNG commenced construction on August 18, 2021. In February 2021, Venture Global closed a $500 million term loan with leading banks to be used to fund pre-FID construction activities for Plaquemines, as well as for general corporate purposes. 12 Following the recent execution of additional off-take agreements, Plaquemines has entered into binding 20-year SPAs for 9 mtpa with three customers: PGNiG, Sinopec, and EdF. Venture Global expects to achieve FID on the first phase of the Plaquemines project in early 2022. Plaquemines LNG anticipates that it will begin a phased operational startup in the second half of 2023, with full operations of Phase 1 of the project expected to be achieved by approximately the end of 2024. The timing of Plaquemines Phase 2 will depend on market demand for LNG exports and further customer contracting, but it is expected to closely follow the commencement of Phase 1 of the project.

Through its development of these projects, along with this third project CP2 LNG, Venture Global has developed a world class project team, with officers, staff, board members, engineers, financial advisers, consultants, regulatory and environmental experts, and attorneys, who are experienced in, and who have a deep knowledge of, the LNG industry. Venture Global believes that it has market-leading expertise in every aspect of the business, from senior management to engineering, regulatory, legal, finance and environmental. In addition to this significant "in-house" expertise, CP2 LNG expects – similar to its experience with Calcasieu Pass and Plaquemines LNG – to partner or contract with reputable, experienced and credit-worthy international investment companies focusing on global infrastructure that will provide

11 The non-FTA export authorization for Calcasieu Pass issued in DOE/FE Order No. 4446 in FE Docket Nos. 16-28-LNG on October 16, 2019. The FTA authorization was previously issued in the same docket in DOE/FE Order No. 3866 (July 21, 2016).

12 *See* https://venturegloballng.com/press/venture-global-lng-closes-500-million-term-loan-with-leading-global-banks/.

equity and project finance debt capital, as well as international energy and logistics companies that are subject-matter experts in various aspects of the natural gas, liquefaction, marine transportation, LNG terminal and storage businesses.

II. CORRESPONDENCE AND COMMUNICATIONS

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III. DESCRIPTION OF THE PROJECT

The Project will allow CP2 LNG to convert domestically produced natural gas to LNG for storage and export, supporting the development of new domestic natural gas resources and promoting a liberalized global natural gas trade and a greater diversification of global natural gas supplies. CP2 LNG (like the affiliated Venture Global projects already under construction) intends to be a long-term, low-cost producer of LNG by utilizing highly efficient and low cost, modular, mid-scale LNG liquefaction technology. Again, like other Venture Global projects, CP2 LNG is developing the Project using competitive sourcing of all the material components, and is configuring a highly efficient, clean, low-cost, safe and reliable LNG liquefaction system, attractive to offtakers, regulators, investors and the local community.

CP2 LNG proposes this Project to allow for the additional export of abundant, clean-burning U.S. domestic natural gas supplies to overseas markets. The Project will involve

construction of the CP2 LNG Terminal, a proposed liquefaction and LNG export terminal to be located immediately adjacent to the Calcasieu Pass terminal site, on the east side of the Calcasieu Ship Channel, as well as on nearby Monkey Island which separates the Calcasieu Ship Channel and Calcasieu Pass, in Cameron Parish, Louisiana. Maps showing the location of the Project along with the site plan showing the major Project components are provided as Appendix C.

The Terminal Facilities will consist of the mainland-based Terminal Site, Marine Facilities on Monkey Island, and LNG transfer lines and associated utilities, all to be constructed on about 737.3 acres near the mouth of the Calcasieu Ship Channel. CP2 LNG has contractually secured through agreements with landowners all the land required for construction and operation of the Project. The Terminal Site will affect approximately 568.0 acres of contiguous land south and east of the Calcasieu Pass and 32.2 acres along the eastern shoreline of Calcasieu Pass associated with the temporary contractor yards. The Marine Facilities, which include two LNG loading docks and accompanying turning basins, will occupy a dredged and excavated area of approximately 122.2 acres on the southwest shoreline of Monkey Island. Installation of the LNG transfer lines and utilities will require an additional 14.9-acre construction corridor between the Terminal Site and the Marine Facilities.

The facility design largely follows the successful approach pioneered by Venture Global with its Calcasieu Pass and Plaquemines projects. Like Plaquemines, the CP2 LNG Project consists of two phases with a total nameplate liquefaction and export capacity for both Phases together of 20 mtpa, or approximately 1,033 Bcf of natural gas per year, and peak achievable capacity of up 28 mtpa or approximately 1,446 Bcf per year under optimal operating conditions.

CP2 LNG will use the same liquefaction technology as used at Calcasieu Pass and Plaquemines. The Project will consist of eighteen (18) integrated single mixed refrigerant blocks

with a nameplate liquefaction capacity of approximately 1.1 mtpa of LNG each. Other facilities at the Terminal will include: four 200,000 cubic meter (m^3) above-ground full-containment LNG storage tanks, natural gas pre-treatment systems, two marine loading berths designed to accommodate ocean-going LNG carriers ranging from 120,000 m^3 to 185,000 m^3 of volumetric cargo capacity, and on-site electric power generation of up to 1,440 megawatts of collective generating capacity. Phase 1 of the Project will include nine (9) of the LNG blocks (for aggregate nameplate liquefaction capacity of 10 mtpa), two LNG storage tanks, the two marine loading berths, and half of the on-site power generation. Phase 2, which will be constructed subject to sufficient market demand for LNG, will add the second nine (9) LNG blocks (for another 10 mtpa of nameplate liquefaction capacity), two additional LNG storage tanks, and the additional on-site power generation. All of the proposed facilities are described in more detail in CP2 LNG's application with the FERC for authorization to construct the facilities.

In addition to the FERC-jurisdictional facilities, CP2 LNG also proposes to add facilities at the Terminal to capture and sequester approximately 500,000 tons of carbon dioxide (CO_2) emissions per year. This quantity of CO_2 emissions will be captured from operations and compressed at the Terminal, then transported and injected deep into subsurface saline aquifers for permanent storage. The geology in the region supports injection and storage of the CO_2, allowing CP2 LNG to reduce its emissions from the production of LNG and thereby help to mitigate the overall greenhouse gas ("GHG") emissions of the Project. CP2 LNG will pursue all necessary regulatory authorizations for this aspect of the Project as the FERC moves forward with the processing of its NGA application.

CP2 LNG plans to commence construction of Phase 1 of its Project upon the receipt of FERC authorization and other necessary regulatory approvals, targeted for the second quarter of

2023, and construction will continue for approximately three years. The timing for construction of Phase 2 will depend upon market demand for LNG exports: assuming timely contracting for offtake commitments, construction of Phase 2 would begin approximately twelve or fewer months after the start of Phase 1 construction and also will take approximately three years. Construction of the liquefaction blocks in each phase will be sequenced so that initial quantities of LNG can be exported from the Phase 1 facilities approximately 24 months after start of construction (thus, in the second quarter of 2025), with additional liquefaction capacity brought on over time as it is commissioned. In both phases, the construction sequencing, commissioning, and operational start-up of the liquefaction facilities will be achieved in steps, with groups of liquefaction blocks being placed into service incrementally as they are completed and commissioned. All of CP2 LNG's Phase 1 facilities are expected to be in-service by the middle of 2026. Assuming timely and sufficient market support, all the Phase 2 facilities would be in-service by 12 or fewer months after the first phase.

CP2 LNG has included both phases of its Project in its FERC pre-filing proceeding and its formal FERC application. Accordingly, CP2 LNG requests here authorization to export the total volume of both phases of its Project. The 20 mtpa nameplate liquefaction capacity of the Project reflects a number of conservative design features and is the minimum output that the Project's contractors would be expected to guarantee. Under optimal design conditions, the Project may produce up to 28 mtpa, or the equivalent of approximately 1,446 Bcf of natural gas per year – which is the natural gas quantity for which CP2 LNG requests authorization to export.

CP2 LNG has not yet entered into any binding contracts with customers for the export of LNG from the Project. Venture Global has concluded, based on its successful experience in marketing LNG from its other projects (as reflected in the long-term contracts filed with

DOE/FE by Calcasieu Pass and Plaquemines LNG) that the LNG market will support not only those existing projects, but also this third, similar export project as well. CP2 LNG will file all long-term, binding contracts associated with the export of LNG from its facility once executed, in accordance with established DOE/FE policy and precedent.

