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March 20, 2020

SUBMITTED ELECTRONICALLY TO FERGAS@HQ.DOE.GOV

Ms. Larine A. Moore
US Department of Energy
Natural Gas Regulation
FE-34 – Room 3E-042
1000 Independence Avenue, S.W.
Washington, DC 20585

Re: ***Epcilon LNG LLC,*** **FE Docket No. 20-31 -LNG**
Application for Long-Term Authorization to Export Liquefied Natural Gas to Both FTA and Non-FTA Countries

Dear Ms. Moore:

Please find attached for filing the application of Epcilon LNG LLC ("Epcilon") for Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas to Free Trade Agreement and Non-Free Trade Agreement Nations. An original and three copies of the Application are being mailed to you via overnight delivery at the above address, as described below.

The hard copies of the Application include paper copies of (a) confidential documentation on site control (Attachment 3) and (b) a confidential Project Environmental Impact Assessment (Attachment 4), both of which are submitted under seal as described below, and (c) a check in the amount of $50.00 made payable to the US Department of Energy. The electronic copy of the Application, submitted via e-mail includes a photocopy of the $50.00 check, but does not include electronic copies Attachments 3 and 4. Epcilon requests that Attachments 3 and 4 to the Application be afforded confidential treatment pursuant to 10 C.F.R. § 590.202(e).

Please acknowledge receipt of this Application by email to nicolas.mctyre@tklaw.com. Should you have any questions, please do not hesitate to contact me at (512) 469-6146.

Respectfully submitted,

/s/Nicolas A. McTyre
Nicolas A. McTyre

Counsel to Epcilon LNG LLC

UNITED STATES OF AMERICA
DEPARTMENT OF ENERGY
OFFICE OF FOSSIL ENERGY

Epcilon LNG LLC	**)**	**FE Docket No. 20-31-LNG**

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

March 20, 2020

Communications regarding this application should be directed to:

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UNITED STATES OF AMERICA
DEPARTMENT OF ENERGY
OFFICE OF FOSSIL ENERGY

Epcilon LNG LLC	**)**	**FE Docket No. 20-31-LNG**

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

Epcilon LNG LLC, a Texas limited liability company ("Epcilon") hereby requests under this "Application," pursuant to Section 3 of the Natural Gas Act of 1938, as amended ("NGA")[1] and Part 590 of the Department of Energy's regulations,[2] that the DOE Office of Fossil Energy ("DOE/FE") grant Epcilon, on its own behalf and as agent for others, long-term, multi-contract authorization to export domestically produced natural gas to Mexico and to convert such natural gas to liquefied natural gas ("LNG") for re-export to both free trade agreement ("FTA") and non-free trade agreement ("non-FTA") nations, and for consumption in Mexico. Epcilon seeks this authorization in an amount of up to 1.083 Bcf/day or approximately 395 Bcf/year (7.8 million tonnes per annum ("MTPA")) for a period of twenty (20) years, commencing on the earlier of the date of the first export or seven years from the date of the final order granting export authorization.

Epcilon is filing this application in connection with development of the AMIGO LNG production and storage facility in the State of Sonora, Mexico (the "LNG Facility"), which will be owned and operated by Epcilon's affiliate,[3] AMIGO LNG S.A. Once constructed, the LNG Facility will be capable of receiving, processing, and liquefying natural gas, storing the resulting

[1] 15 U.S.C. § 717b (2018).

[2] 10 C.F.R. Part 590 (2017).

[3] *See* **Attachment 2** included herein.

LNG, and loading LNG onto oceangoing LNG carriers for re-export to other countries and for delivery to markets elsewhere in Mexico.

Epcilon intends to aggregate most and possibly all of the LNG Facility's natural gas feedstock during the twenty-year offtake life-cycle of the LNG Facility. As part of this aggregation, Epcilon intends to hold title to most and possibly all of the exported gas, but also may act as the export agent for persons delivering gas sourced from the United States owned and delivered by such persons to the LNG Facility by third parties. During its initial years of operation, the LNG Facility will rely on natural gas feedstock sourced mostly from supplies imported into Mexico from the United States, but may also process some natural gas produced from Mexican oil and gas wells. Epcilon expects to begin exporting commissioning natural gas to the LNG Facility in September 2022 for pre-commercial testing, and expects to file a short-term export authorization with DOE/FE in connection with exporting such commissioning feedstock to Mexico. Epcilon expects to export natural gas for re-export as LNG in May 2023 when the LNG Facility is expected to begin full commercial service. During this initial phase the LNG Facility is expect to produce approximately 3.9 MTPA of LNG for export in connection with its First LNG Train ("Train 1"). On or about May 2026, LNG Facility is expected to produce an additional 3.9 MTPA of LNG for export in connection with its Second LNG Train ("Train 2") expansion.

The LNG Facility will generate substantial benefits for both the United States and for Mexico. Exports of LNG from the LNG Facility will benefit U.S. natural gas producers, which through the LNG Facility will gain competitively advantaged access to new markets for the large quantities of low cost natural gas which are readily available in, and in some cases trapped within, the Permian Basin and the Eagle Ford Formation, as well as the San Juan Basin, Barnett Shale, and other producing basins in the United States. Given its location in a protected area on the Gulf

of California on the west coast of North America, the LNG Facility will be a low cost source of LNG for markets in Asia, the Pacific, and Central and South America, and hence will offer U.S. gas supplies a durable competitive advantage in these key LNG markets. The availability of LNG from the LNG Facility will also benefit Mexican markets for LNG, including markets that are remote from Mexico's national gas pipeline grid but can be served through waterborne or truck-based LNG deliveries. Construction of the LNG Facility will benefit both U.S. and Mexican providers of design and construction services and of construction materials and specialized equipment, as well as construction workers to be drawn from both U.S. and Mexican labor pools. The LNG Facility's operation will provide needed employment to residents of the area around Guaymas, in Sonora State, Mexico. Exports of natural gas for liquefaction at the LNG Facility will directly reduce the United States' trade deficit with Mexico.

Accordingly, the LNG exports Epcilon seeks authorization to undertake are fully consistent with the public interest from both the U.S. and Mexican perspectives. DOE/FE should conclude as much, and should determine that, as NGA Section 3 requires, the proposed exports are not inconsistent with the public interest.

I. APPLICANT DESCRIPTION

The exact legal name of Epcilon is Epcilon LNG LLC, a Texas limited-liability company. Epcilon LNG LLC is an affiliate of LNG Alliance Pte. Ltd., a Singapore private limited company, and LNG Alliance Pte. Ltd. is the project development company for the LNG Facility.

The LNG Facility will be operated by AMIGO LNG S.A., Mexican *sociedad anonima*, through its subsidiaries AMIGO FLNG Barge Facility S.A., AMIGO LNG Storage S.A., AMIGO Maritime Facilities S.A., and AMIGO LNG Operations S.A., all of which are Mexican *sociedad anonima*. Epcilon is affiliated through common ownership with AMIGO LNG S.A. An organizational chart detailing these various relationships is included herein as **Attachment 2**.

II. COMMUNICATIONS AND CORRESPONDENCE

Communications regarding this application should be directed to:

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III. PROJECT DESCRIPTION

The LNG Facility's general location is presented in the AMIGO LNG Project Overview, included as **Attachment 1**, at pages 4 and 6.

The LNG Facility will be located in Guaymas in the State of Sonora, Mexico, at a coastal site situated on the Gulf of California approximately 250 miles south of the United States-Mexico border at Nogales, Arizona. Existing Mexican natural gas pipelines with connectivity to the United States gas transmission grid will supply gas to the LNG Facility site to be located at the west end of the Isla Barra Morra Ingles peninsula in Guaymas (see **Attachment 3** at page 2). In connection with siting the LNG Facility, AMIGO LNG S.A. is negotiating rights-of-way with the Port Authority of Guaymas ("the Port Authority), which possesses the land and maritime rights (under a long-term lease with the Mexican government) applicable to developing the onshore and nearshore portions of the LNG Facility site (see **Attachment 3** at page 10).

As described in **Attachment 3** at pages 2-3, the onshore facilities will primarily include: (a) two full-containment LNG storage tanks with usable capacity of 230,000m^3 (for the first tank) and 170,000m^3 (for the second tank), (b) an LNG impoundment basin, (c) four LNG storage tank

send-out pumps (and one LNG recirculation pump per storage tank), and (d) approximately 5,000 feet of aboveground cryogenic pipeline between the tanks, LNG pumps, and two LNG loading docks including facilities with truck loading capability. A gas pipeline lateral will connect between the onshore gas spur line and the FLNG barges. Nearshore facilities will include: (a) two nearshore liquefaction barges ("FLNG Barges") of approximately 3.9 MTPA capacity each to be installed sequentially in two trains (as described below), (b) a marine wharf designed to berth Q-Flex-sized vessels featuring a 15-meter deep navigation channel access, and (c) a small-scale jetty to berth small-scale-sized LNG vessels with 5,000 m^3 to 15,000m^3 capacity. The FLNG Barges are to be constructed in a shipyard in Asia and delivered to the LNG Facility's nearshore site for connectivity to the applicable onshore facilities.

AMIGO LNG S.A. is in the process of securing the requisite environmental and construction permits that will authorize the construction and operation of facilities at the project site and exports of LNG from the LNG Facility, which includes permits and authorizations for pre-construction, construction, zoning, gas and LNG import/export from the applicable Mexican governmental agencies.[4] The Port Authority has already submitted an environmental impact assessment for the LNG Facility, which is in the process of being updated (attached **Attachment 4** at 2). The applicable permits will be held by Epcilon's affiliate, AMIGO LNG, S.A.

The LNG Facility will be constructed in phases with the initial phase commencing in 2020. The initial Train 1 phase of the project will produce approximately 3.9 MTPA of LNG capacity.

[4] As more fully described in **Attachment 2**, Epcilon's affiliate AMIGO LNG, S.A. and/or the Port Authority are in the process of applying for the following permits and authorizations from the applicable Mexican governmental authorities for the LNG Facility: (1) a ZOFEMAT (Zona Federal Maritimo Terrestre, translated as a Federal Maritime Terrestrial Zone) Concession Permit, (2) Environmental Impact Authorization from the SEMARNAT (Secretaria de Medio Ambiente y Recursos Naturals de Mexico, translated as the Mexican Secretariat of Environmental and Natural Resources), (3) an LNG Export Permit from the SENER (Secretaria de Energia de Mexico, translated as the Mexican Secretariat of Energy), and (4) LNG Liquefaction and Storage Permits from the CRE (Comision Reguladora de Energia de Mexico, translated as the Mexican Energy Regulatory Commission).

The LNG Facility will then be scaled up to 7.8 MTPA with an additional 3.9 MTPA of LNG capacity with Train 2. The resulting LNG will be loaded onto oceangoing LNG carriers for delivery to markets in Mexico and for re-export to other nations. For LNG transported within Mexico the LNG will be transported by truck or small vessel to markets within Mexico, which as described in more detail **Section IV** of this application. For LNG re-exported to other nations, the LNG Facility is particularly suited to re-export to South Korean, Japanese, Indian, and Indonesian markets (each of which can be supplied by vessel from the LNG Facility without having to transit the Panama Canal), as well as markets in South America. This subject is discussed in **Attachment 1** at pages 20 through 21.

Epcilon plans to obtain the natural gas it will export and re-export as LNG from major natural gas producers and marketers, and will transport such gas through an integrated network of gas transmission pipelines across Texas and Mexico (see **Attachment 1** at page 17 and 20). Epcilon plans to initially receive natural gas produced primarily in the United States and exported to Mexico through an existing gas transmission pipeline network in the United States and Mexico. This primary routing includes transportation of gas sourced from the Waha Hub near Fort Stockton, Texas on the Trans-Pecos Pipeline, operated by Trans-Pecos Pipeline, LLC, to the United States-Mexico border near Presidio, Texas. From Presidio, Texas the gas will flow to the interconnected El Ensino Pipeline, operated by Infraestructura Energética Nova, S.A.B. de C.V. ("Ienova"). The gas will flow from the El Ensino Pipeline to the interconnected Topolobampo Pipeline operated by TC Energy Corporation. The gas will continue on the Topolobampo Pipeline into the interconnected Guaymas Pipeline, operated by Ienova at the El Oro interconnection. The LNG Facility will be served by a short lateral off of the Guaymas Pipeline near the Port of Guaymas project site. Presently, Epcilon is in initial stages of negotiating transportation

arrangements with the various pipelines on the primary routing and expects to initially secure up to 0.542 Bcf/day, well before commencement of the Train 1 commercial service in May 2023. This will expand to 1.083 Bcf/day before commencement of the Train 2 commercial service in May 2026. The primary routing and possible alternate routings (from Waha Hub through Arizona and into Mexico) by which natural gas may be transported to the LNG Facility are shown in **Attachment 1**, at page 12. With more than 5 Bcf/d of pipeline capacity to be available to export natural gas from West Texas to Mexico by the end of 2019,[5] there is ample available cross-border capacity to support delivery of the quantities of natural gas that Epcilon plans to procure for the LNG Facility.

IV. AUTHORIZATION REQUESTED

Epcilon seeks authorization, on its own behalf and as agent for others, to export natural gas to Mexico for processing into LNG at the LNG Facility, and to re-export quantities of LNG that are not sold into Mexican markets to (1) any country with which the United States currently has, or in the future may enter into, a free trade agreement requiring national treatment for trade in natural gas; and (2) any country with which the United States does not have a free trade agreement requiring national treatment for trade in natural gas and with which trade is not prohibited by United States law or policy. It seeks this authorization for a period of twenty (20) years, in an amount of up to 1.083 Bcf/day or approximately 395 Bcf/year (7.8 MTPA). Epcilon requests that this authorization be effective on the earlier of the date of the first export or seven years from the date of the final order granting export authorization.