CP2 LNG has entered into a precedent agreement as the Anchor Shipper for natural gas transportation on the CP Express pipeline, contracting for 100 percent of its firm capacity for an initial term of twenty (20) years. The CP Express Pipeline will provide transportation to the Terminal of up to 2,200,000 Dekatherms per day (Dt/d) in Phase 1 and a like amount of additional capacity added through additional compression in Phase 2. The first phase of the CP Express Pipeline system will include: an 85.4 mile, 48-inch mainline extending through Jasper and Newton Counties, Texas, and Calcasieu and Cameron Parishes, Louisiana; a 6.0 mile, 24-inch supply lateral pipeline connecting to the mainline in Calcasieu Parish, Louisiana; the Pipeline System's sole compressor station, located near Moss Lake in Calcasieu Parish, with 69,600 horsepower ("HP") of natural gas-fired compressor units; and appurtenant facilities. The second phase of the Pipeline System will consist entirely of additional gas-fired compression of 117,400 HP added at the Moss Lake station.

The particular natural gas supplies that will be transported on the CP Express Pipeline and liquefied at the CP2 LNG Terminal cannot be known at this time and undoubtedly will change over the life of the Project. The Project by design is not dependent upon any particular natural gas supply. The CP Express Pipeline will have numerous direct interconnections with other pipelines, providing access to numerous markets with ample domestic natural gas supplies and liquidity. Access to the integrated pipeline grid through CP Express will enable CP2 LNG, or its customers, to purchase natural gas from a multitude of sources of conventional and non-

conventional U.S. production. Such supplies could be produced from any of a wide variety of production areas, including conventional Gulf Coast production regions, the robust and expanding supplies produced from nearby shale gas plays such as the Haynesville, Permian, Barnett, and Bossier formations, as well as the more distant but prolific Marcellus and Utica shale regions. The feed gas will be sourced in requisite volumes in the spot market or purchased under long-term arrangements. CP2 LNG has not yet entered into any natural gas supply arrangements, but it will file all long-term natural gas supply agreements, once executed, with the DOE/FE in accordance with established policy and precedent.

IV. AUTHORIZATIONS REQUESTED

CP2 LNG requests long-term, multi-contract authorization to export domestically produced LNG of up to the equivalent of 1,446 Bcf of natural gas per year commencing on the earlier of the date of first export or seven years from the date the requested authorization is granted by DOE/FE. 13 Consistent with the Term Extension Policy Statement, 14 CP2 LNG requests that the term of the export authorizations extend through December 31, 2050. And, consistent with the Including Short-Term Policy Statement, 15 CP2 LNG requests that its authorizations also provide for the export of some portion of the same approved volume (including commissioning volumes) pursuant to transactions with terms of less than two years on a non-additive basis.

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13 In its orders authorizing non-LNG exports, DOE/FE has consistently imposed the condition that the applicant must commence commercial LNG export operations no later than seven years after the issuance of the order. *E.g.*, *Venture Global Calcasieu Pass, LLC*, DOE/FE Order No. 4346 at 75-76 (Mar. 5, 2019); *Venture Global Plaquemines LNG, LLC*, DOE/FE Order No. 4446 at 49 (Oct. 16, 2019).

14 *See* n. 5, *supra*.

15 *See* n. 3, *supra*.

CP2 LNG requests the issuance of separate orders authorizing the requested LNG exports (1) to any country which has, or in the future develops, the capacity to import LNG via ocean-going carriers and with which the U.S. has, or in the future enters into, an FTA requiring the national treatment for trade in natural gas or is otherwise deemed by the United States as being treated as an FTA nation, and (2) to any country with the capacity to import LNG via ocean-going carriers and with which the United States does not have such an FTA but with which trade is not prohibited by United States law or policy. This approach of two separate orders for exports to FTA nations and non-FTA nations follows established DOE/FE policy and procedures.

CP2 LNG respectfully requests that DOE/FE issue the requested FTA authorization as soon as practicable, consistent with the statutory requirement of issuance without delay. CP2 LNG recognizes that, pursuant to DOE/FE's procedures, the agency will not act on the non-FTA component of this Application until the National Environmental Policy Act ("NEPA") review process for the Project is completed as part of the FERC approval process. As previously noted, CP2 LNG has completed the FERC Pre-Filing process for its Project and is filing its formal FERC application the same day as this Application. In its FERC application, CP2 LNG requests that FERC authorize its Project by March 31, 2023.

CP2 LNG anticipates that – like its affiliates Calcasieu Pass and Plaquemines LNG – it will hold title to the LNG at the time of export and sell the LNG pursuant to SPAs entered into with its off-takers. Nevertheless, to maximize flexibility in its customer contracting and consistent with DOE/FE Policy, CP2 requests authorization to export LNG from the Project both on its own behalf and as agent for entities with which it would contract that may hold title to the LNG at the time of export. CP2 LNG will comply fully with all applicable DOE/FE

requirements for both exporters and their agents, including the requirements detailed in orders such as *Freeport LNG Development, L.P*. and *Gulf Coast LNG Export LLC*. 16 If acting as an agent for others, CP2 LNG will register with DOE each LNG title holder for which CP2 LNG seeks to export LNG as agent. Furthermore, CP2 LNG will provide the DOE/FE a written statement by the title holder that acknowledges and agrees to (1) comply with all requirements in CP2 LNG's long-term export authorization, and (2) include those requirements in any subsequent purchase or sale agreement entered into by the title holder.

A. EXPORT TO FREE-TRADE NATIONS

CP2 LNG first requests authority to export LNG up to the equivalent of 1,446 Bcf of natural gas per year to FTA nations, including any additional nation which DOE publicly identifies in the future as having entered into an FTA providing for national treatment for trade in natural gas, or otherwise being is treated as, or equivalent to, an FTA nation by the United States, provided that the destination nation has the capacity to import LNG. Section 3(c) of the NGA, as amended by Section 201 of the Energy Policy Act of 1992 (Pub. L. 102-486), requires that applications to authorize exports of natural gas, including LNG, to a nation with which there is in effect a free trade agreement requiring national treatment for trade of natural gas be "deemed to be consistent with the public interest" and "granted without modification or delay." 17 In addition, DOE/FE has held that the otherwise applicable regulatory requirements for public

16 *Freeport LNG Expansion, L.P. and FLNG Liquefaction, LLC*, FE Order No. 2913 (Feb. 10, 2011) (establishing the criteria for exports for agents subsequently adopted in a number of orders); *Gulf Coast LNG Export LLC*, DOE/FE Order No. 3163 at 7-8 (Oct. 16, 2012) (reiterating agency policy).

17 15 U.S.C. § 717b(c) (2018) ("For purposes of [15 U.S.C. § 717b(a)] of this section, the importation of the natural gas referred to in [15 U.S.C. § 717b(b)] of this section, or the exportation of natural gas to a nation with which there is in effect a free trade agreement requiring national treatment for trade in natural gas, shall be deemed to be consistent with the public interest, and applications for such importation or exportation shall be granted without modification or delay.").

notice and other procedures set forth in 10 C.F.R. Part 590 do not apply to exports to FTA nations. 18

Under this statutory structure, the portion of this Application that seeks to export LNG to FTA nations should be granted without modification or delay. The DOE/FE has consistently followed this approach, granting over fifty (50) long-term authorizations (excluding those subsequently vacated) to allow exports of natural gas to FTA nations. 19 Consistent with the established practice of DOE/FE, CP2 LNG asks that the requested FTA authorization be granted initially and separately, without waiting on the further inquiry required to address the requested authorization for LNG export to non-FTA nations. Given the mandatory standard of NGA Section 3(a), DOE/FE is not required to engage in any analysis of factors affecting the public interest in acting on the FTA aspect of this Application, and has not done so when approving similar applications to export LNG to FTA nations. Nevertheless, further support for the requested FTA authorization is provided by the below presentation concerning the non-FTA authorization, to the extent it is deemed relevant.

B. EXPORT TO NON-FREE-TRADE NATIONS

CP2 LNG in this Application also requests authority to export LNG of up to the equivalent of 1,446 Bcf of natural gas per year to nations with which the United States does not have an FTA requiring national treatment for trade in natural gas. The non-FTA portion of the Application must be reviewed pursuant to the statutory standard established in Section 3(a) of the NGA. The statute provides that:

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18 *E.g., Venture Global Calcasieu Pass, LLC*, DOE/FE Order No. 3662 at 10, n. 19 (June 17, 2015); *Venture Global Plaquemines LNG, LLC*, DOE/FE Order No. 3866 at 6, n. 8 (July 21, 2016).

19 A list of orders authorizing long-term exports to FTA (and non-FTA) nations, as well as docket numbers and the links to the orders, is available on the DOE/FE website at: https://www.energy.gov/fe/downloads/summary-lng-export-applications-lower-48-states.