[5] U.S. Energy Information Administration, *United States has been a net exporter of natural gas for more than 12 consecutive months*, available at https://www.eia.gov/todayinenergy/detail.php?id=39312 (last visited October 7, 2019).

Construction of the LNG Facility is expected to begin in 2020 and it is expected to go into full commercial service and commence exports by May 2023.

Epcilon requests authorization to export natural gas and LNG on its own behalf and as an agent for persons who may wish to procure natural gas from their own sources and have that gas liquefied in the LNG Facility for re-export outside of Mexico or for delivery into Mexican markets. Epcilon's agreements will require that the parties conduct their transactions in a manner consistent with applicable Mexican laws and regulations. Additionally, to ensure that all natural gas exports are permitted and lawful under U.S. law and policies, Epcilon will comply with all DOE/FE requirements applicable to exporters and agents. As required by DOE precedent, Epcilon will register with DOE/FE each LNG titleholder for which Epcilon seeks to export LNG, consistent with DOE/FE Order No. 2913.[6] Epcilon will provide DOE/FE with registration materials that include an acknowledgement and agreement by the LNG titleholder to supply information necessary to permit Epcilon to register that person or entity with DOE/FE in accordance with DOE/FE requirements. These materials will document (i) the Registrant's agreement to comply with any order issued by DOE/FE in response to this Application and all applicable requirements of DOE's regulations at 10 C.F.R. Part 590, including destination restrictions; (ii) the exact legal name of the Registrant, state/location of incorporation/registration, primary place of business, and the Registrant's ownership structure, including the ultimate parent entity if the Registrant is a subsidiary or affiliate of another entity; (iii) 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; (iv) within 30 days of execution, a copy of any long-term contracts not previously filed with DOE/FE, including both a non-redacted copy for filing under seal and either (x) a redacted

[6] *Freeport LNG Expansion, L.P.*, DOE/FE Order No. 2913 (Feb. 10, 2011).

version of the contract or (y) a summary of the major provisions of the contract, for public posting.[7] Epcilon will set forth in agreements with its customers the terms and conditions relevant to the use of Epcilon's export authorization, and Epcilon will provide DOE/FE with a written statement by the titleholder acknowledging and agreeing to comply with the requirements of Epcilon's long-term export authorization and to include those requirements in any of its subsequent purchase or sale agreements.[8]

As of the date of this Application, Epcilon has neither finalized nor executed any long-term gas supply or long-term export contracts in connection with the natural gas and LNG export authorization requested herein. Epcilon is engaged in early commercial discussions with a number of interested counterparties concerning LNG supply arrangements that would be targeted for export destinations in both FTA and non-FTA countries, as well as potential LNG sales in Mexico. Epcilon anticipates entering into either LNG Sales and Purchase Agreements or LNG Tolling Arrangements. Under LNG Sales and Purchase Agreements, Epcilon will procure the natural gas to be processed through the LNG Facility, take title to the natural gas no later than the time it is received at the LNG Facility, and transfer title to the produced LNG to customers upon loading of the oceangoing LNG carriers for export. In transactions structured as LNG Tolling Arrangements, Epcilon will cause its affiliate AMIGO LNG S.A. to process natural gas to which the tolling party has title through the LNG Facility and will cause AMIMO LNG S.A. to deliver the resulting LNG to the tolling party in exchange for paying a tolling fee. Under the LNG Tolling Arrangements, to the extent the tolling party seeks to export its LNG outside of Mexico, Epcilon will act as its export

[7] *See, e.g., Dominion Cove Point LNG, LP*, DOE/FE Order No. 3331 (Sept. 11, 2013).

[8] *See id.*; *see also Southern LNG Co., LLC.*, DOE/FE Order No. 3106 (June 15, 2012); *Excelerate Liquefaction Solutions I, LLC*, DOE/FE Order No. 3128 (Aug. 9, 2012).

agent pursuant to the LNG Tolling Arrangement whereby the tolling party shall agree to become a Registrant exporting subject to Epcilon's export authorization.

In DOE/FE's recent orders granting long-term authorization to export LNG to non-FTA countries, DOE/FE has found that applicants need not submit all transaction-specific information with the initial application to satisfy Section 590.202(b) of the DOE regulations, particularly if such information is not available because contracts have not yet been executed.[9] Instead, DOE/FE has permitted applicants to submit such information when contracts are executed, finding that this conforms with the regulatory requirement that such information be submitted "when practicable."[10] As DOE has required of other applicants, Epcilon will file any long-term gas supply or long-term export contracts under seal with DOE/FE once they are executed.

Epcilon also requests authorization to use exported gas converted into LNG to serve domestic markets within Mexico through truck-based deliveries. The LNG Facility will supply Mexican regional clients by LNG vessel in high gas demand areas in the Mexican states of Veracruz, Tabasco, Campeche, Yucatan, and developing areas in the Mexican states of South Baja California, Oaxaca, and Quintana Roo. From Guaymas, LNG will be shipped from the LNG Facility by LNG vessels to terminals in La Paz (planned), Manzanillo, Salina Cruz (planned), all of which have (or will have) terminal-to-pipeline interconnections with existing gas pipelines with deliverability to destinations in the Veracruz and Yucatan regions. In addition to transporting LNG by vessel to markets within Mexico, the LNG Facility will be equipped with LNG truck-loading facilities to facilitate the distribution of LNG Facility-produced LNG to destinations within

[9] *See* 10 C.F.R. § 590.202(b).

[10] *See, e.g.*, *Golden Pass Prods. LLC*, DOE/FE Order No. 3978 (Apr. 25, 2017); *Jordan Cove Energy Project, L.P.*, DOE/FE Order No. 3413 (Mar. 24, 2014); *Cameron LNG, LLC*, DOE/FE Order No. 3391 (Feb. 11, 2014); *Sabine Pass Liquefaction, LLC*, DOE/FE Order No. 2833 (Sept. 7, 2010).

Mexico by LNG trailer truck. Under this arrangement, LNG would be transported by LNG trailer trucks in ISO LNG shipping containers primarily to regional clients in Mexican industrial sites that do not have direct access to pipeline gas. To this end, Epcilon seeks authorization to truck imported gas converted into LNG from truck stations within or proximate to the LNG Facility site.

Epcilon also expects that some of the exported gas converted into LNG at the LNG Facility may be sold as bunkering fuel to vessels from small vessels or other facilities located within or proximate to the LNG Facility site. Epcilon requests authority to export gas converted into LNG at the LNG Facility for consumption as LNG bunkering fuel.

V. SOURCES OF NATURAL GAS TO BE EXPORTED

Epcilon will receive at the LNG Facility natural gas produced in the United States and exported to Mexico via existing cross-border gas transmission pipelines. The U.S. sources of this natural gas will potentially include all of the gas-producing basins within the United States through the interconnected interstate natural gas transmission grid. This includes from natural gas producing regions located throughout the southwestern United States (e.g., the Permian Basin, the Eagle Ford Formation, the San Juan Basin, and the Barnett Shale, the Mid-continent region, the Gulf Coast region and even the shale plays of the Appalachian region). Suppliers to the LNG Facility will have the capability to access the entire U.S. national gas pipeline grid through various interconnections, such as those available at the Waha Hub, San Juan Hub, and Henry Hub, utilizing the interconnected gas transmission pipeline network in the United States. Potential gas suppliers include the numerous producers operating in the major gas supply basins accessible through pipelines ultimately connecting with the various U.S.-Mexico export pipelines. Those sources of natural gas supply will be more than adequate to support LNG Facility exports for the term of the authorization Epcilon requests.

VI. PUBLIC INTEREST ANALYSIS

As DOE/FE has found in numerous export authorization orders issued over the past several years,[11] given the abundance of the U.S. gas supply base, the excess of available gas deliverability over domestic gas demand, and the benefits associated with increased trade in natural gas, the export of natural gas from the United States is generally consistent with the public interest. The same considerations are applicable here, and they clearly support the conclusion that the export authorizations Epcilon requests will not be inconsistent with the public interest. The requested authorizations accordingly should be granted under the provisions of NGA Section 3 which apply to exports of natural gas to FTA and non-FTA countries, respectively.

a. FTA Nations – Standard of Review

Section 3(c) of the NGA, as it was amended by Section 201 of the Energy Policy Act of 1992 (Pub. L. No. 102-486), provides that:

> [T]he 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.[12]

Under this statutory provision, the portion of the Application seeking authorization to export LNG to nations with which the United States currently has, or in the future may enter into, a FTA requiring national treatment for trade in natural gas, is deemed to be consistent with the public interest. Accordingly, Epcilon requests that DOE/FE grant this aspect of the Application without modification or delay, as it routinely does for other projects seeking authorization for export to FTA nations, consistent with the statute.[13]

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[11] *See generally* cases cited in footnotes 13 and 15-22.

[12] 15 U.S.C. § 717b(c).

[13] *See, e.g.*, *Golden Pass Prods. LLC*, DOE/FE Order No. 3978; *Cameron LNG, LLC*, DOE/FE Order No. 3680 (July 10, 2015); *American LNG Mktg. LLC*, DOE/FE Order No. 3656 (May 29, 2015); *Sabine Pass Liquefaction, LLC*,

b. Non-FTA Nations – Standard of Review

Section 3(a) of the NGA sets forth the general standard for review of export applications:

> [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. The [Secretary] may by [the Secretary's] order grant such application, in whole or in part, with such modification and upon such terms and conditions as the [Secretary] may find necessary or appropriate.[14]

DOE/FE consistently has found that this section creates a rebuttable presumption that proposed exports of natural gas are in the public interest, and DOE/FE must grant such an application unless those who oppose the application overcome that presumption.[15] To accomplish this an opponent must affirmatively demonstrate that the proposal is inconsistent with the public interest.[16] DOE/FE reviews the evidence developed in the record of each application proceeding to make its public interest determination.[17]

While NGA section 3(a) establishes a broad public interest standard and a presumption favoring export authorizations, it does not define "public interest" or identify the criteria that must be considered. DOE/FE has explained that in evaluating the extent to which an export application

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DOE/FE Order No. 2833; *Freeport LNG Expansion, L.P.*, DOE/FE Order No. 2913; *Magnolia LNG, LLC*, DOE/FE Order No. 3245 (Feb. 26, 2013).

[14] 15 U.S.C. § 717b(a) (emphasis added). This authority has been delegated to the Assistant Secretary for Fossil Energy, pursuant to Redelegation Order No. 00-002.04D (Nov. 6, 2007).

[15] *See, e.g., Freeport LNG Expansion, L.P. & FLNG Liquefaction, LLC*, DOE/FE Order No. 3282 at 5-6 (May 17, 2013); *Sabine Pass Liquefaction, LLC*, DOE/FE Order No. 2961 at 28 (May 20, 2011); *Cameron LNG, LLC*, DOE/FE Order No. 3391 (Feb. 11, 2014).

[16] *See Freeport LNG*, DOE/FE Order No. 3282 at 6; *see also Phillips Alaska Natural Gas Corp. & Marathon Oil Co.*, DOE/FE Order No. 1473 at 13, n. 42 (Apr. 2, 1999) ("Section 3 creates a statutory presumption in favor of approval of an export application and the Department must grant the requested export [application] unless it determines the presumption is overcome by evidence in the record of the proceeding that the proposed export will not be consistent with the public interest.").

[17] *Freeport LNG*, Order No. 3282 at 7.

is consistent with the public interest, it 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 arrangements are consistent with DOE/FE's policy of promoting market competition, and (iv) any other factors bearing on the public interest.[18] It has identified some of these "other factors" as including, for example, whether exports are beneficial for regional economies, the extent to which exports will mitigate trade imbalances, various international impacts, security of the domestic natural gas supply, and other economic and environmental impacts.[19]

Consistent with its Policy Guidelines and Delegation Orders Relating to the Regulation of Imported Natural Gas, DOE/FE examines whether evidence of domestic supply shortages overcomes the statutory presumption that a proposed export is not inconsistent with the public interest.[20] Although the Policy Guidelines deal specifically with imports, DOE/FE has held that their principles also are applicable to exports.[21] The Policy Guidelines are intended to "minimize federal control and involvement in energy markets and to promote a balanced and mixed energy resources system."[22] According to DOE/FE:

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[18] *See, e.g.*, *American LNG Mktg. LLC*, DOE/FE Order No. 3690 at 10 (setting forth the specific factors); *see also, e.g., Golden Pass Prods. LLC*, DOE/FE Order No. 3978 at 11-12 (Apr. 25, 2017); *Cameron LNG, LLC*, DOE/FE Order No. 3391-A at 8 (Sep. 10, 2014); *Freeport LNG*, Order No. 3282 at 7; *Lake Charles Exports*, DOE/FE Order No. 3324 at 8 (Aug. 7, 2013); *Dominion Cove Point LNG*, Order No. 3331 at 8-9 (Sep. 11, 2013); *Freeport LNG Expansion, LP*, Order No. 3357 at 9 (Nov. 15, 2013); *Jordan Cove*, Order No. 3413 at 8; *Oregon LNG*, Order No. 3465 at 8 (Jul. 31, 2014); *Sabine Pass Liquefaction, LLC*, DOE/FE Order No. 2961.