> [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] authorizing it to do so. The [Secretary] *shall issue* such order upon application, *unless*, after opportunity for hearing, [the Secretary] finds that the proposed exportation or importation will not be consistent with the public interest. 20

This statutory language creates a presumption that the proposed export of natural gas is in the public interest. DOE/FE has consistently held that it must grant export applications unless opponents of an application overcome this presumption by making an affirmative demonstration that the proposed export is inconsistent with the public interest. 21 This interpretation has been affirmed by the U.S. Court of Appeals for the D.C. Circuit. 22

The Policy Guidelines developed by DOE/FE in 1984 to implement NGA Section 3 (which are applicable to exports as well as imports 23) promote the free and open trade of natural gas. 24 The Policy Guidelines were "designed to establish natural gas trade on a market-competitive basis and to provide immediate as well as long-term benefits to the American economy from this trade." 25 Moreover, the Guidelines provide that:

> The market, not government, should determine the price and other contract terms of imported [or exported] gas. U.S. buyers [sellers] should have full freedom – along with the responsibility – for

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20 15 U.S.C. § 717b(a) (2006) (emphasis added). The Secretary's authority was established by the DOE Organization Act of 1977, which transferred jurisdiction over gas import and export authorizations from the Federal Power Commission to DOE.

21 *E.g.*, *Philips Alaska Natural Gas Corp. and Marathon Oil Co.*, DOE/FE Order No. 1473 at 13 (Apr. 2, 1999); *Sabine Pass Liquefaction, LLC*, DOE/FE Order No. 2961 at 28 (May 20, 2011); *Dominion Cove Point LNG, LP*, DOE/FE Order No. 3331-B at 11 (Apr. 18, 2016); *Venture Global Calcasieu Pass*, *LLC*, DOE/FE Order No. 4346 at 19; *Venture Global Plaquemines LNG, LLC*, DOE/FE Order No. 4446 at 18-19.

22 *E.g.*, *Sierra Club v. U.S. Dep't of Energy*, 867 F.3d 189, 203 (D.C. Cir. 2017).

23 *E.g., Philips Alaska*, DOE/FE Order No. 1473 at 14; *Yukon Pacific Corp.*, DOE/FE Order No. 350, 1 FE ¶ 70,259 at 71,128 (1989); *Dominion Cove Point LNG, LP*, DOE/FE Order No. 3331 at 8 (Sept. 11, 2013).

24 *Policy Guidelines and Delegation Orders Relating to the Regulation of Imported Natural Gas*, 49 Fed. Reg. 6,684 (Feb. 22, 1984).

25 *Id.* at 6,684.

> negotiating the terms of trade arrangements with foreign sellers [buyers]….
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> * * *
>
> The policy cornerstone of the public interest standard [of NGA Section 3] is competition. Competitive import [export] arrangements are an essential element of the public interest, and natural gas imported [exported] under arrangements that provide for the sale of gas in volumes and at prices responsive to market demands largely meets the public interest test…. 26

In authorizing long-term non-FTA exports, DOE/FE has repeatedly and consistently explained that it "continues to subscribe to the principle set forth in our 1984 Policy Guidelines that, under most circumstances, the market is the most efficient means of allocating natural gas supplies." 27 And as DOE/FE has explained: "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." 28 DOE/FE has promoted the competitive, free-trade policies embodied in the Policy Guidelines by consistently authorizing LNG exports to non-FTA nations in over 30 decisions over more than a decade, for aggregate authorized exports to non-FTA nations (were all the authorized projects actually placed in service) of over 58 Bcf/day. 29 DOE/FE should continue to follow its longstanding practice here.

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26 *Id.* at 6,685 and 6,687. The parenthetical references to exports are added in the above quotation to reflect the applicability of the Policy Guidelines to exports. *See* n. 23, *supra*.

27 *E.g.*, *Freeport LNG Expansion, L.P.,* Order No. 3282 at 112 (May 17, 2013); *Lake Charles Exports*, Order No. 3324 at 125 (Aug. 7, 2013); *Dominion Cove Point LNG, LP*, Order No. 3331 at 141 (Sept. 11, 2013); *Freeport LNG,* Order No. 3357 at 154 (Nov. 15, 2013); *Cameron LNG, LLC*, DOE/FE Order No. 3391 at 132 (Feb. 11, 2014); *Jordan Cove Energy Project, L.P.*, Order No. 3413 at 143 (Mar. 24, 2014); *Oregon LNG*, Order No. 3465 at 141 (July 31, 2014); *Cheniere Marketing, LLC*, Order No. 3638 at 205 (May 12, 2015); *Sabine Pass Liquefaction, LLC*, Order No. 3669 at 210 (June 26, 2015); *Pieridae Energy (USA), LTD.*, Order No. 3768 at 216 (Feb. 5, 2016); *Bear Head LNG Corp.*, Order No. 3770 at 176 (Feb. 5, 2016); *Venture Global Calcasieu Pass, LLC*, DOE/FE Order No. 4346 at 69; *Venture Global Plaquemines LNG, LLC*, DOE/FE Order No. 4446 at 42.

28 *E.g., Venture Global Plaquemines LNG, LLC*, DOE/FE Order No. 4446 at 19.

29 A list of all the non-FTA approvals with docket numbers, volumes, and links to the relevant DOE/FE orders is available at: https://www.energy.gov/fe/downloads/summary-lng-export-applications-lower-48-states. Of course, as DOE/FE has recognized "it is far from certain that all or even most of the proposed LNG export projects

While 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 the criteria that must be considered. In its orders authorizing long-term LNG exports to non-FTA nations, DOE has been guided by DOE Delegation Order No. 0204-111, which directed that regulation of gas exports be "based on a consideration of the domestic need for the gas to be exported and such other matters as the Administrator finds in the circumstances of a particular case to be appropriate." 30 More specifically, DOE/FE has explained that its review of export applications focuses 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/FE's policy of promoting market competition, and (iv) any other factors bearing on the public interest. 31

Granting CP2 LNG its requested authorization to export LNG will be consistent with, and indeed advance, the public interest. The general benefits of LNG exports are well known to DOE/FE and have been explained by it in numerous orders as well as a series of studies. In 2012, 2015, and again in 2018, DOE/FE released studies assessing the macroeconomic impacts of LNG exports to inform its decisions on applications seeking authorization to export LNG to non-FTA nations. The conclusions of those studies have been uniformly supportive of the public interest in LNG exports, as explained below.

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will ever be realized because of the time, complexity, and expense of commercializing, financing, and constructing LNG export terminals, as well as the uncertainties inherent in the global market demand for LNG." Term Extension Policy Statement, 85 Fed. Reg. at 52,243.

30 DOE Delegation Order No. 0204-111 (Feb. 22, 1984) at 1 (¶ b); *see also Policy Guidelines and Delegation Orders Relating to the Regulation of Imported Natural Gas*, 49 Fed. Reg. at 6,690.

31 *E.g., Venture Global Calcasieu Pass*, *LLC*, DOE/FE Order No. 4346 at 21; *Venture Global Plaquemines LNG, LLC*, DOE/FE Order No. 4446 at 20.

Faced with multiple LNG export proposals, DOE/FE initially undertook an in-depth two-part study of the cumulative economic impact of LNG exports in 2012. 32 The first part of the study, conducted by the Energy Information Agency ("EIA"), evaluated the potential impact of additional LNG exports on domestic energy consumption, production and prices under several export scenarios, and was published in January 2012. The second part of the study, performed by NERA Economic Consulting ("NERA"), evaluated the potential macroeconomic impact of LNG exports using its energy-economy model, and was made available in December 2012. The two 2012 studies, as well as the results of the extensive notice and comment process undertaken by DOE/FE seeking public comments on them, are summarized in detail in many DOE/FE orders authorizing LNG exports to non-FTA nations, 33 and more briefly in more recent orders. As DOE/FE has summarized, two of the key findings of the 2012 NERA study were the following:

- Across all the scenarios studied, NERA projected that the United States would gain net economic benefits from allowing LNG exports. For every market scenario examined, net economic benefits increased as the level of LNG exports increased. Scenarios with unlimited exports had higher net economic benefits than corresponding cases with limited exports. In all cases, the benefits that come from export expansion outweigh the losses from reduced capital and wage income to U.S. consumers, and hence LNG exports have net economic benefits in spite of higher domestic natural gas prices.
- U.S. natural gas prices would increase if the United States exports LNG. However, the global market limits how high U.S. natural gas prices can rise under pressure of LNG exports because importers will not purchase U.S. exports if U.S. wellhead price

32 The 2012 studies are available at: https://www.energy.gov/fe/services/natural-gas-regulation/lng-export-study.

33 *E.g.*, *Freeport LNG,* Order No. 3282 at 30-109; *Lake Charles Exports*, Order No. 3324 at 42-121; *Dominion Cove Point LNG*, Order No. 3331 at 56-134; *Freeport LNG,* Order No. 3357 at 31-50 and 91-143; *Cameron LNG*, Order No. 3391 at 23-42 and 71-125; *Jordan Cove*, Order No. 3413 at 26-51 and 82-136; *Oregon LNG*, Order No. 3465 at 29-54 and 78-132; *Cheniere Marketing,* Order No. 3638 at 68-146; *Sabine Pass Liquefaction,* Order No. 3669 at 25-51 and 94-148.

> rises above the cost of competing supplies. Natural gas price changes attributable to LNG exports remain in a relatively narrow range across the entire range of scenarios. 34

By May 2014, as the volumes of proposed LNG exports continued to grow, DOE/FE commissioned two new economic studies to understand better how higher levels of LNG exports, at levels between 12 and 20 Bcf per day of natural gas, would affect the public interest. The first study was an update by EIA of its 2012 study that again focused on how LNG exports would affect domestic energy markets and was published in October 2014. 35 The second study – which was jointly performed by the Center of Energy Studies at Rice University's Baker Institute and Oxford Economics and published in October 2015 – considered the macroeconomic impact of various levels of U.S. LNG exports ranging from 12 Bcf to 28 Bcf per day ("Bcf/d"). 36 The results of the 2014 and 2015 studies – which were entirely consistent with the conclusions of the 2012 studies – were summarized in detail in certain DOE/FE orders and found to be supportive of LNG exports. 37 The 2014 EIA study generally showed relatively small increases in natural gas prices and increased production satisfying most of the increased demand, and concluded that

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34 *See, e.g., Freeport LNG,* Order No. 3282 at 40-41; *Lake Charles Exports*, Order No. 3324 at 52-53; *Dominion Cove Point LNG*, Order No. 3331 at 66-67; *Freeport LNG,* Order No. 3357 at 41-42; *Cameron LNG*, Order No. 3391 at 33-34; *Jordan Cove*, Order No. 3413 at 37-38; *Oregon LNG*, Order No. 3465 at 39-40; *Cheniere Marketing,* Order No. 3638 at 78-79; *Sabine Pass Liquefaction,* Order No. 3669 at 36-37. These findings are also set forth in the Executive Summary of NERA Study itself. *See* Macroeconomic Impacts of LNG Export from the United States, NERA Economic Consulting, at 1-2.

35 EIA, *Effect of Increased Levels of Liquefied Natural Gas Exports on U.S. Energy Markets* (Oct. 2014) (the "2014 EIA LNG Study), available at: https://fossil.energy.gov/app/docketindex/docket/index/11.

36 "*The Macroeconomic Impact of Increasing U.S. LNG* Exports," (Oct. 29, 2015) (the "2015 LNG Study"), also available at: https://fossil.energy.gov/app/docketindex/docket/index/11. Although actual LNG exports have been consistently growing in recent years, they have still not yet exceeded even the 12 Bcf per day limit contemplated in the original 2012 studies. LNG exports have reached record highs in 2021 and averaged 9.6 Bcf per day over the first six months of the year, and the peak capacity currently in operation is 10.8 Bcf per day. *See* EIA, Today in Energy, "U.S. liquefied natural gas exports grew to record highs in the first half of 2021" (July 27, 2021), available at: https://www.eia.gov/todayinenergy/detail.php?id=48876.

37 *E.g., Golden Pass Products, LLC*, Order No. 3978 at 54-71 (Apr. 25, 2017); *Delfin LNG LLC*, Order No. 4028 at 51-69 (June 1, 2017).

increased LNG exports will result in higher economic output. 38 The 2015 external study of the impact of LNG exports in the range of up to 28 Bcf/d concluded that higher LNG exports will have positive macroeconomic impacts, regardless of the assumptions about the U.S. natural gas markets. 39 That study estimated that increasing LNG exports from 12 Bcf/d to 20 Bcf/d would result in a positive impact on gross domestic product of $7-20 billion annually over the years 2026-2040 (in 2015 prices). 40

In 2017, with growing volumes of authorized exports, DOE/FE and its contractor KeyLogic Systems commissioned the 2018 Export Study by NERA, which was released on DOE's website on June 7, 2018. 41 Public comments were filed and DOE responded to the comments and summarized the conclusions of the study in its published in the Federal Register on December 28, 2018. 42 Like DOE/FE's prior economic studies, the 2018 Study examines the impacts of varying levels of LNG exports on domestic energy markets; but it differs from 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");

(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

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38 *See* 2014 EIA LNG Study at 12 (Summary of Results).

39 *See* 2015 LNG Study at 8-16 (Executive Summary).

40 *Id.* at 8.

41 The 2018 study is available at: https://fossil.energy.gov/app/docketindex/docket/index/10.

42 "Study on Macroeconomic Outcomes of LNG Exports: Response to Comments Received on Study," 83 Fed. Reg. 67,251 (Dec. 28, 2018).

(v) Provides macroeconomic projections associated with several of the scenarios lying within the more likely range of exports.

The first non-FTA export authorization issued after release of the 2018 study was for Calcasieu Pass and DOE/FE explained the methodology and results of the study in detail in that order 43 (as well as subsequent orders). The principal conclusions from the study, as summarized by DOE/FE, were that it provides substantial support for non-FTA authorization for volumes up to 52.8 Bcf/d of natural gas and that the United States experiences net economic benefits from LNG exports. 44 DOE/FE also recognized in its Calcasieu Pass order that the EIA's more recent projections from the 2019 Annual Energy Outlook ("AEO 2019") reinforced the conclusions of the 2018 study, showing projected increases in domestic natural gas production well in excess of what is required to meet projected increases in domestic consumption. 45

Given the extensive evidence of the benefits of LNG exports as demonstrated by the studies noted above and previously recognized by DOE/FE itself in its numerous orders, CP2 LNG is not submitting any additional studies of its own. CP2 LNG will summarize, however, the factors showing the public interest in LNG exports:

1. Natural Gas Supplies Are Ample for LNG Exports, As Well As Domestic Needs

The primary focus of the DOE/FE's public interest analysis is on the domestic need for the LNG proposed to be exported. This domestic need can be analyzed by comparing the domestic natural gas supply against natural gas demand.

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43 *Venture Global Calcasieu Pass*, *LLC*, DOE/FE Order No. 4346 at 8-15.

44 *Id.* at 13.

45 *Id.* at 14 and 55-56.

Domestic natural gas resources are abundant, environmentally friendly, and affordable, and are sufficient to meet both the domestic consumption demand and any expected level of LNG exports (including all those proposed by CP2 LNG) in the long-term. Technological developments in the natural gas industry have led to significant increases in domestically-produced natural gas, especially with regard to non-conventional production of natural gas from onshore shale formations.

The tremendous growth in natural gas production in recent years is well-known. In 2005 – just before the shale gas renaissance – U.S. dry natural gas marketed production was just slightly more than 18 Tcf. In contrast, production exceeded 33.8 Tcf in 2019, a record high, before decreasing slightly in 2020 with the economic impacts of the pandemic (while still remaining in excess of 33.4 Tcf, more than any other prior year). 46

The latest EIA data and projections show U.S. natural gas production continuing to increase going forward. In its most recent long-term production projections, the reference case in EIA's *Annual Energy Outlook 2021* ("AEO 2021") projects that total U.S. dry natural gas production will increase to 42.99 Tcf in 2050, growing by an average amount of 0.8% per year from 2020-50. 47 EIA also projects increased natural gas consumption, but with growth at an annual rate of 0.5% – more slowly than the rate of growth in supply – consumption is projected to reach 35.39 Tcf in 2050. 48 The abundant reserves and growing surplus of natural gas production over consumption sets the stage for the U.S. to continue to be a major exporter of natural gas.

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46 *See* EIA Natural Gas Data, available at: http://www.eia.gov/dnav/ng/hist/n9070us2A.htm.

47 EIA, AEO 2021, at Table 13 *Natural Gas Supply, Disposition, and Prices (Reference Case)*, available at: https://www.eia.gov/outlooks/aeo/data/browser/#/?id=13-AEO2021&cases=ref2021&sourcekey=0.

48 *Id.*

At the same time that natural gas production has grown, proven reserves have dramatically increased as well. AEO 2021 shows total proved natural gas reserves of about 494.9 Tcf for 2019, compared to only around 213.4 Tcf in 2005, and of approximately 322.7 Tcf in 2012 when DOE/FE first seriously studied the implications of LNG exports. 49 Additional information on the country's available gas supply is provided in the biennial reports of the Potential Gas Committee ("PGC"). The most recent PGC report indicates that the United States possesses a total mean technically recoverable resource base of 3,368 Tcf as of year-end 2020. 50 This technically recoverable gas is in addition to the proved reserves estimated by EIA: combining the two values, the total U.S. future supply of natural gas stands at an all-time record 3,863 Tcf, which is well in excess of 100 years of supply at current consumption levels. Thus, over the time period that DOE/FE has been considering LNG exports, the conclusion that the U.S. has ample gas for both all domestic natural gas use and LNG export demand has only strengthened.