[19] *See, e.g.*, *Sabine Pass Liquefaction, LLC*, DOE/FE Order No. 2961 at 34-38 (May 20, 2011); *Freeport LNG*, Order No. 3282 at 6; *Lake Charles Exports*, Order No. 3324 at 7; *Dominion Cove Point LNG*, Order No. 3331 at 7; *Freeport LNG*, Order No. 3357 at 8; *Cameron LNG*, Order No. 3391-A at 8; *Jordan Cove*, Order No. 3413 at 6-7; *Oregon LNG*, Order No. 3465 at 7.

[20] *See, e.g.*, *Freeport LNG*, Order No. 3282; *Policy Guidelines and Delegation Orders Relating to the Regulation of Imported Natural Gas*, 49 Fed. Reg. 6684 (Feb. 22, 1984) ("*Policy Guidelines*").

[21] *Freeport LNG*, Order No. 3282 at 7; *see also Phillips Alaska Natural Gas Corp. and Marathon Oil Co.*, DOE/FE Order No. 1473 at 14 (Apr. 2, 1999); *Sabine Pass Liquefaction*, Order No. 2961 at 28.

[22] *Freeport LNG*, Order No. 3282 at 6.

> The market, not government, should determine the price and other contract terms of imported [or exported] gas. . . . The federal government's primary responsibility in authorizing imports [or exports] should be to evaluate the need for the gas and whether the import [or export] arrangement will provide the gas on a competitively priced basis for the duration of the contract while minimizing regulatory impediments to a freely operating market.[23]

As demonstrated below, the export of LNG produced from U.S. natural gas as proposed in this Application is not inconsistent with the public interest, and should be allowed to proceed.

c. Domestic Need for Natural Gas to be Exported

In determining whether there is a domestic need for gas to be exported, DOE/FE traditionally has compared the total volume of gas reserves and recoverable resources available to be produced during the proposed export period to the total gas demand anticipated for the same period.[24] According to data compiled by the U.S. Energy Information Administration ("EIA"), recoverable reserves of natural gas in the U.S. are plentiful, economical, and more than adequate to meet domestic demand for many years to come.[25] Granting Epcilon's long-term authorization to export natural gas will not cause any significant change in domestic supply, demand, or prices for natural gas. But such exports will promote both domestic employment opportunities and global environmental benefits as countries transition to natural gas from other fossil fuels that emit greater amounts of greenhouse gases. Importantly, Epcilon should provide an additional premium pricing point and liquid market for natural gas produced in the United States, which will help support the U.S. oil and natural gas industry by providing a new source of demand close to abundant and growing gas supply sources in search of markets. Overall, granting Epcilon the requested export

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[23] *Policy Guidelines* at 6685.

[24] *See, e.g.*, *Conoco Phillips Alaska Natural Gas Corp. & Marathon Oil Co.*, DOE/FE Order No. 2500 at 43 (Jun. 3, 2008); *Phillips Alaska Natural Gas Corp. & Marathon Oil Co.*, DOE/FE Order No. 1473 at 29, 40, 46 (Apr. 2, 1999).

[25] EIA, *Annual Energy Outlook 2019;* at 72 (January 24, 2019) ("EIA AEO 2019"), https://www.eia.gov/outlooks/aeo/pdf/AEO2018_FINAL_PDF.pdf ("U.S. natural gas consumption and production increase in all cases with production growth outpacing natural gas consumption in all cases").

authorization will have positive impacts on the U.S. economy and positive global environmental effects, without detrimentally impacting the market for U.S. natural gas, consistent with the public interest.

i. Domestic Natural Gas Supply and Demand

Current market trends strongly indicate that the export of domestically produced natural gas is in the U.S. public interest. Improvements in natural gas drilling and extraction technologies have increased drilling productivity domestically, leading to rapid growth in available natural gas supplies and to a transition from conventional gas supplies toward the unconventional shale gas-bearing formations in the United States.[26] Natural gas reserves in the United States are sufficient to meet domestic demand for decades.[27] EIA estimates that dry natural gas production will be 91.4 Bcf/d in 2019, an increase of 8.0 Bcf/d from the 2018 level, establishing a new record.[28] Given these substantial additional resources and the relatively minor increases in domestic natural gas demand during the same time period, there are more than sufficient natural gas resources to accommodate both domestic demand and LNG exports, including the volume of exports proposed in this Application, throughout the proposed export authorization period.

Domestic natural gas production has grown considerably over the past several years, led by unconventional production. In AEO 2017, EIA projected in its reference case that U.S. dry

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[26] EIA, *Annual Energy Outlook 2017*, at 50 (Jan. 5, 2017) ("EIA AEO 2017"), http://www.eia.gov/outlooks/aeo/pdf/0383(2017).pdf at 54 ("Since 2005, technologies to more efficiently produce natural gas from shale and tight formations have driven prices down, spurring growth in consumption and net exports.").

[27] EIA AEO 2017 at 56 (noting that "natural gas prices stay relatively flat after 2030 as technology improvements keep pace with rising demand"); EIA AEO 2016 at MT-24 – MT-25 and Table A13. This view is shared by a number of organizations engaged in energy supply, demand and pricing projections. *See generally* EIA AEO 2016 at CP-9 – CP-11 (outlooks produced by EIA, ICF, BP, ExxonMobil and EVA all project increases in U.S. natural gas production, growth in U.S. natural gas consumption and growth in U.S. natural gas exports from 2015).

[28] EIA, Short-Term Energy Outlook at 1 (September, 2019), https://www.eia.gov/outlooks/steo/pdf/steo_full.pdf.

natural gas production will increase by 49% between 2015 and 2050, and that production from shale resources and tight oil plays will increase from 13.5 Tcf/year in 2015 to 27.5 Tcf/year in 2050.[29] In AEO 2018, EIA projected that shale gas and tight oil plays will account for nearly three-quarters of U.S. natural gas production by 2050.[30]

Although domestic demand for natural gas is anticipated to grow over the next 25 years, demand will continue to be outpaced by available natural gas supply. Since 2009, production of natural gas has increased faster than demand, in large measure due to the shale gas revolution.[31] According to EIA's data, natural gas demand was only 16% higher in 2017 than it was in 2000.[32] EIA estimates that annual U.S. consumption of natural gas will grow at an annual rate of only 0.8% over the period from 2017 to 2050, with consumption expected to reach 34.48 Tcf/year in 2050, as compared to 26.68 Tcf/year in 2017.[33]

By contrast, total U.S. dry gas production during the same period is projected to grow at an annual growth rate of 1.4%.[34] This increase is adequate to support both the growth in U.S. gas consumption and a substantial volume of LNG exports (8.5 Tcf/year in 2050).[35]

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[29] EIA AEO 2017 at Tables 13–14; *see also* Letter from Jack N. Gerard, Pres. and Chief Exec. Officer, API to Rick Perry, Sec'y of Energy (Mar. 14, 2017), http://www.api.org/~/media/Files/News/Letters-Comments/2017/3-14- 17-Ltr-to-DOE-Secretary-Perry-LNG-Exports-Authorization.pdf (projecting domestic natural gas production to increase 42 percent between 2016 and 2040).

[30] EIA, *Annual Energy Outlook* 2018, at 65-66 (Feb. 6, 2018) ("EIA AEO 2018"), https://www.eia.gov/outlooks/aeo/pdf/AEO2018_FINAL_PDF.pdf.

[31] Am. Petro. Inst., *Understanding Natural Gas Markets*, at 3 (Sept. 2014), https://www.api.org/~/media/Files/Oil-and-Natural-Gas/Natural-Gas-primer/Understanding-Natural-Gas-Markets-Primer-High.pdf.

[32] EIA, *Natural Gas Consumption by End Use* (Feb. 28, 2018), http://www.eia.gov/dnav/ng/ng_cons_sum_dcu_nus_a.htm.

[33] EIA AEO 2018 at Table 13.

[34] *Id*

[35] EIA AEO 2017 at Table 62.

The LNG Facility will receive and liquefy only a small amount of the abundant natural gas resource that is now, and that will be for many years to come, available in the United States. DOE/FE can readily conclude here, as it has in other LNG export authorization proceedings, that there will be more than enough natural gas available to be produced in the U.S. over the next 25 years to satisfy all domestic requirements as well as to support significant LNG exports, including exports through the LNG Facility.

ii. Impact on Domestic Prices of Natural Gas Exports; Net Economic Impacts

U.S. shale gas production has contributed to the decline in U.S. natural gas prices from a high in 2008 of approximately $11/MMBtu to the current wellhead price levels ranging from $-0.40 to $3.00/MMBtu.[36] In the first half 2019, the Waha Hub spot price inverted to a negative number in various trading days reflecting an abundance of supply and transportation capacity constraints.[37] The annual average Henry Hub spot price for natural gas fell from $8.86/MMBtu in 2008 to $3.15/MMBtu in 2018.[38] In its AEO 2018 reference case, EIA estimates that the Henry Hub spot price for natural gas, stated in 2017 dollars, will remain well under $5.00/MMBtu through 2025, and will not exceed $7.59/MMBtu in any year over the period from 2016-2040.[39]

Several analyses which DOE/FE has commissioned or reviewed over the past several years have concluded that LNG exports in the range 6 to 12 Bcf/day, and even at levels greater than 12 Bcf/day, would not have any significant impact on domestic prices. For example, the Peterson

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[36] Oilprice.com, *Natural Gas Prices in the Permian Flip Negative Again*, https://oilprice.com/Energy/Energy-General/Natural-Gas-Prices-In-The-Permian-Flip-Negative-Again.html (last accessed Oct. 7, 2019).

[37] *Id.*

[38] EIA, *Natural Gas Spot and Futures Prices*, http://www.eia.gov/dnav/ng/ng_pri_fut_s1_a.htm (last accessed Oct. 7, 2019).

[39] *See* EIA AEO 2018 at Table 13.

Institute for International Economics report, *Liquefied Natural Gas Exports: An Opportunity for America*, analyzed recent economic analyses, which predicted LNG exports would raise domestic natural gas prices in the range of 3.5 to 16.0% from otherwise depressed price levels.[40] According to ICF, LNG exports are projected to have only moderate impacts on domestic U.S. natural gas prices, with those impacts ranging from approximately $0.32 to $1.02/MMBtu, on average, between 2016 and 2035. ICF projects (a) the 2016-2035 average Henry Hub natural gas prices to be between $5.03 and $5.73/MMBtu, depending on the LNG export case chosen for analysis.[41]

Even assuming, however, that LNG exports were to have more than modest impacts on domestic natural gas prices, analyses performed and commissioned by DOE/FE demonstrate that LNG exports from the United States will not result in any adverse economic impacts upon U.S. consumers. In 2012, DOE/FE released a two-part study evaluating the impacts of LNG exports on the U.S. economy (the "2012 LNG Export Study"). Part 1 of the 2012 LNG Export Study was conducted by the EIA for DOE/FE.[42] It evaluated potential macroeconomic impacts of LNG exports on domestic energy consumption, production, and prices. On the basis of this study, the EIA projected that natural gas prices would rise over time, even without additional LNG exports.[43] In 2014, the EIA released an updated study, also commissioned by DOE/FE, which evaluated the

[40] Gary Clyde Hufbauer, et al., Peterson Inst. for Int'l Econ., *Liquefied Natural Gas Exports: An Opportunity for America*, No. PB 13-6 (Feb. 2013), at 13 (attributing differences to differing assumptions about the price elasticity of domestic demand and the elasticity of supply and recoverable resources of domestic natural gas), *available at* https://piie.com/sites/default/files/publications/pb/pb13-6.pdf.

[41] ICF International, *U.S. LNG Exports: Impacts on Energy Markets and the Economy* (May 15, 2013) (the "ICF Study"), http://www.api.org/~/media/Files/Policy/LNG-Exports/API-LNG-Export-Report-by-ICF.pdf.

[42] EIA, *Effect of Increased Natural Gas Exports on Domestic Energy Markets, as Requested by the Office of Fossil Energy* (Jan. 2012), *available at* https://www.eia.gov/analysis/requests/fe/pdf/fe_lng.pdf.

[43] *Id.* at 6-7.

effects of increased LNG exports, ranging from 12 Bcf/d to 20 Bcf/d, on the U.S. energy markets.[44] EIA's updated study found that even if LNG exports are greater than forecasted, "[i]ncreased energy production spurs investment, which more than offsets the adverse impact of somewhat higher energy prices when the export scenarios are applied."[45]

Part 2 of the 2012 DOE LNG Export Study, conducted by NERA Economic Consulting ("NERA"),[46] assessed microeconomic impacts of LNG exports, and in particular impacts on domestic natural gas prices, under several supply and demand scenarios, including scenarios with unlimited LNG exports. In each scenario, NERA found that the United States would experience net economic benefits from increased LNG exports.[47] NERA also projected that "price changes attributable to LNG exports [would] remain in a relatively narrow range across the entire range of scenarios."[48]

NERA found net benefits to U.S. consumers even in export scenarios involving the greatest theoretical price increases projected by the EIA:

> Across the scenarios, U.S. economic welfare consistently increases as the volume of natural gas exports increased. This includes scenarios in which there are unlimited exports. The reason for this is that even though domestic natural gas prices are pulled up by LNG exports, the value of those exports also rises so that there is a net gain for the U.S. economy measured by a broad metric of economic welfare or by more common measures such as real household income or real GDP. Although there are costs to consumers of higher energy prices and lower consumption and producers incur higher costs to supply the additional natural gas for export, these costs are more than offset by increases in export revenues along with a wealth transfer from overseas

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[44] EIA, *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.

[45] *Id.* at 12.

[46] NERA Economic Consulting, *Macroeconomic Impacts of LNG Exports from the United States* (Dec. 3, 2012) (the "NERA Study"), *available at* https://energy.gov/sites/prod/files/2013/04/f0/nera_lng_report.pdf.

[47] *Id.* at 6.

[48] *Id.* at 2.

received the form of payments for liquefaction services. The net result is an increase in U.S. households' real income and welfare.[49]

NERA further found that these net economic benefits became greater with higher levels of exports, even assuming unlimited exports and the highest prices estimated by EIA.[50]

NERA updated its 2012 study in 2014. Sabine Pass Liquefaction filed the updated NERA study with DOE/FE in support of its applications for various export authorizations.[51] Using more recent data, NERA analyzed scenarios in which no limits were placed on the level of U.S. LNG exports. In all scenarios studied, the updated NERA study found that (i) the U.S. would experience net economic benefits from increased LNG exports and (ii) as the volume of natural gas exports increases, U.S. economic welfare also increases consistently, with the greatest U.S. economic welfare under scenarios in which unconstrained exports occur.[52] DOE/FE has repeatedly found that the NERA Study is sound and supports the proposition that the United States will experience net economic benefits from LNG exports and the conclusion that proposed LNG exports are not inconsistent with the public interest.[53]

Another study of the potential macroeconomic impacts of LNG exports came to similar conclusions even as to exports of quantities of LNG greater than those evaluated in earlier analyses.

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[49] *Id.* at 6 (footnote omitted).

[50] *Id.* at 6, 12; *see also Cameron LNG, LLC*, DOE/FE Order No. 3391 (Feb. 11, 2014).

[51] NERA Economic Consulting, *Updated Macroeconomic Impacts of LNG Exports from the United States* (prepared for Cheniere Energy, Inc.) (Feb. 20, 2014) (the NERA Study II"), http://www.nera.com/publications/archive/2014/updated-macroeconomic-impacts-of-lng-exports-from-the-united-sta.html. This study was submitted to DOE/FE on February 28, 2014 by Sabine Pass Liquefaction, LLC in support of its long-term LNG export authorization application, in Docket Nos. 13-30-LNG, 13-42-LNG and 13-121-LNG.

[52] NERA Study II.

[53] *See, e.g.*, *Freeport LNG*, DOE/FE Order No. 3282 at 110; *Lake Charles Exports*, DOE/FE Order No. 3324 at 123; *Dominion Cove Point LNG*, DOE/FE Order No. 3331 at 140; *Freeport LNG*, DOE/FE Order No. 3357 at 153; *Cameron LNG*, DOE/FE Order No. 3391 at 130-31; *Jordan Cove*, DOE/FE Order No. 3413 at 141; *Oregon LNG*, DOE/FE Order No. 3465 at 139; *American LNG*, DOE/FE Order No. 3690 at 129-32; *Flint Hills Res.*, DOE/FE Order No. 3829 at 17.

This study, *The Macroeconomic Impact of Increasing U.S. LNG Exports*, completed in October 2015,[54] was performed by The Center for Energy Studies at Rice University's Baker Institute and Oxford Economics, who was commissioned by Leonardo Technologies, Inc. on behalf of the Department of Energy to undertake a scenario-based assessment of the macroeconomic impact of alternative levels of U.S. LNG exports under a range of assumptions concerning U.S. resource endowment, U.S. gas demand, and the international market environment. The CES October 2015 Study considered international conditions sufficient to support 12 Bcf/d and 20 Bcf/d of U.S. LNG exports. It finds that:

The overall macroeconomic impacts of increasing U.S. LNG exports to 20 Bcf/d from 12 Bcf/d are small, reflecting the small size of the shocks relative to the economy overall …. In the Reference domestic scenario, the increase in net gas exports is equivalent to 0.02 percent of GDP on average over 2026–2040, and the incremental investment in the gas sector associated with the increase in exports in that span is just 0.06 percent of GDP. In aggregate, the size of the economy is little changed in the long run, with GDP 0.03 percent ($7.7 billion USD annually in today's prices) higher on average over 2026–2040 than in the 12 Bcf/d export case.[55]

It goes on to conclude that:

> [T]he overall macroeconomic impacts of LNG exports are marginally positive. Across the domestic cases, the positive impacts of higher U.S. gas production, greater investment in the U.S. natural gas sector, and increased profitability of U.S. gas producers typically exceeds the negative impacts of higher domestic natural gas prices associated with increased LNG exports.[56]

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[54] The Center for Energy Studies at Rice University's Baker Institute and Oxford Economics, *The Macroeconomic Impact of Increasing U.S. LNG Exports* (Oct. 2015) (the "CES October 2015 Study"), *available at* http://energy.gov/sites/prod/files/2015/12/f27/20151113_macro_impact_of_lng_exports_0.pdf.

[55] *Id.* at 14.

[56] *Id.* at 16.

Several other publicly available studies similarly find that the U.S. will benefit from exporting domestically produced LNG. These studies include, for example:

- Charles Ebinger, *et al.*, *Liquid Markets: Assessing the Case for U.S. Exports of Liquefied Natural Gas*, Brookings Institution (May 2012), *available at* https://www.brookings.edu/wp-content/uploads/2016/06/0502_lng_exports_ebinger.pdf;

- Michael Levi, *A Strategy for U.S. Natural Gas Exports*, The Hamilton Project, Brookings Institution (June 2012), *available at* https://www.brookings.edu/wp-content/uploads/2016/06/06_exports_levi.pdf;

- Kenneth B. Medlock II, Ph.D., *U.S. LNG Exports: Truth and Consequence*, Energy Forum at the James A. Baker Institute for Public Policy, Rice University (Aug. 10, 2012), *available at* http://www.bakerinstitute.org/media/files/Research/da5493d4/US_LNG_Exports_-_Truth_and_Consequence_Final_Aug12-1.pdf; and

- Deloitte, *Exporting the American Renaissance: Global Impacts of LNG Exports from the United States* (2013), *available at* https://www2.deloitte.com/content/dam/Deloitte/fpc/Documents/secteurs/energie-et-ressources/deloitte_global-impact-exports-american-renaissance_en_janv2013.pdf;

In recent orders authorizing LNG exports, DOE/FE has found that EIA's projections in AEO 2017 provide independent support for the proposition that domestic supplies will be adequate both to meet domestic needs and to support additional LNG exports and other final non-FTA LNG exports it has previously authorized.[57] The same conclusion is appropriate here, given the quantities of LNG that Epcilon proposes to export.

Most recently, DOE/FE commissioned the 2018 LNG Export Study[58] and invited public comments on the study. DOE/FE analyzed the filed comments and issued a response, in which it concluded that the United States will experience net economic benefits from the issuance of

[57] *Delfin LNG LLC*, DOE/FE Order No. 4028 (June 1, 2017) at 138; *Golden Pass Prods. LLC*, DOE/FE Order No. 3818 (Apr. 25, 2017) at 144.

[58] *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].

authorizations to export domestically produced LNG.[59] Specifically, the DOE/FE noted that the "2018 Study found a 'positive correlation between GDP and LNG exports for the more likely scenarios in 2040,' such that '[i]n all scenarios with common assumptions about U.S. natural gas supply and demand, there is greater than in GDP as the LNG export volume increases.'"[60] The 2018 Study also made the key finding 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."[61] Based on these findings, DOE/FE ultimately concluded that the 2018 Study "supports the proposition that exports of LNG from the lower-48 states, in volumes up to 52.8 Bcf/d of natural gas, will not be inconsistent with the public interest."[62] Since the 2018 Study was issued, AEO 2019 was published by the EIA. DOE/FE has assessed AEO 2019 to evaluate any differences from the AEO 2017, and concluded that the AEO 2019 "reaffirm . . . the finding that the 2018 LNG Export Study is fundamentally sound."[63] Indeed, DOE/FE noted that AEO 2019's projected increases in domestic natural gas production as compared to the AEO 2017 that were well in excess of projected increases in domestic natural gas consumption between the two studies.[64]

Epcilon hereby incorporates all of the publicly-available studies cited above into this Application, and asks that DOE/FE deem these studies to be included in the record in this

[59] *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, 67,272 (Dec. 28, 2018) [hereinafter 2018 Study Response to Comments].

[60] *Id.* at 67,262.

[61] *Id.* at 67,272.

[62] *Id.* at 67,273.

[63] *See Energia Costa Azul, S. de R.L. de C.V.*, DOE/FE Order No. 4365 (March 29, 2019) at 31.

[64] *Id.* at 30.

proceeding. Epcilon offers these studies as further support for the proposition that the long-term export authorization requested here is not inconsistent with the public interest.

Epcilon's proposed exports are modest in scope as compared with those envisioned for many of the LNG export projects proposed for the U.S. Gulf Coast and West Coast. Yet, as demonstrated by the several studies referenced above, LNG exports, regardless of the quantities involved, will offer economic benefits to U.S. consumers, in terms of net gains in real household income and real GDP.[65]

d. Other Public Interest Factors

The LNG Facility will result in the following economic and environmental benefits, all of which are consistent with the public interest:

- Providing economic stimulus indirectly for the U.S. economy, through the creation of jobs, increased economic activity, increased tax revenue, and exports;
- Promoting the use of abundant domestic natural gas supplies for environmentally beneficial applications, including marine bunkering and vehicle fueling; and
- Promoting the export of LNG to customers outside of the United States who are currently burning coal, diesel, or other high carbon fuels in those countries, thereby increasing economic trade and ties with foreign nations, while displacing those fuels.

i. Economic Benefits

Epcilon's export authorization could help mitigate the United States' trade deficit, which was $621 billion in 2018, reflecting $2.5 trillion in exports and $3.1 trillion in imports.[66] The United States imported over $157 billion in crude oil and petroleum products in 2018, which was a significant contributing driver of the trade deficit that year.[67] Exports from the LNG Facility

[65] *See, e.g., Delfin LNG LLC*, DOE/FE Order No. 4028 (June 1, 2017) at 164 (observing that the U.S. "would experience net economic benefits" in all scenarios examined in the 2014 and 2015 LNG Export Studies).

[66] U.S. Bureau of Economic Analysis, *U.S. International Trade in Goods and Services* at 4 (Dec. 2018), *available at* https://www.bea.gov/system/files/2019-03/trad1218.pdf.

[67] *Id.* at 24.

will contribute, even if only modestly, to a reduction in the nation's trade deficit. DOE/FE has recognized comparable benefits as supporting LNG export authorizations in other cases.[68] It should be noted that realization of the benefits of increased exports is particularly likely in the case of the LNG Facility which, given its advantaged location on the west coast of North America, is particularly well positioned to compete successfully for LNG markets in Asia, the Pacific and the west coast of Central and South America.

Consistent with the aims of the National Export Initiative, Epcilon's proposed exports will "benefit the liquidity of international natural gas markets"[69] and positively contribute to the trade balance of the United States.[70] Furthermore, even though the Epcilon's Facility will be constructed in Mexico, Epcilon will draw on individuals and entities in the United States for design, specialized equipment fabrication and construction services. The project will therefore help to encourage and facilitate the development of jobs in the United States through the promotion of exports.[71]

ii. Environmental Benefits

LNG exports to Mexico and other countries will result in significant environmental benefits in those countries and the regions of which they are a part. According to the U.S. Environmental Protection Agency, natural gas-fired power generation facilities produce half as much carbon dioxide (CO_2), less than a third as much nitrogen oxides (NO_x), and one percent as much sulfur

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[68] *See, e.g., Flint Hills Resources,* DOE/FE Order No. 3829 at 17-18 (noting the Administration goal, as set forth in the National Export Initiative and related Executive Order, to "improve conditions that directly affect the private sector's ability to export" and to "enhance and coordinate Federal efforts to facilitate the creation of jobs in the United States through the promotion of exports").

[69] *See Lake Charles Export Company, LLC*, DOE/FE Order No. 4010 at 26 (June 29, 2017); *Carib Energy (USA) LLC*, DOE/FE Order No. 3937 at 22 (Nov. 28, 2016).

[70] *National Export Initiative,* Executive Order No. 13534 (Mar. 11, 2010).

[71] *Id*; *see also Eagle LNG Partners Jacksonville II LLC*, DOE/FE Order No. 4078 at 28 (Sept. 15, 2017); *Lake Charles Export Company, LLC*, DOE/FE Order No. 4010 at 29-30; *Carib Energy (USA) LLC*, DOE/FE Order No. 3937 at 19, 26.

oxides (SO_x), as compared to the average air emissions from coal-fired power generation facilities.[72] Increasing the amount of LNG exported to countries outside of the United States will provide a low-cost energy alternative and encourage these countries to switch from fuel oil and diesel to more environmentally-friendly fuels. As DOE/FE has noted, "[E]xports of U.S. LNG may decrease global GHG emissions," or, at least, "the record does not support the conclusion that U.S. LNG exports will increase global GHG emissions in a material or predictable way."[73] Exporting LNG to other countries, in which natural gas can displace consumption of coal, fuel oil and diesel, will reduce carbon emissions, and will facilitate stronger relationships with foreign nations.

iii. International Trade Benefits

Exports of LNG through the LNG Facility will help to improve economic trade and ties between the U.S. and the destination countries, which could include developing nations in Asia and Central and South America, as well as industrialized nations in Europe, Asia and the Middle East. These results would be consistent with the aims of the National Export Initiative[74] and the DOE's policy of "promoting competition in the marketplace by allowing commercial parties to freely negotiate their own trade arrangements."[75]

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[72] *See Clean Energy, Natural Gas – Electricity from Natural Gas*, U.S. Envtl. Protection Agency, http://www.epa.gov/cleanenergy/energy-and-you/affect/natural-gas.html [http://web.archive.org/web/20150915164453/http://www.epa.gov/cleanenergy/energy-and-you/affect/natural-gas.html]; *see also Freeport LNG*, Order No. 3282.