Furthermore, as a result of the increasing production and abundant reserves, domestic natural gas prices have remained very low as natural gas exports have increased – at least until very recently, as discussed further below. The U.S. became a net exporter of natural gas for the first time in almost 60 years in 2017, 51 and net gas exports have increased every year since

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49 *Id.* at Table 9, U.S. proved reserves of total natural gas, wet after lease separation, 2001–19.

50 The latest PGC report, along with a press release dated October 19, 2021 summarizing the report and announcing its release, as well as a related slide presentation, are available at: http://potentialgas.org/press-release. As detailed there, the latest PGC mean estimate of technically recoverable resources actually reflects a slight decrease (of 0.2%) compared to the estimate of two years earlier, breaking a trend of seven consecutive biennial reports calculating record-high resource evaluations. Looking back to 2004, for comparison, PGC estimated the technically recoverable resource base as less than 1000 Tcf. See the slides accompanying the 2021 press release (*id*.) at page 8.

51 EIA, Today in Energy, "The United States exported more natural gas than it imported in 2017" (Mar. 19, 2018), available at: https://www.eia.gov/todayinenergy/detail.php?id=35392#.

then. 52 Notably, however, actual LNG exports have not yet reached even the low-end of the quantities studied in the 2014-15 studies. 53 As the LNG exports have grown dramatically over the last several years, domestic natural gas prices remained very low, with EIA pricing data showing average Henry Hub prices per MMBtu of $3.10 in 2017, $3.27 in 2018, and $2.57 in 2019, 54 followed by the lowest prices in decades in 2020 with an average of just $2.05 for Henry Hub. 55

EIA's most recent long-term studies project low natural gas prices to continue throughout the period of the requested export authorization through 2050. Specifically, in the reference case of AEO 2021, EIA projected that Henry Hub prices will remain below $3.50 (in 2020 dollars per MMBtu) every year through 2033 and then below $3.70 every subsequent year through 2050. 56

Importantly, the projections in AEO 2021 are even more supportive of LNG exports than the AEO 2017 data that was relied upon in DOE/FE's 2018 study that recognized the public interest benefits of exports at unconstrained levels. 57 For example, for the year 2050, the AEO 2021 reference case projects domestic production of 42.99 Tcf while the comparable data in the AEO 2017 reference case projected production for that year of 40.28 Tcf. 58 The differences in

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52 *See* EIA, Today in Energy, "U.S. natural gas exports have been declining since April" (Sept. 15, 2020), available at: https://www.eia.gov/todayinenergy/detail.php?id=45116#.

53 *See* nn. 35-36, *supra*.

54 *See* EIA, Today in Energy, "Natural gas prices in 2019 were the lowest in the past three years" (Jan. 9, 2020), available at: https://www.eia.gov/todayinenergy/detail.php?id=42455.

55 EIA, Today in Energy, "In 2020, U.S. natural gas prices were the lowest in decades," (Jan. 7, 2021), available at: https://www.eia.gov/todayinenergy/detail.php?id=46376.

56 EIA, AEO 2021, at Table 13 *Natural Gas Supply, Disposition, and Prices (Reference Case)*, available at: https://www.eia.gov/outlooks/aeo/data/browser/#/?id=13-AEO2021&cases=ref2021&sourcekey=0.

57 Notably DOE/FE itself provided this same sort of comparison of the 2017 AEO to the then most recent 2019 AEO in its non-FTA authorization for Plaquemines LNG. *Venture Global Plaquemines LNG, LLC*, DOE/FE Order No. 4446 at 35.

58 Table 13 for AEO 2017 is available at: https://www.eia.gov/outlooks/aeo/data/browser/#/?id=13-AEO2017&cases=ref2017&sourcekey=0.

prices are even more dramatic, as the 2017 AEO projected a Henry Hub price for 2050 of $5.83 per MMBtu in 2016 dollars, compared to the 2021 AEO projection $3.69 in 2020 dollars. 59 In fact, the 2017 AEO projected Henry Hub prices in excess of $4.00 every year from 2020 to 2050, whereas the 2021 AEO shows prices below that level every year. 60

Domestic natural gas prices have, however, increased significantly in recent months as a result of a concatenation of supply and demand factors influenced by the pandemic and the economic recovery associated with the emergence from it. The recent domestic natural gas prices have been much lower than natural gas prices elsewhere in the world, reinforcing the significant market demand for U.S. LNG. Furthermore, the domestic prices are projected to decrease after this coming winter. Specifically, EIA's Short-Term Energy Outlook released on November 9, 2021, projects higher prices through the winter but then decreasing as 2022 continues, resulting in an average Henry Hub price of $3.93 per MMBtu for the year 2022. 61 For comparison, the AEO 2017 – which DOE/FE focused on in its 2018 study – had actually projected a 2020 Henry Hub price of $4.51 (in 2016 dollars) and showed prices over $4 every year continuing through 2050. 62 The current EIA longer-term projections, again, do not expect Henry Hub prices over $4 in any of those years. 63 Thus, the latest available EIA pricing data provides even more support of LNG exports than the data studied in 2018, and continues to demonstrate that arguments against LNG exports based on misplaced concern about insufficient supplies or domestic natural gas prices are baseless.

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59 Compare the versions of Table 13, cited in the prior to notes, from the two different studies.

60 *Id.*

61 EIA, Short-Term Energy Outlook, Natural Gas Forecasts (Nov. 9, 2021), available (until the next release) at: https://www.eia.gov/outlooks/steo/.

62 *See* n. 58, *supra*.

63 *See* n. 56, *supra*.

In the Term Extension Policy, DOE/FE explained:

> In evaluating the public interest, DOE takes seriously the potential economic impacts of higher natural gas prices. In addition to commissioning five economic studies since 2011 to examine these issues (most recently the 2018 LNG Export Study), DOE has taken into account factors that could mitigate price impacts, such as the current oversupply situation and data indicating that the natural gas industry would increase natural gas supply in response to increasing demand from the export markets. 64

and

> [T]he 2018 LNG Export 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.*' The 2018 LNG Export Study also found that, because available natural gas resources have the largest impact on natural gas prices, 'U.S. natural gas prices are far more dependent on available resources and technologies to extract available resources than on U.S. policies surrounding LNG exports.' 65

Recent events provide no cause to question the validity of these conclusions.

As DOE/FE has repeatedly and consistently found in its many long-term export authorizations, there are adequate natural gas resources in the U.S. to meet demand associated with LNG exports as well as all domestic needs. Accordingly, granting the export authorization requested by CP2 LNG to export LNG to non-FTA nations is unlikely to affect the availability of natural gas to domestic consumers or to have negative economic effects. To the contrary, the proposed LNG exports will provide net economic benefits to the United States, regardless of the amount of LNG that is exported by others.

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64 Term Extension Policy Statement, 85 Fed. Reg. at 52,243.

65 *Id.* at 52,244 (emphasis in original, and internal citations to the 2018 LNG Export Study omitted).

2. CP2 LNG's Exports Will Provide Macro-Economic Benefits

Certain other applicants for LNG export authorizations have offered studies detailing projected economic benefits of their projects. Of course, the same sorts of benefits similarly will result from the Project. CP2 LNG will not further detail the general economic benefits of LNG exports, in light of the significant consideration of this issue by DOE/FE as part of its consideration of the general issue of the public interest in LNG exports. As explained above, DOE/FE has commissioned a series of studies to evaluate the macro-economic effect of LNG exports and all have included that LNG exports result in net economic benefits, as recognized in DOE/FE's many export authorization orders.

These general conclusions about the benefits of LNG exports equally apply to CP2 LNG's specific Project. Therefore, the macroeconomic benefits associated with the Project further demonstrate that it is consistent with, and indeed will promote, the public interest. In particular, CP2 LNG's Project will benefit the economy by creating jobs, reducing the nation's trade deficit, and increasing tax revenues.

During the peak of construction at the Terminal Facilities for each of the two phases, an estimated 2,200 onsite workers will be required for a period of about 6 months, though the number of workers present at various stages of construction will vary significantly. Initial mobilization will involve about 100 onsite workers for both Phases 1 and 2. As Terminal Facilities construction activities increase, the workforce is expected to average just over 1,400 workers for each phase, increasing during construction and decreasing as the facilities near completion and pre-commissioning, commissioning, and plant startup take place. Approximately 125 permanent workers will be employed at the Terminal Facilities after completion of Phase 1, and 250 permanent workers after completion of Phase 2. The related

pipeline construction will require an average of 950 workers for Phase 1 for a period of 24 months with the number of workers present varying depending upon the stage of construction. The addition of more compression in Phase 2 will require an estimated peak workforce of 125 and average of 80 workers. Following construction, the operation of the Project will provide stable and long-term employment and economic stimulus to the local and regional areas, which will further stimulate state and regional economies.