[73] *See Cameron LNG, LLC*, DOE/FE Order No. 3391-A at 83 (Sept. 10, 2014) (citing DOE/FE, *Life Cycle Greenhouse Gas Perspective on Exporting Liquefied Natural gas from the United States* (May 14, 2014), http://energy.gov/sites/prod/files/2014/05/f16/Life%20Cycle%20GHG%20Perspective%20Report.pdf (last accessed June 12, 2017)); *see also Freeport LNG Expansion, L.P.*, DOE/FE Order No. 3357-B at 94 (Nov. 14, 2014).

[74] *National Export Initiative*, Executive Order No. 13534 (March 11, 2010).

[75] *Jordan Cove*, Order No. 3413 at 7.

Authorizing LNG exports to non-FTA countries is also consistent with U.S. obligations under the General Agreement on Tariffs and Trade ("GATT"). According to a report prepared for the Hamilton Project, Article IX and the GATT "prohibits sustained quantitative restrictions on energy exports unless they are related 'to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production of consumption.'"[76] A policy of restricting LNG exports in the face of plentiful domestic supplies of natural gas for the purposes of lowering domestic prices and increasing domestic consumption would be inconsistent with the U.S.'s commitments under GATT. Accordingly, exporting natural gas through the LNG Facility would help promote free and open trade.

LNG exports from the NGL Facility could have wider geopolitical benefits as well. DOE/FE has recognized that LNG exports provide energy security benefits to U.S. allies and trading partners, which "may advance the public interest."[77] Increased access to LNG supplies could help to reduce European reliance on Russian natural gas supplies. Indeed, commentators have noted that "Russia's dominant position in the European gas market is being eroded by the increased availability of LNG."[78] Moreover, increased access to U.S.-sourced natural gas supplies would benefit the global LNG market by representing "a source of predictable natural gas supply that is relatively free from unexpected production or shipping disruption."[79] Exports of U.S.-

[76] Michael Levi, The Hamilton Project, *A Strategy for U.S. Natural Gas Exports*, at 18 (Jun. 2012), *available at* http://www.brookings.edu/research/papers/2012/06/13-exports-levi ("Hamilton Study").

[77] *Freeport LNG*, Order No. 3357-B at 96.

[78] Charles Ebinger, Kevin Massy, Govinda Avasarala, *Liquid Markets: Assessing the Case for U.S. Exports of Liquefied Natural Gas*, Energy Security Initiative at Brookings, at 42 (May 2012).

[79] *Id*. at p. 43.

sourced natural gas to Asia in particular may "provide a degree of increased energy security and pricing relief to LNG importers" by helping to decouple LNG prices from oil prices.[80]

According to indicative pricing information Epcilon has recently gathered, the delivered price of gas derived from Epcilon-produced LNG is expected to be competitive with the anticipated price of natural gas delivered into China by the Public Joint Stock Company Gazprom's Power of Siberia Pipeline, which is expected to be commissioned by the end of 2019.[81] A major reason Epcilon -sourced LNG will be competitive in this market is Epcilon's favored location on the west coast of North America, close to the prolific Permian and Eagle Ford Basins, an advantage unlikely to be exploited by many other LNG project developers. Thus, the LNG Facility's location on the Gulf of California, on the west coast of North America, is likely to translate into a durable competitive advantage for the U.S. natural gas suppliers and purchasers of U.S. gas supplies whose gas will be exported through the LNG Facility.

Finally, U.S. exports of natural gas to support the LNG Facility's production of LNG will generate substantial balance of trade benefits for the U.S. The aggregate value of U.S. natural gas exported to Mexico for liquefaction in the LNG Facility will be substantial: if the Facility were to operate at one hundred percent of the annual capacity for which it seeks export authorization, even at today's currently depressed prices for natural gas produced in West Texas, the value of gas exported for liquefaction in the LNG Facility in a single year once it achieves full capacity would be in excess of $354,900,000.[82] The United States' trade deficit with Mexico in that year would

[80] *Id.*

[81] *See* Gazprom, *Linear Part of Power of Siberia Gas Pipeline Completed by 75.5 per cent*(Mar. 21, 2018), *available at* http://www.gazprom.com/press/news/2018/march/article413496/ ("Russian gas supplies to China's CNPC would start on December 20, 2019").

[82] This calculation assumes that the LNG Facility liquefies a quantity of 395 Bcf (or 390,000,000 MMBtu) in a given year, that all this natural gas is procured from U.S. sources, and that the price paid for this gas is $0.91/MMBtu, which is the spot price for physical delivery at the Waha Hub on October 10, 2019.

be reduced on a dollar-for-dollar basis by this significant amount. It is thus fair to anticipate (conservatively) that exports of U.S. natural gas for liquefaction at and re-export from the LNG Facility will reduce the United States' trade imbalance with Mexico by several hundreds of millions of dollars per year each year during the period in which the LNG Facility operates.

Accordingly, the development of the LNG Facility in Sonora State, Mexico will create considerable positive benefits to U.S. producers and the U.S. economy as a whole. The interests of U.S. and Mexican gas producer-suppliers, gas pipeline owners, construction contractors, materials suppliers, service companies and workers will be significantly advanced by authorization of the exports proposed here.

VII. ENVIRONMENTAL IMPACT

Epcilon's proposed natural gas and LNG exports do not involve or require the construction of any U.S. facilities that would yield environmental effects cognizable under NEPA. Therefore, Epcilon respectfully submits that DOE/FE may satisfy its obligations under NEPA by determining that the proposed action is categorically excluded from the need to prepare either an Environmental Assessment or an Environmental Impact Statement.

Specifically, requests DOE/FE to apply categorical exclusion B5.7, *Import or export natural gas, with operational changes*, which applies to "[a]pprovals . . . of new authorizations . . . [to] export natural gas under section 3 of the Natural Gas Act that involve minor operational changes (such as changes in natural gas throughput, transportation, and storage) but not new construction."[83] This categorical exclusion applies to Epcilon's requested authorization because none of Epcilons' or its affiliates' facilities, including the LNG Facility, will be constructed in the United States, quantities of natural gas initially required to support Epcilon's planned export

[83] 10 C.F.R. § Part 1021, Subpt. D, App. B, Categorical Exclusion B5.7.

activities can readily be accommodated by existing U.S.-Mexico border crossing pipeline capacity, and the precise nature of any modifications or expansions of U.S. pipelines that might later be made to support expanded exports of natural gas by way of the LNG Facility are currently unknown. That is, the proposed LNG Facility will not require and will not drive the construction any new pipeline facilities in the United States.

In support of the application of the B5.7 categorical exclusion, Epcilon confirms that its proposal has not been segmented to meet the definition of a categorical exclusion and that there are no extraordinary circumstances related to the Application indicating that further environmental review is warranted. DOE/FE has applied categorical exclusion B5.7 in the context of other projects proposing natural gas exports and re-exports from the United States,[84] including for other projects sited in Mexico under similar circumstances.[85] Thus, a determination that a categorical exclusion applies here would be appropriate and consistent with DOE/FE precedent and well-established NEPA principles.[86]

The LNG Facility will use gas turbine compression either directly or indirectly to produce LNG and the related auxiliary power. The Mexican permitting authorities will review these technologies and their planned deployment within the LNG Facility within the vicinity of the project site, and will ensure through their permit review that the LNG Facility meets all of Mexico's environmental requirements. Thus, the extraterritorial environmental impacts associated

[84] *See, e.g.*, *Bear Head LNG Corporation*, DOE/FE Order No. 3770 at 22 (Feb. 5, 2016).

[85] *Energia Costa Azul, S. de R.L. de C.V.*, DOE/FE Categorical Exclusion Issuance in Docket No. 18-144-LNG (Mid-Scale Project) (March 29, 2019); *Energia Costa Azul, S. de R.L. de C.V.*, DOE/FE Categorical Exclusion Issuance in Docket No. 18-145-LNG (Large-Scale Project) (March 29, 2019); *Mexico Pacific Limited LLC*, DOE/FE Categorical Exclusion Issuance in Docket No. 18-70-LNG (December 13, 2018).

[86] *See Id.*

with exports of natural gas by way of the LNG Facility will be limited and will be consistent with the applicable requirements of Mexican environmental laws and regulations.

VIII. APPENDICES

The following appendices are included with this application:

- Appendix A: Opinion of Counsel
- Appendix B: Verification

IX. CONCLUSION

For the reasons set forth above, Epcilon respectfully requests that DOE/FE issue an order granting Epcilon's authorization, on its own behalf and as agent for others, to export natural gas to Mexico and re-export the natural gas in the form of LNG to (1) any country with which the United States currently has, or in the future may enter into, a free trade agreement requiring national treatment for trade in natural gas; and (2) any country with which the United States does not have a free trade agreement requiring national treatment for trade in natural gas and with which trade is not prohibited by United States law or policy, for a term of twenty (20) years in an amount of up to 1.083 Bcf/d or approximately 395 Bcf/year (7.8 MTPA).

Respectfully submitted,

THOMPSON & KNIGHT LLP

/s/Nicolas A. McTyre

Nicolas A. McTyre
98 San Jacinto Blvd., Suite 1900
Austin, Texas 78701
(512) 469.6100
(512) 469.6180 (fax)

COUNSEL FOR EPCILON LNG LLC

Dated: March 20, 2020

Attachment 1

LNG Project Overview

(Location and Layout of the LNG Facility;
Description of the LNG Facility and its Target Markets)

AMIGO LNG

LNG Liquefaction Terminal in Sonora, Mexico

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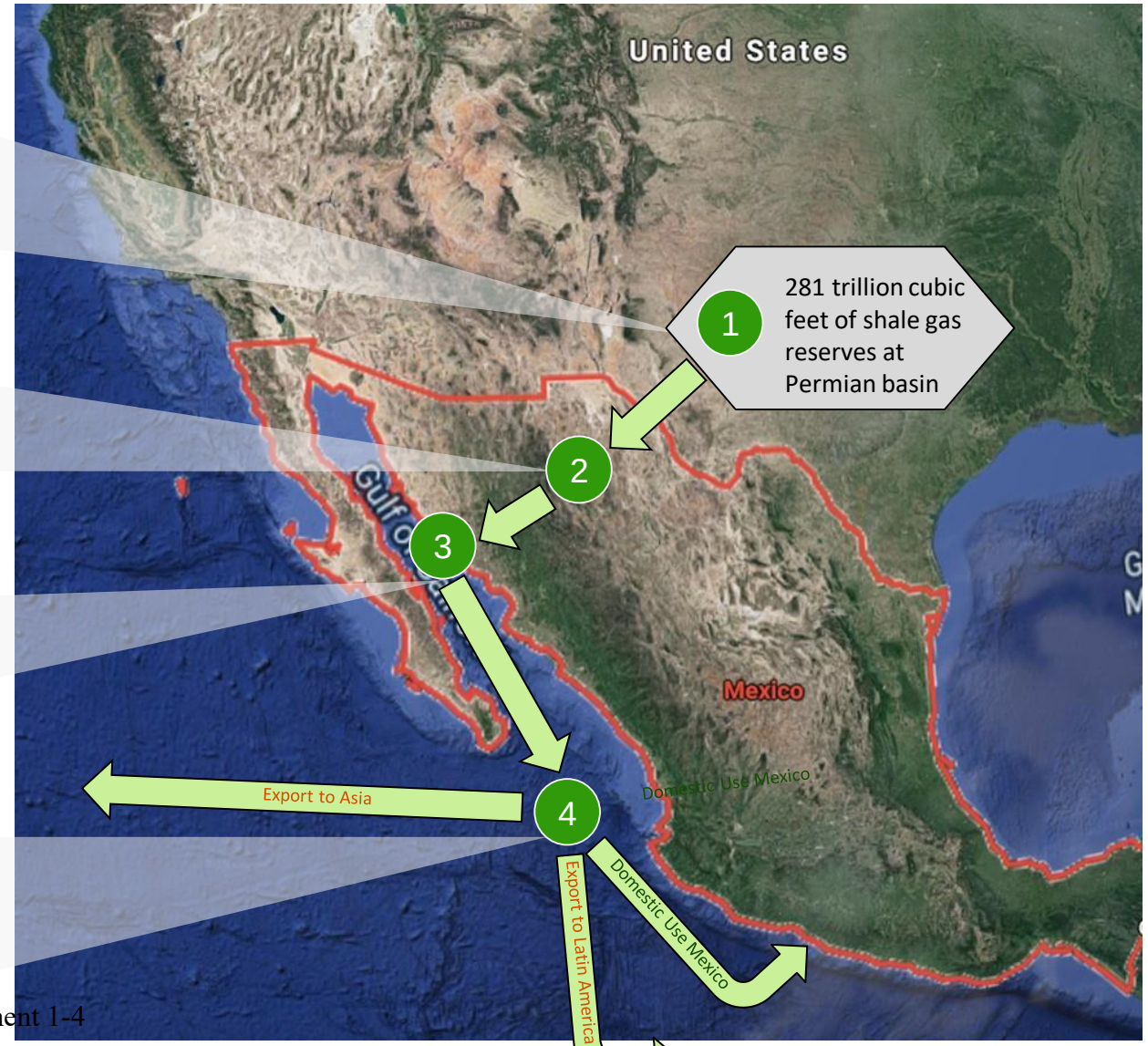
Project Introduction

Upstream US Permian Shale gas

Existing gas pipeline from USA to Mexico

LNG Liquefaction Facility in Guaymas, Sonora, Mexico

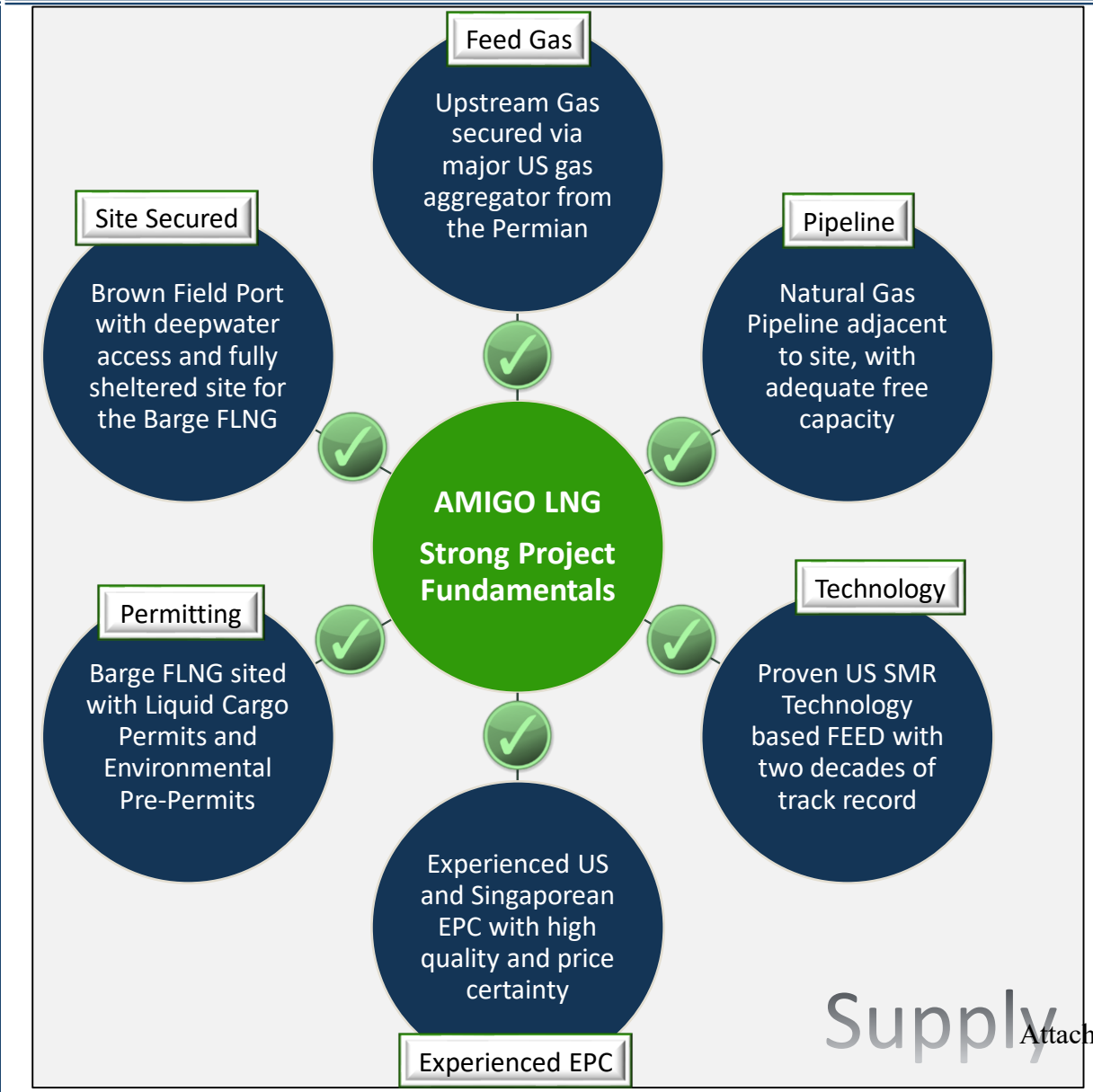
LNG Shipping from Mexico to India, Indonesia, Korea and Japan; and west coast of Latin America

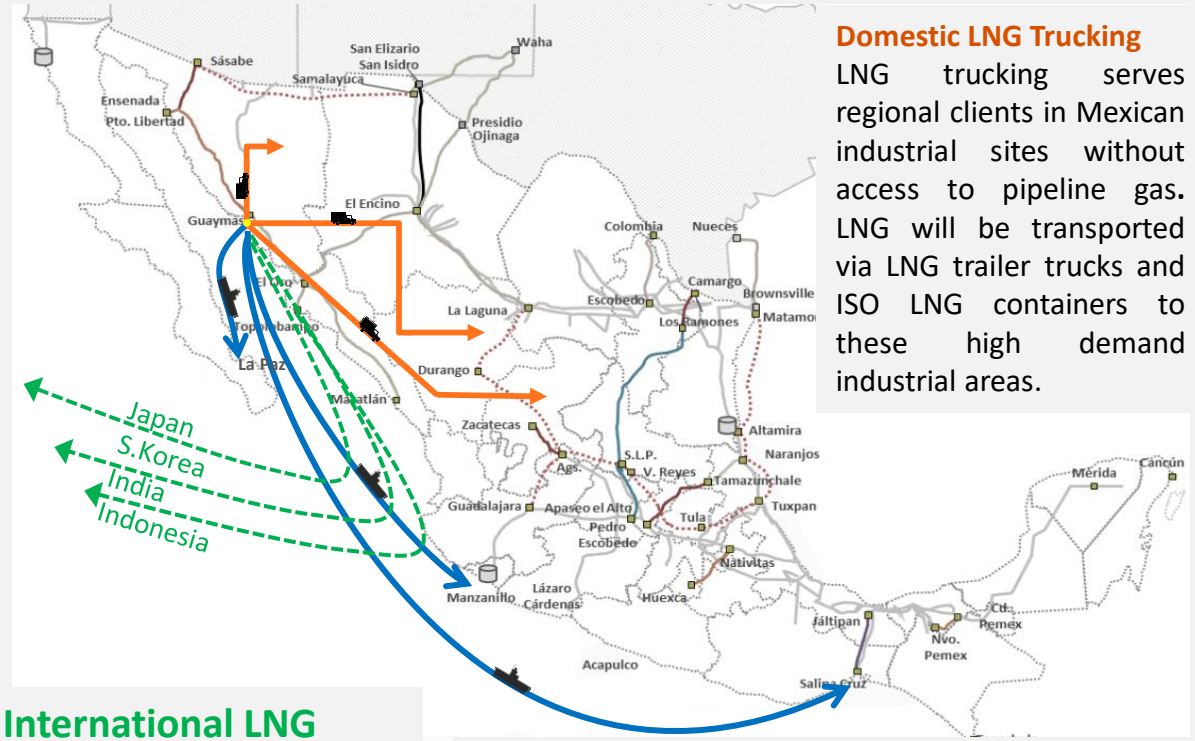


Project Summary

Project Description	• 3.9 Million Tonnes Per Annum (MTPA) LNG Export facility in Guaymas, Sonora, Mexico • Feed gas sourced from low cost Permian shale basins from USA with 300 trillion cubic feet of reserves, with existing pipelines network • Nearshore Barge based LNG Liquefaction Plant, at Sonora, Mexico with compact footprint and proven US liquefaction technology • Shortest distance from Americas to Asian bound LNG Cargos with ship voyage days reduced by 35% • Landed price of LNG in Mexico, India, Indonesia, Japan and Korea will be commercially more attractive than current market prices • 20 year offtake model with attractive pricing, with long term price stability and destination flexibility • Enables domestic LNG distribution within Mexico for serving the gas deficit regions and ensuring energy security for Mexico
Business Model	• Project will operate under a tolling model, and offtakers will be sourcing own feed gas from US Permian basin to delivery of LNG
Technology	• Based on Single Mixed Refrigerant (SMR) Technology from USA, which is proven and has decades of track record • Proven, reliable, scalable project with a low capex and optimized opex, with well defined and firm early stage EPC pricing.
Long term Offtake	• Project offtake backed by national energy companies of Asia • Strong contractual basis already secured for long term commitment for full offtake capacity • Supported by domestic offtake demand in West, South West & South East Mexico, due to significant gas deficit
Feed Gas Supply	• Uses existing pipeline infrastructure between Permian and Mexico, with pipeline located literally right next to project site • Readily available pipeline excess capacity of 0.5bcf/d, scalable to 1.0 bcf/d, with expansion capacity to 7.8 MTPA of LNG including the second train • Upstream gas integration thru long term guaranteed security of supplies of US gas
Shipping Distance	• 23% savings in LNG shipping within domestic Mexico and nearly 42% reduction in Shipping cost to Asia (no Panama Canal fee)
Experienced Team	• World class project team, with average experience of 25 years in LNG projects and strong in-house capabilities
Strength in Partnership	• The LNG terminal operator is an European Terminal Operator, with more than 10 years of LNG terminal operations experience • Sited with 15m deep water port and marine facility development in cooperation with a Mexican national port (no dredging)

Best in class West Coast LNG export project that serves the Asian import markets, with a balanced portfolio to support the LNG/Gas deficit regions of South Mexico





Domestic LNG Trucking

LNG trucking serves regional clients in Mexican industrial sites without access to pipeline gas. LNG will be transported via LNG trailer trucks and ISO LNG containers to these high demand industrial areas.

International LNG Shipping to Asia:

Project is backed by demand from high natural gas consumption countries such as India, Indonesia, Japan and S. Korea.

Domestic LNG Shipping to South Mexico

LNG/Gas supply to the high gas demand States of Veracruz, Tabasco, Campeche, Yucatan and planned future demand of South Baja, Oaxaca & Quintana Roo. From Guaymas, LNG will be shipped via LNGC and small-scale LNG vessels to terminals in La Paz (planned), Manzanillo, Salina Cruz (planned), which ties to existing gas pipelines towards Veracruz, Yucatan.

Demand

1

Project Overview

Global LNG Demand is slated to grow at 6% CAGR to hit 652 MTPA by 2040

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Significant LNG supply deficit expected from 2022 to 2040

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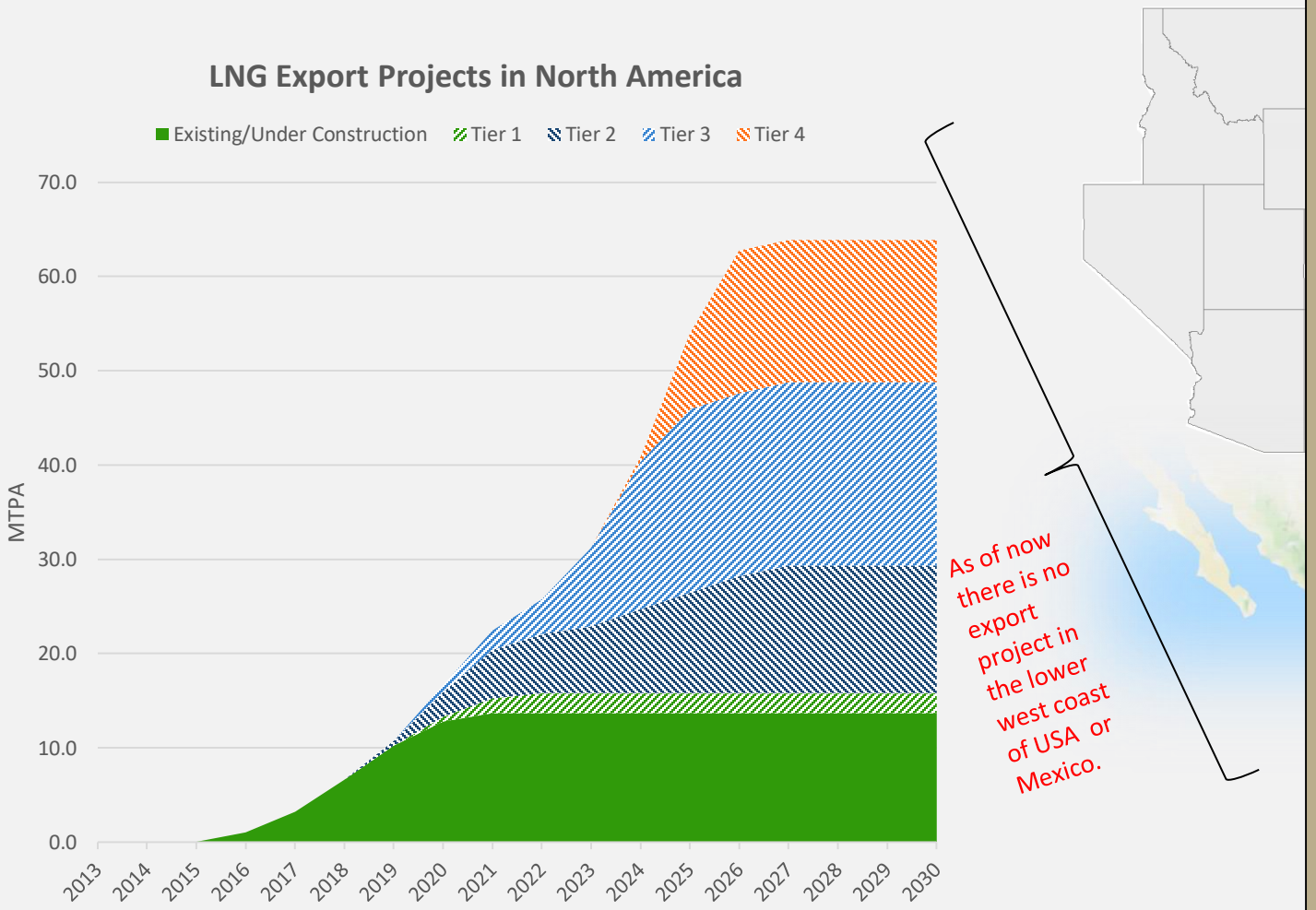
- Global liquefaction capacity (existing and under construction) is slated to reach 381 Mtpa by 2025, but will be insufficient to meet LNG demand
- LNG supply deficit of between 10.5 to 27.2 MTPA to be expected between 2022 to 2025.
- Supply gap could widen to 271 Mtpa in 2040 without the addition of new liquefaction capacity
- New FIDs will be required between now and 2025 to meet projected LNG demand

New LNG liquefaction capacity is necessary to balance the market post 2025

West coast of Americas provides the ideal location for export of LNG To Mexico and Asia



As of now there is no export project in the lower west coast of USA or Mexico.