In addition to jobs, LNG exports also will help realign the U.S. balance of trade. The U.S. has experienced large international balance of trade deficits for many years. The trade deficit increased from $576.9 billion in 2019 (2.7% of U.S. gross domestic product) to $681.7 billion in 2020 (3% of GDP), as exports decreased more than imports. 66 The trade deficit has continued to grow significantly during the course of 2021, totaling $653.8 million through just the first 9 months of the year, which if that pace continues would result in an annual total for 2021 of over $870 million. Energy trades, including the growing exports of LNG, have helped to reduce the overall trade deficit. 67 Authorizing the export of LNG by CP2 LNG will help redress this imbalance further by allowing the U.S. to export more of its abundant and valuable natural gas. 68

66 U.S. Bureau of Economic Analysis ("BEA") News Release, "2020 Trade Gap is $681.7 Billion" (Mar. 5, 2021), available at: https://www.bea.gov/news/blog/2021-03-05/2020-trade-gap-6817-billion.

67 *See* EIA, Today in Energy, "U.S. energy trade lowers the overall 2020 U.S. trade deficit for the first time on record" (Sept. 22, 2021), available at: https://www.eia.gov/todayinenergy/detail.php?id=49656.

68 BEA issues monthly press releases showing the trade deficit each month. *See. e.g.,* U.S. Bureau of Economic Analysis News Release, "September 2021 Trade Gap is $80.9 Billion" (Nov. 4, 2021), available at: https://www.bea.gov/news/blog/2021-11-04/september-2021-trade-gap-809-billion. The total year-to-date for 2021 is reflects a computation of the monthly amount from each monthly press release.

3. LNG Exports Provide Geopolitical Benefits

In considering the international consequences of LNG exports in its prior orders, DOE/FE has frequently explained: "[t]o the extent U.S. exports can diversify global LNG supplies and increase the volumes of LNG available globally, it will improve energy security for many U.S. allies and trading partners. As such… authorizing [LNG] 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." 69 Similarly, in the Term Extension Policy Statement, DOE/FE recognized the international consequences of its LNG export decisions and explained: "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." 70

DOE officials have often heralded these benefits when authorizing long-term, non-FTA export authorizations, including for Calcasieu Pass and Plaquemines LNG. 71 Export of LNG from the U.S. has the potential to fundamentally alter the world's energy and economic map, and it is already beginning to do so. Increased access to U.S. natural gas not only provides new supplies to U.S. allies and trade partners around the world, but also positions the country as an alternative to traditional suppliers in Russia and the Middle East. Venture Global is actively advancing these developments with contracting from its Calcasieu Pass and Plaquemines LNG

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69 *E.g., Venture Global Calcasieu Pass, LLC*, DOE/FE Order No. 4346 at 62; *Venture Global Plaquemines LNG, LLC*, DOE/FE Order No. 4446 at 36. Identical or very similar statements (relying on the then-current DOE/FE macroeconomic studies) are included in numerous other DOE orders.

70 Term Extension Policy Statement, 85 Fed. Reg. at 52,244.

71 *See* DOE Press Release, "Department of Energy Authorizes LNG Exports from Venture Global Calcasieu Pass Project," Mar. 5, 2019, available at: https://www.energy.gov/articles/department-energy-authorizes-lng-exports-venture-global-calcasieu-pass-project; DOE Press Release, "Department of Energy Authorizes LNG Exports from the Venture Global Plaquemines Project, Oct. 16, 2019, available at: https://www.energy.gov/articles/department-energy-authorizes-lng-exports-venture-global-plaquemines-project

projects, and export authorization is needed for CP2 LNG to contribute further to the geopolitical benefits of U.S. LNG exports.

4. LNG Exports Provide Environmental Benefits

Exporting natural gas also will benefit the United States internationally because it will encourage the use of more environmentally friendly natural gas for the generation of electricity as opposed to coal, diesel, or heavy fuel oil used in foreign countries. The increased use in the U.S. of natural gas for power generation in place of coal in recent years has resulted in decreased carbon dioxide (CO_2) emissions. Between 2005 and 2019, total U.S. electricity generation increased by almost 2% while related CO_2 emissions fell by 33%: while some of that reduction resulted from dramatically increased use of renewable generation, much of it has resulted from the substitution of coal with environmentally superior natural gas for electric generation. 72 LNG exports from the U.S. may similarly substitute for coal, or fuel oil, usage overseas, thereby sharing the environmental benefits of natural gas with other nations in the quest to reduce global greenhouse gas emissions.

A 2019 study by the International Energy Agency ("IEA"), titled *The Role of Gas in Today's Energy Transition*, observed that "[s]ince 2010, coal-to-gas switching has saved around 500 million tonnes of CO_2 - an effect equivalent to putting an extra 200 million [electric vehicles] running on zero-carbon electricity on the road over the same period." 73 The IEA

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72 EIA, "U.S. Energy-Related Carbon Dioxide Emissions," released Sept. 30, 2020, available at: https://www.eia.gov/environment/emissions/carbon/#:~:text=EIA%20calculated%20that%20between%202005,carbon%20generation%20totaled%205%2C475%20MMmt.&text=Between%202005%20and%202019%2C%20total,CO2%20emissions%20fell%20by%2033%25; *see also* EIA, Today in Energy, "U.S. energy-related CO_2 emissions expected to rise slightly in 2018, remain flat in 2019" (Feb. 8, 2018) ("The underlying energy consumption trends that resulted in these changes—mainly because more electricity has been generated from natural gas than from other fossil fuels—have helped to lower the U.S. emissions level since 2005 because natural gas is a less carbon-intensive fuel than either coal or petroleum."), available at: https://www.eia.gov/todayinenergy/detail.php?id=34872.

73 IEA, *The Role of Gas in Today's Energy Transition,* July 2019, summary of key findings available at: https://www.iea.org/reports/the-role-of-gas-in-todays-energy-transitions.

Report explained that "While there is a wide variation across different sources of coal and gas, an estimated 98% of gas consumed today has a lower lifecycle emissions intensity than coal when used for power or heat. This analysis takes into account both CO_2 and methane emissions and shows that, on average, coal-to-gas switching reduces emissions by 50% when producing electricity and by 33% when providing heat." 74 Furthermore, IEA concluded that "[t]here is potential in today's power sector to reduce up to 1.2 gigatonnes of CO2 emissions by switching from coal to existing gas-fired plants." 75

DOE, with its National Energy Technologies Laboratory, prepared a study in 2014 of the Life Cycle Greenhouse Gas Perspective on Exporting Liquefied Natural Gas from the United States to better inform the public about the environmental effects of increased LNG exports. The study compared the GHG emissions from power generation in Europe and Asia using exported U.S. LNG with the GHG emissions from power generated using local hydrocarbon resources. 76 DOE/FE has held that "[t]he conclusions of the [2014 GHG Study], 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….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." 77

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74 *Id.*

75 *Id.*

76 DOE, DOE/NETL-2014/1649, *Life Cycle Greenhouse Gas Perspective on Exporting Liquefied Natural Gas from the United States* (May 14, 2014), (hereinafter, the "2014 GHG Study"), available at: http://www.energy.gov/sites/prod/files/2014/05/f16/Life%20Cycle%20GHG%20Perspective%20Report.pdf.

77 *E.g., Venture Global Calcasieu Pass*, *LLC*, DOE/FE Order No. 4346 at 69; *Venture Global Plaquemines LNG, LLC*, DOE/FE Order No. 4446 at 41. Identical or very similar statements are included in numerous other DOE orders.