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Project Concept, Configuration and Liquefaction Technology

Project Concept

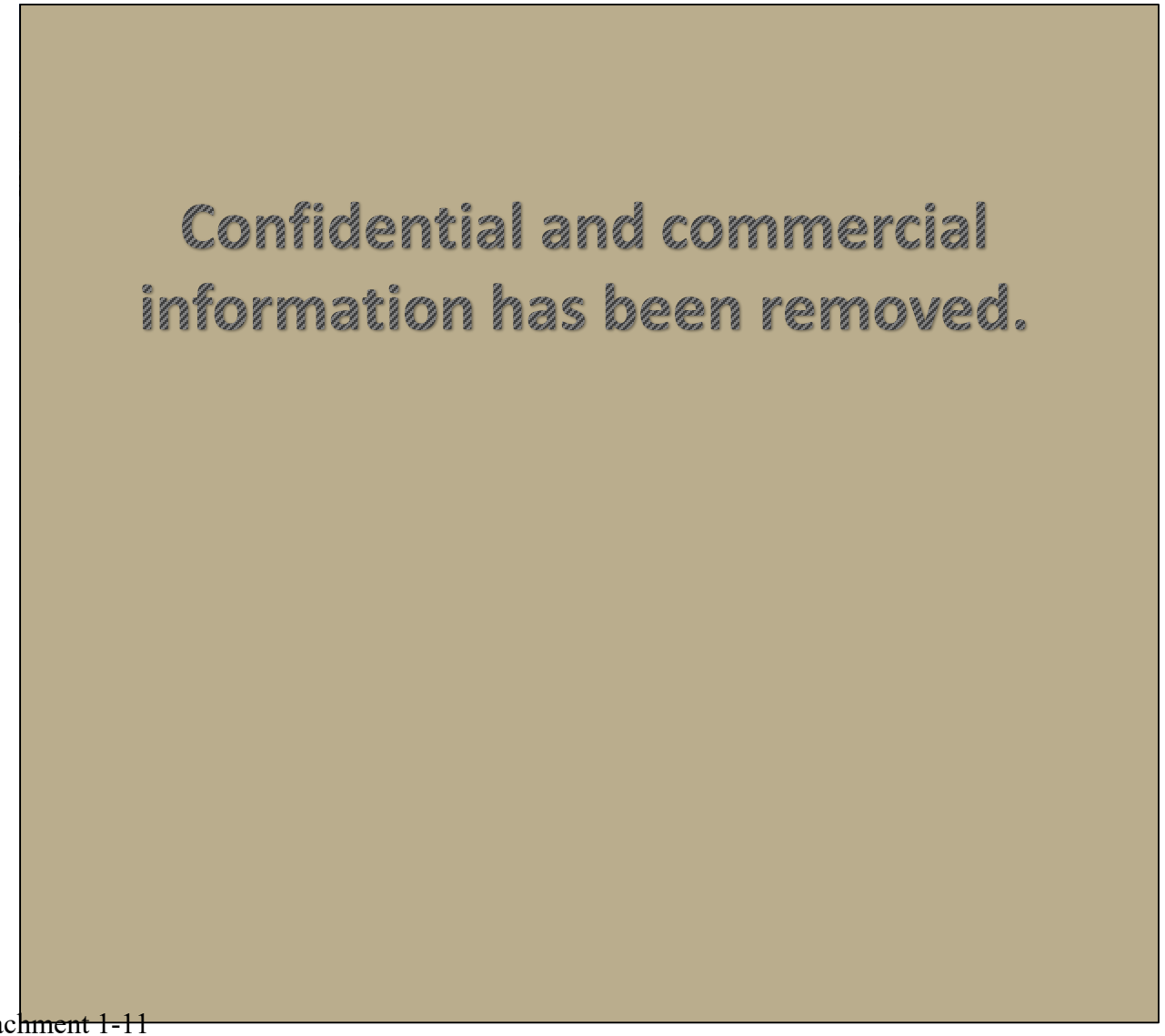
- Nearshore liquefaction plant (FLNG) with 3.9 MTPA capacity, to be built as modular barge construction in a qualified fabrication yard.
- Gas reception and metering, is located onshore together with administration, utilities and support facilities.
- LNG storage at the export facility will be provided by a large tank of 230,000m3 storage capacity.
- Plant capacity scalable up by multiplying liquefaction trains, in modules.

Project Configuration

- Marine Facilities for offloading to LNG ships will be thru a single berth jetty mooring. LNG ships will have deep water access with 15m water depth throughout the navigation channel, have a 900m turning circle diameter
- Sheltered and calm metocean conditions (wind, waves, tide and current) at project site provide for easy navigation and berthing of LNG ships and increased safety of operations

Liquefaction Technology

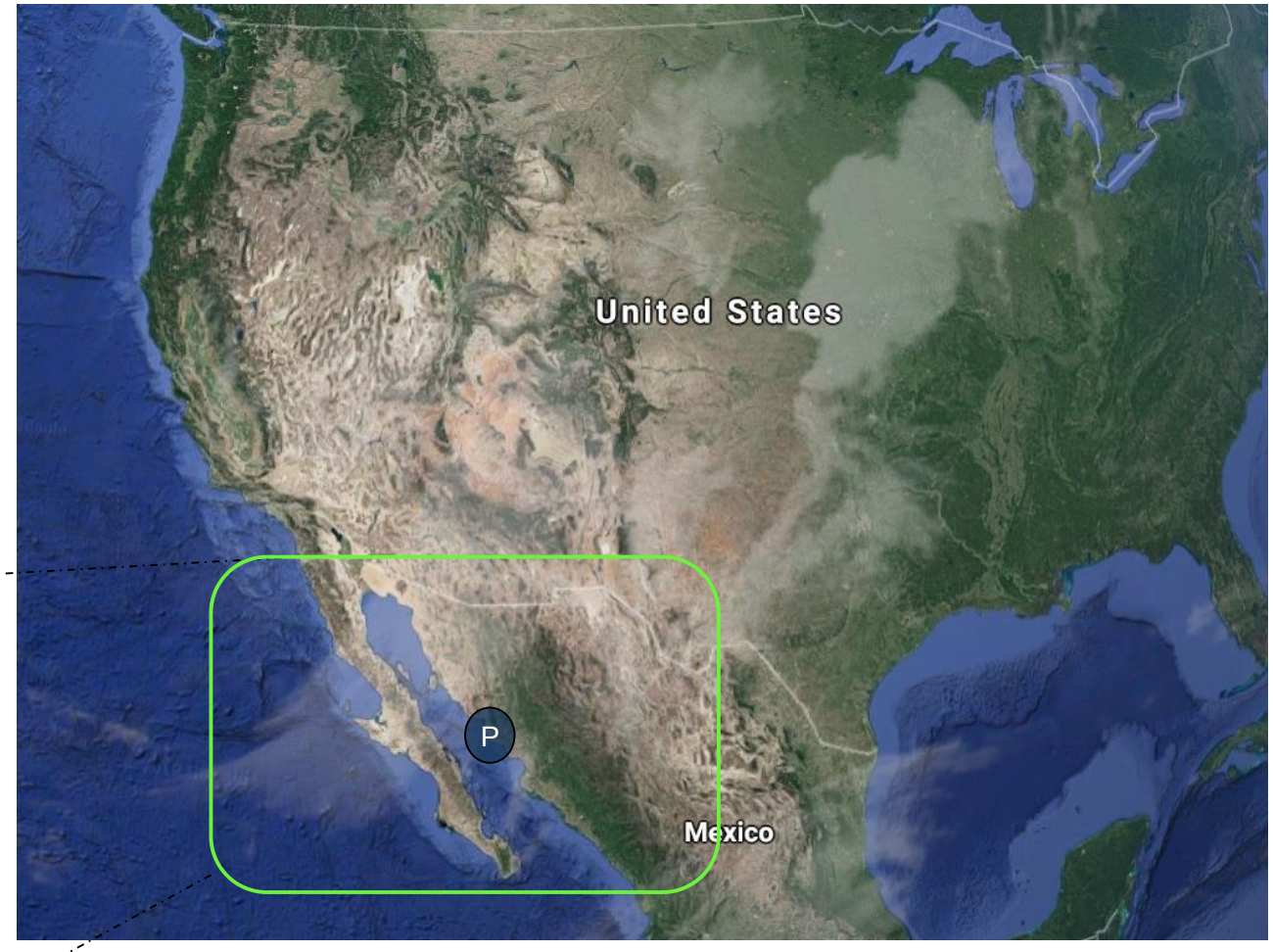
- A compact and efficient liquefaction solution based on proven process for maximal safety, reliability and robustness.
- Selected technology for the project is SMR technology, with extensive track record and proven performance.
- Modularizable standardized concept which allows for prefabrication of modular components off-site, with high levels of automation, quality control and skilled workmanship.



Project is adjacent to existing pipelines with surplus capacity and cheap gas from Texas

Project	
Location	▪ Off the Coast of Sonora, Mexico, adjacent to two major natural gas pipeline networks from USA
Liquefaction Capacity	▪ Train 1 of 3.9 MTPA (+ Future Train 2 of 3.9 MTPA future) = 7.8 MTPA ▪ Train 1 COD: 2023; Train 2 COD: 2026
Trains and send-out	▪ 1+(1) = 2 Trains
Storage	▪ 1 x 230,000 m3 tank = 230,000m3 total storage ▪ Additional 160,000 m3 (future option)
Configuration	▪ Barge based Liquefaction Plant ▪ Deepwater marine facility with 2 berths

AMIGO Project Location with connectivity to two major US Mexico gas pipelines (already existing pipelines)



- Project site of 150 acres, which is located in Sonora state, on the coast of the Sea of Cortez in Gulf of California
- Marine facility with 15m water depth suitable for LNG ships of all sizes from 120,000m3 to 266,000m3 (worlds largest LNG ships)

2

Project Details

Proven Liquefaction Technology from USA based on SMR

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Integrated FEED and EPC Contract with firm price commitment and seamless execution

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Ideal site near Guaymas Empalme Bay, Sonora with Gas Pipeline next door