On September 19, 2019, DOE/FE announced the availability for public review and comment of a new report updating the 2014 GHG Study. 78 The purpose of the update was to provide additional information to the public and to inform DOE's LNG export decisions with information about the life cycle GHG emissions of U.S. LNG exports for use in electric power generation. As with the 2014 GHG Study, the update compares life cycle GHG emissions from U.S. LNG exports to regional coal and other imported natural gas for electric power generation in Europe and Asia, while including more recent information. The results show that for all 100-year time horizon scenarios, the generation of power from U.S. natural gas has lower life cycle GHG emissions than power generation from regional coal, but the interpretation of the 20-year natural gas scenarios is more complex and uncertain. DOE/FE issued responses to comments on the 2019 GHG Study on January 2, 2020. 79 In its responses, DOE/FE expressly concluded that "natural gas is one part of an environmentally preferable global energy portfolio" and reiterated that the 2019 GHG Study, like the studies before it, "supports the proposition that exports of LNG from the lower-48 states will not be inconsistent with the public interest." 80

DOE/FE returned to the topic of the environmental impacts of LNG exports, and in particular, the GHG topic, in the Term Extension Policy Statement. After explaining that the 2019 GHG Study supports the issuance of export authorizations, the Policy Statement adds:

> foreign demand for U.S. natural gas has increased as countries in the Caribbean, Central America, and South America seek to import cleaner sources of energy. DOE further observes that many of these countries are currently dependent on diesel and/or fuel oil for their generation needs. These energy needs are challenging from

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78 DOE, DOE/NETL-2019/2041, *Life Cycle Greenhouse Gas Perspective on Exporting Liquefied Natural Gas from the United States: 2019 Update* (Sept. 12, 2019), available at: https://fossil.energy.gov/app/docketindex/docket/index/21.

79 DOE, Life Cycle Greenhouse Gas Perspective on Exporting Liquefied Natural Gas From the United States: 2019 Update—Responses to Comments, 85 Fed. Reg. 72 (Jan. 2, 2020).

80 *Id.,* 85 Fed. Reg. at 86.

> both a cost- and emissions-perspective. By importing LNG from the United States, these countries will have access to a more reliable, cost-effective supply of energy that also has emissions benefits over current sources. At the same time, the United States will facilitate stronger relationships with these importing countries, while promoting U.S. leadership in the global energy market….
>
> [I]mports of U.S. LNG can work in concert with the development of renewable generation both in the United States and in importing countries. Imported natural gas can provide reliable standby energy supply immediately, while renewable development is occurring. Imported LNG also can provide continued reliability to enhance solar or other renewable sources once they are developed. For these reasons, authorization holders…may provide indirect benefits to the use of renewable energy in importing countries. 81

IV. REVIEW OF PROJECT ENVIRONMENTAL IMPACTS

Consistent with the NEPA requirements and related regulations and the established approach with similar LNG export projects, FERC will act as the lead agency for the environmental review for the siting, construction and operation of the Project, with DOE participating in the NEPA review process as a cooperating agency. As previously explained, CP2 LNG has completed the FERC Pre-Filing process for its Project and is filing its formal FERC application on the same day as this Application.

As required by NEPA and FERC regulations, CP2 LNG will design and construct its Project to minimize or mitigate adverse environmental impacts. In addition, as previously explained, CP2 LNG proposes to add facilities at the Terminal to capture and sequester approximately 500,000 tons of CO_2 emissions per year that will be captured from operations and injected deep into subsurface saline aquifers for permanent storage to mitigate the overall GHG emissions of the Project, as well as serve market demand for LNG with a lower carbon intensity.

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81 Term Extension Policy Statement, 85 Fed. Reg. at 52,245-46 (internal footnotes omitted).

V. APPENDICES

The following appendices are included as part of this Application:

Appendix A: Verification

Appendix B: Opinion of Counsel

Appendix C: Location and Site Plan

VI. CONCLUSION

WHEREFORE, for all the foregoing reasons, CP2 LNG respectfully requests that DOE/FE authorize it to engage in long-term, multi-contract exports (as well as short-term exports) of domestically produced LNG of up to the equivalent of 1,446 Bcf of natural gas per year for the period through December 31, 2050. CP2 LNG requests the issuance of two separate orders authorizing the LNG exports requested herein: (1st) to any country with which the United States currently or in the future has an FTA requiring national treatment for trade in natural gas and (2nd) to any country with which the United States does not have an FTA requiring national treatment for trade in natural gas and with which trade is not prohibited by United States law or policy.

Respectfully submitted,

/s/ J. Patrick Nevins

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Dated: December 2, 2021

Appendix A

VERIFICATION

STATE OF VIRGINIA)
) SS:
CITY OF ARLINGTON)

Keith Larson, being first duly sworn on his oath deposes and says: that he is the General Counsel of Venture Global LNG, Inc., and an authorized representative of Venture Global CP2 LNG, LLC; that he is duly authorized to make this Verification; that he has read the foregoing submittal and is familiar with the contests thereof; that all the statements and matters contained therein are true and correct to the best of his information, knowledge and belief; and that he is authorized to execute and file the same with the U.S. Department of Energy.

Keith Larson
General Counsel

Sworn to and subscribed before me this 2nd day of December, 2021.

Notary Public
In and For said City

My Commission Expires:
6/30/22

ANNETTE B. THRASHER
NOTARY PUBLIC
REG. #7756142
COMMONWEALTH OF VIRGINIA
MY COMMISSION EXPIRES JUNE 30, 2022

Appendix B

OPINION OF COUNSEL

Opinion of Counsel

This opinion is submitted pursuant to 10 C.F.R. 590.202(c) of the Department of Energy administrative procedures. The undersigned is General Counsel to Venture Global LNG, Inc. and an authorized representative of Venture Global CP2 LNG, LLC.

I have reviewed the corporate documents of Venture Global CP2 LNG, LLC, and it is my opinion that the proposed export of natural gas is within the company's corporate powers.

Respectfully submitted.

Keith Larson
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Suite 1500
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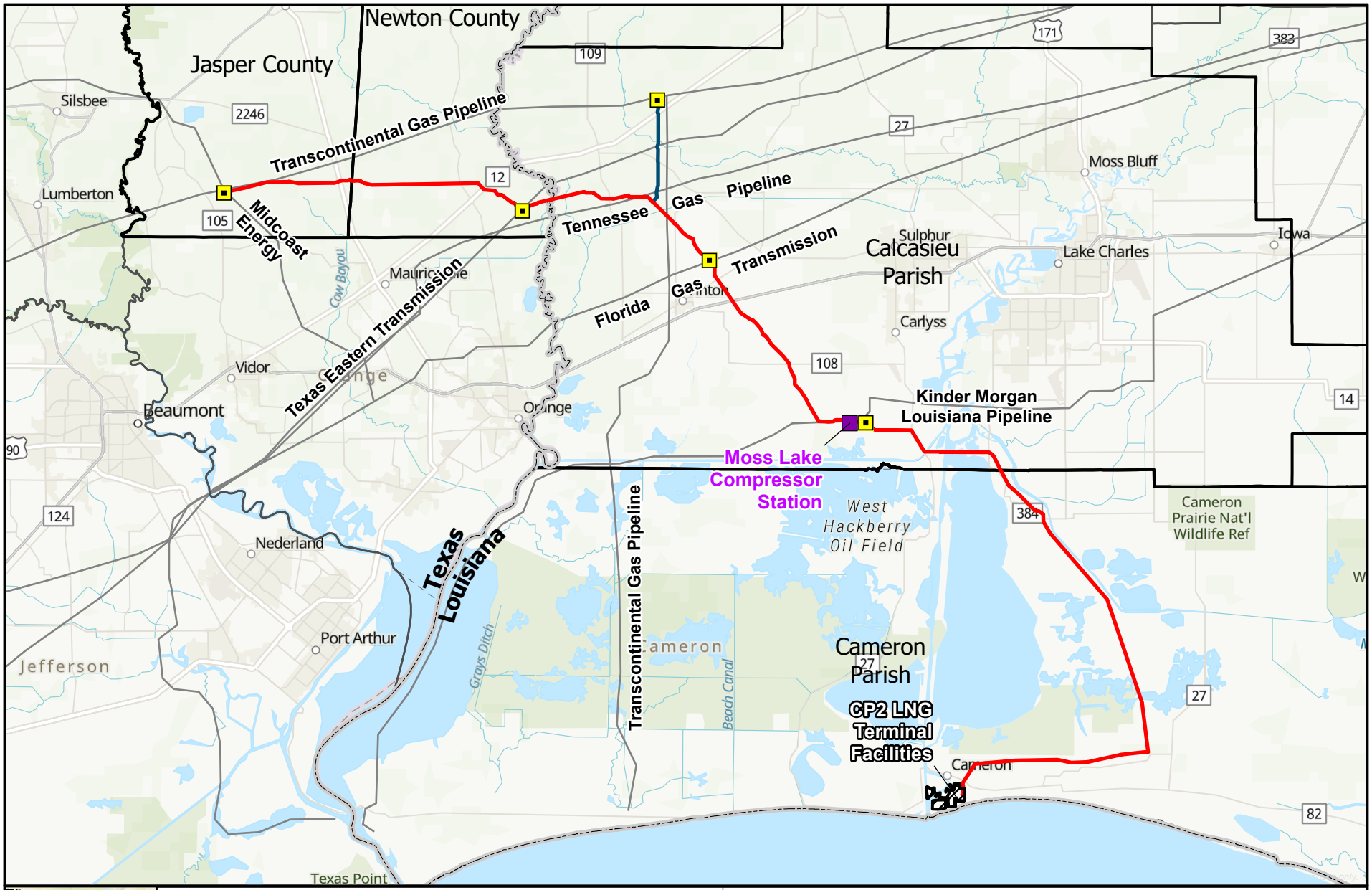
Telephone: (202) 759-6736
klarson@ventureglobalIng.com

Dated: December 2, 2021

Appendix C

LOCATION AND SITE PLAN



Terminal Exhibit G / Pipeline Exhibit F

CP2 LNG and CP Express Project

Texas and Louisiana

CP EXPRESS

CP2 LNG

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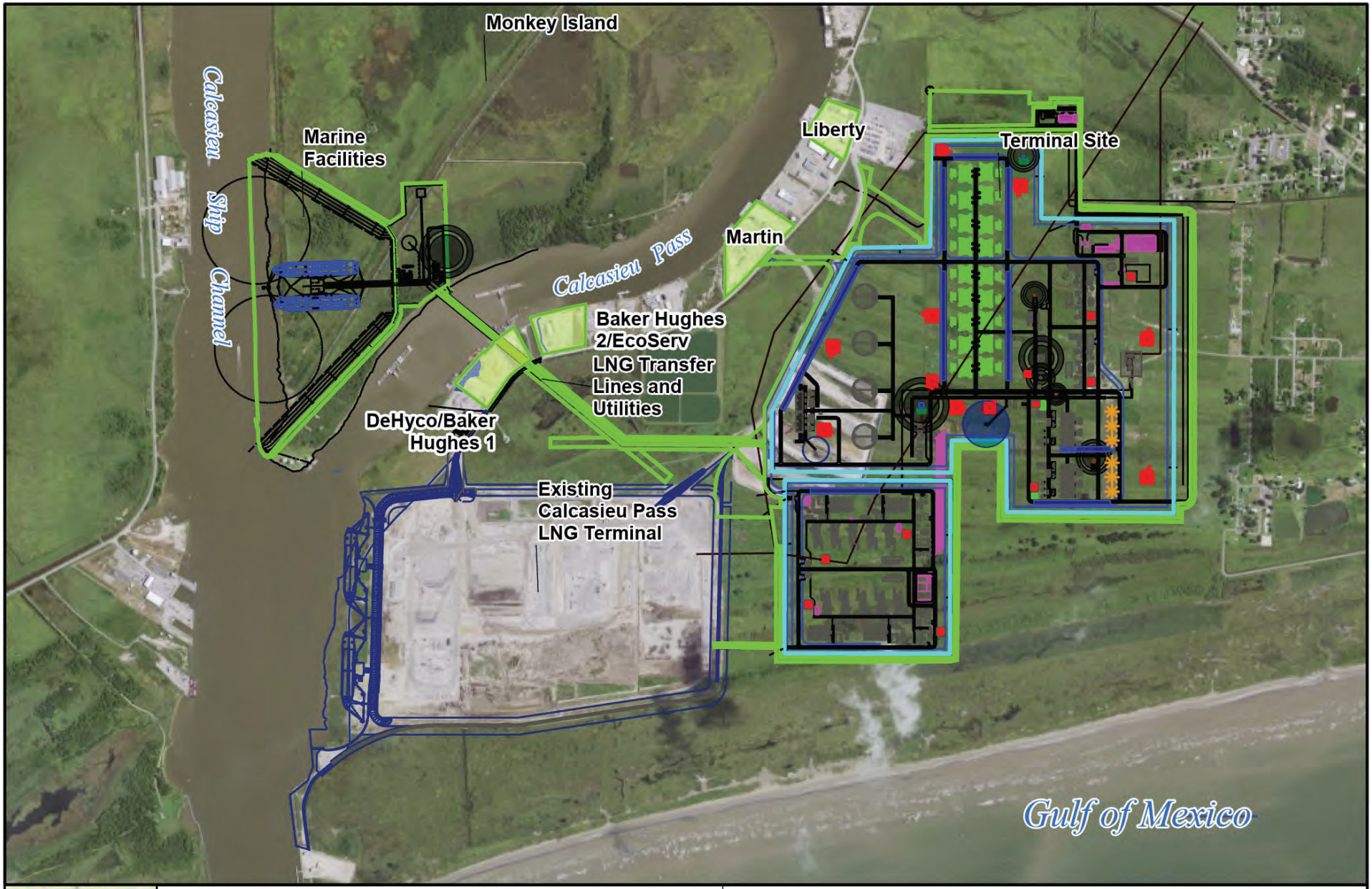

Figure 1.3-1
Proposed Terminal Facilities
CP2 LNG and CP Express Project
Cameron Parish, Louisiana

CP EXPRESS

CP2 LNG

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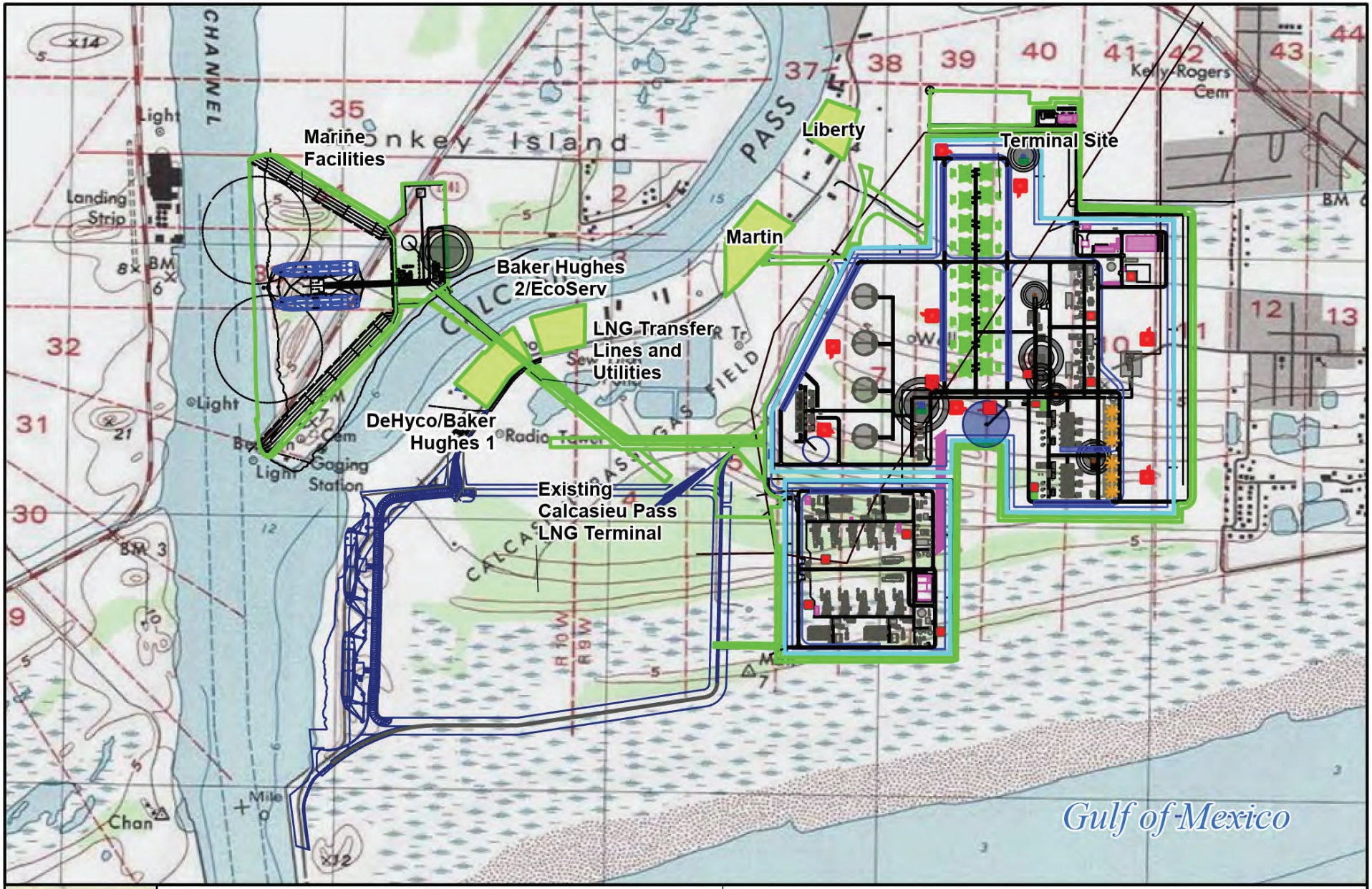

Figure 1.3-2
Proposed Terminal Facilities
CP2 LNG and CP Express Project
Cameron Parish, Louisiana

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