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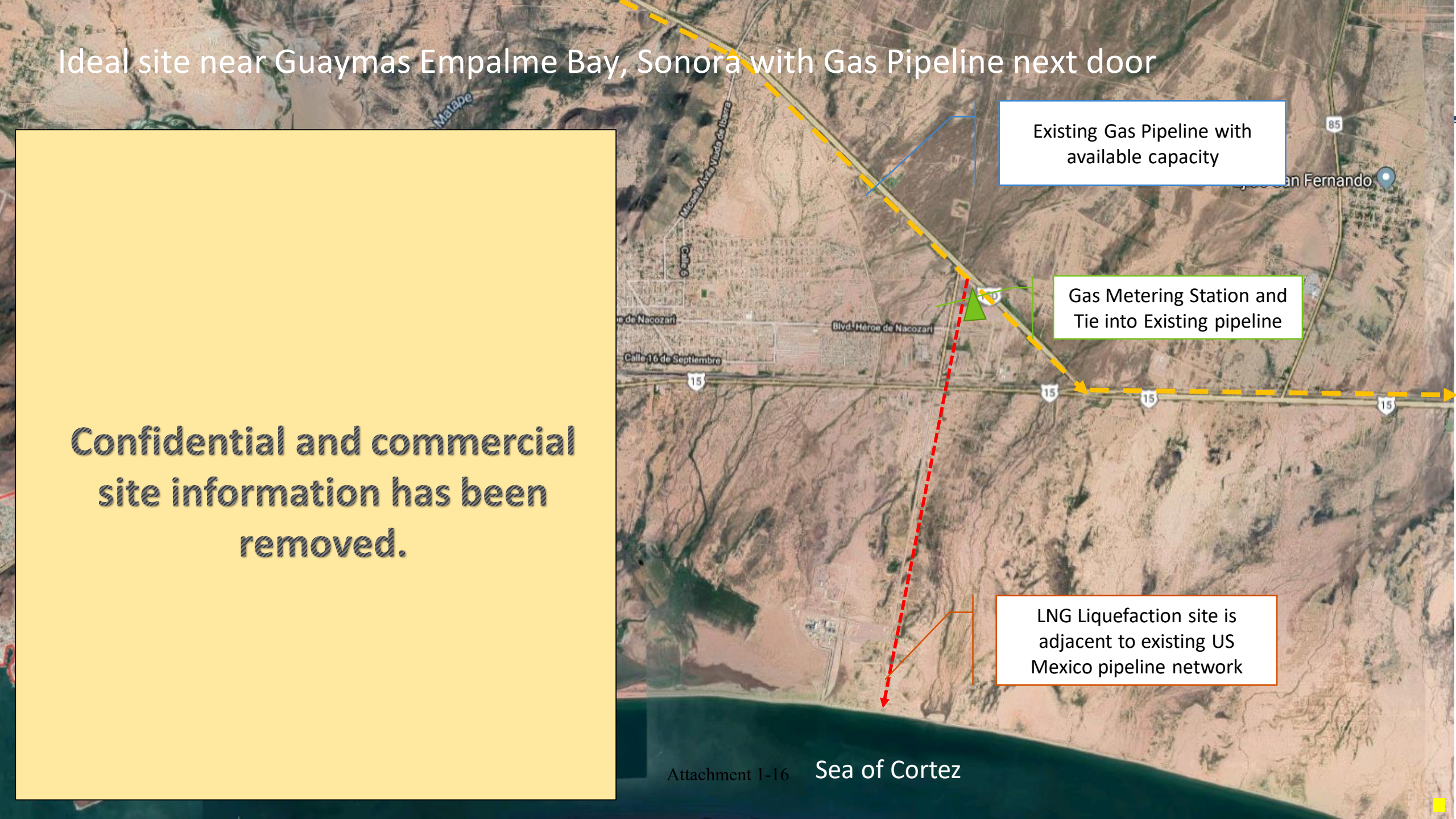
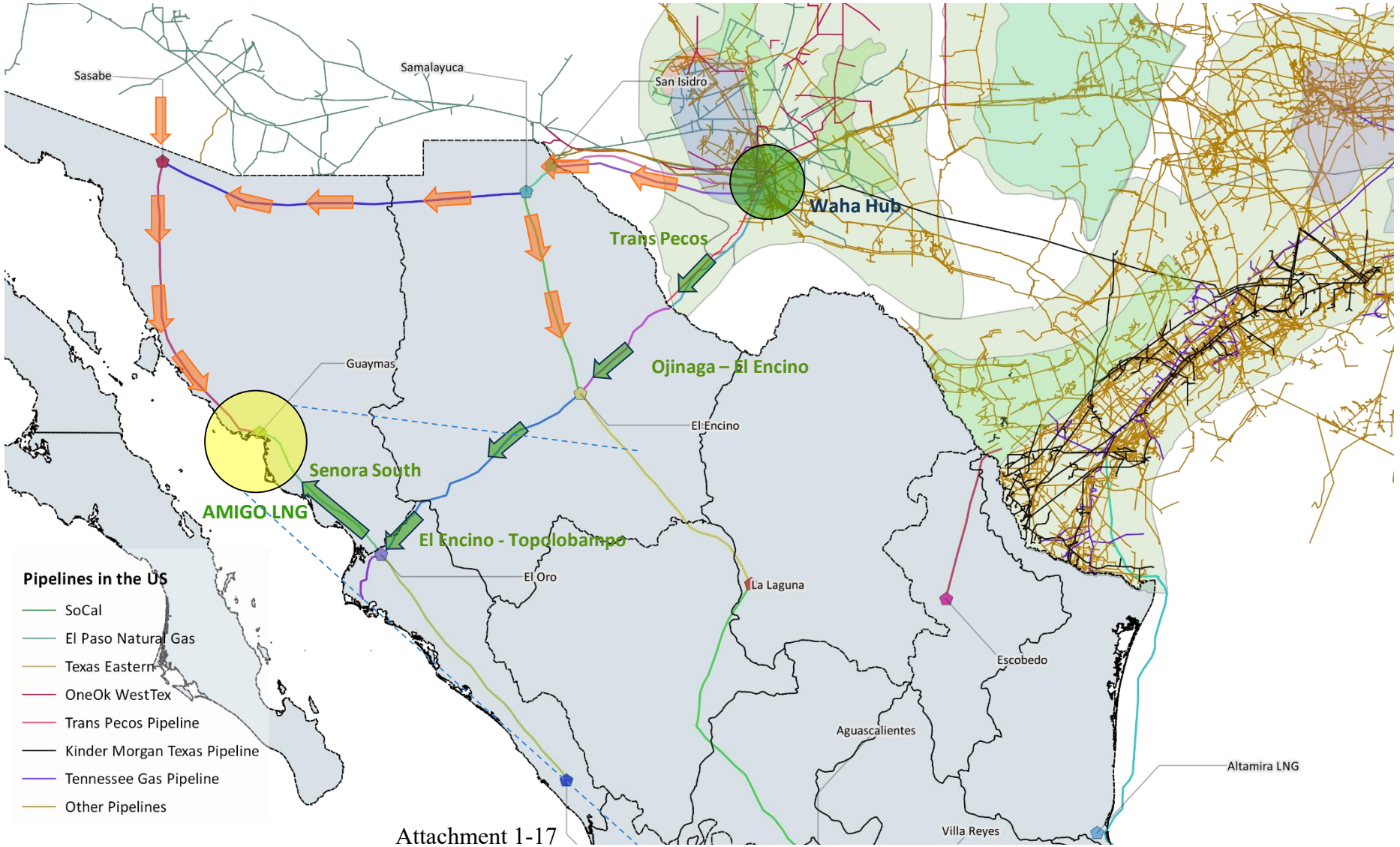


Pipeline Connectivity based on existing pipelines with adequate excess capacity

- ✔ Confirmed natural gas transportation based on existing gas pipelines from Waha to Guaymas, with available excess capacity for AMIGO LNG to supply 500 mmscfd required by the project today (2019)
- Expandable as required to 1,000 mmscfd by 2022 for future LNG trains
- ✔ Sufficient redundancy and alternative pipeline capacity available
- ✔ Additional redundancy capacity, thru two other existing pipeline networks



3

Project Economics

Excellent project economics at around US$ 600 / tpa for liquefaction cost

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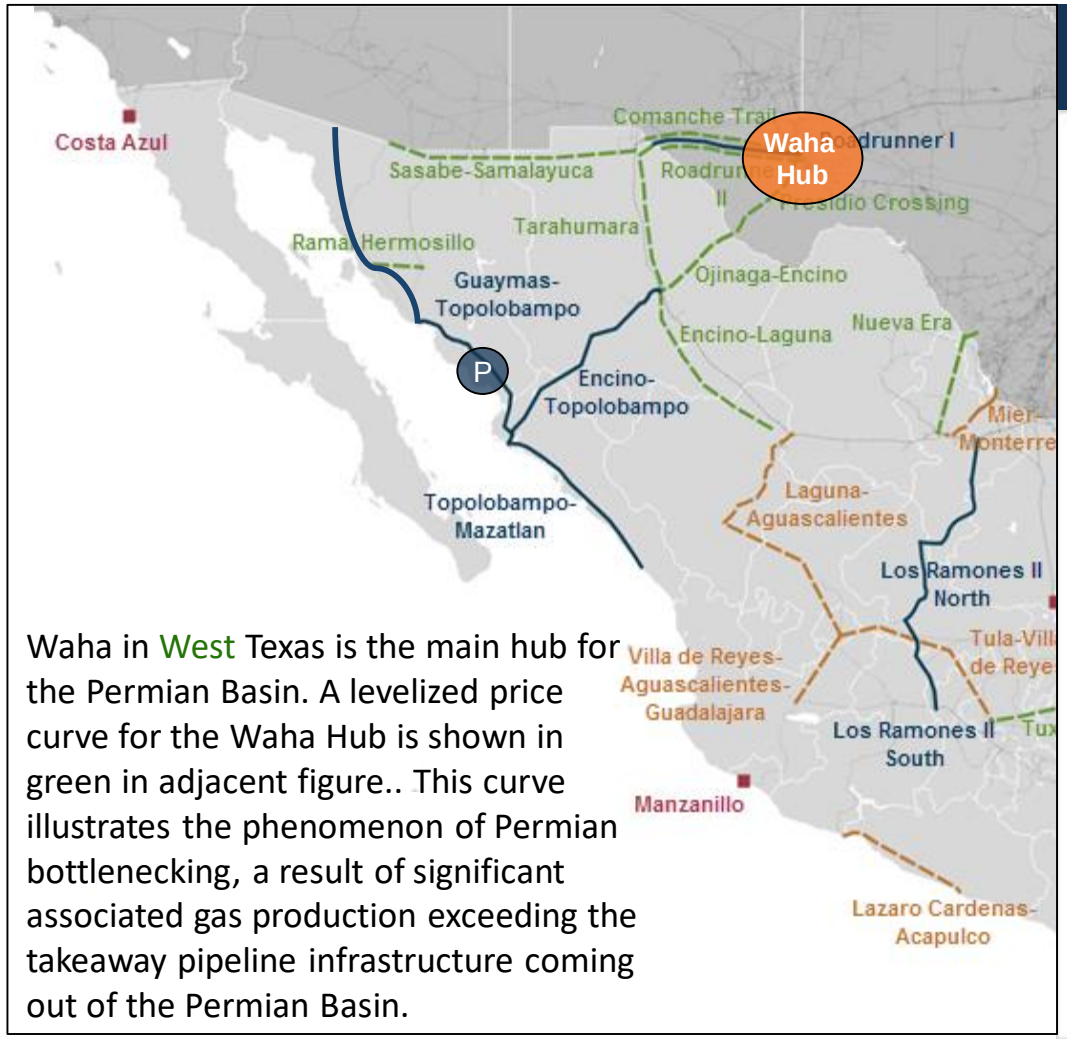
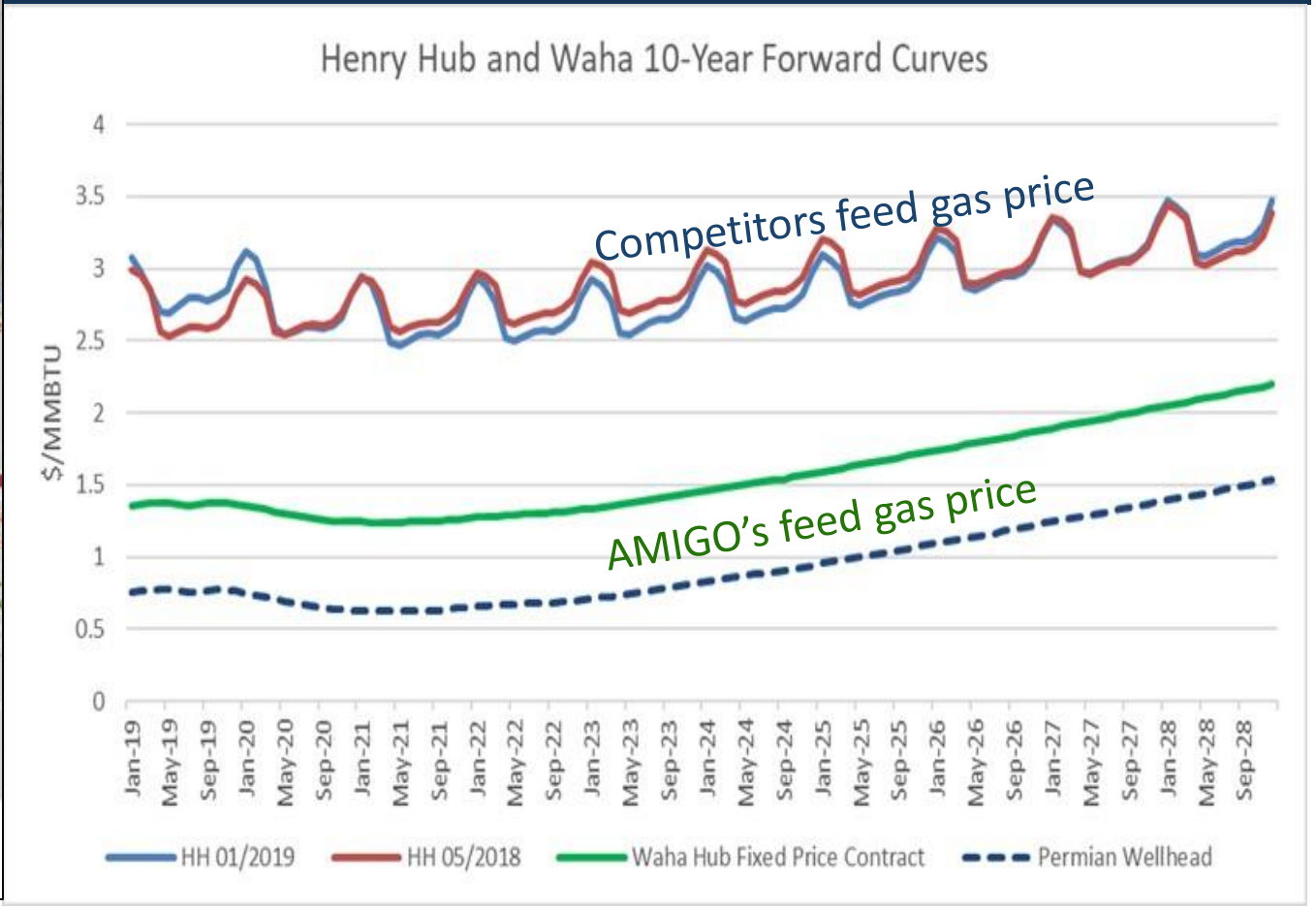
Waha Hub Gas (Permian gas) prices are more competitive than the Henry Hub prices

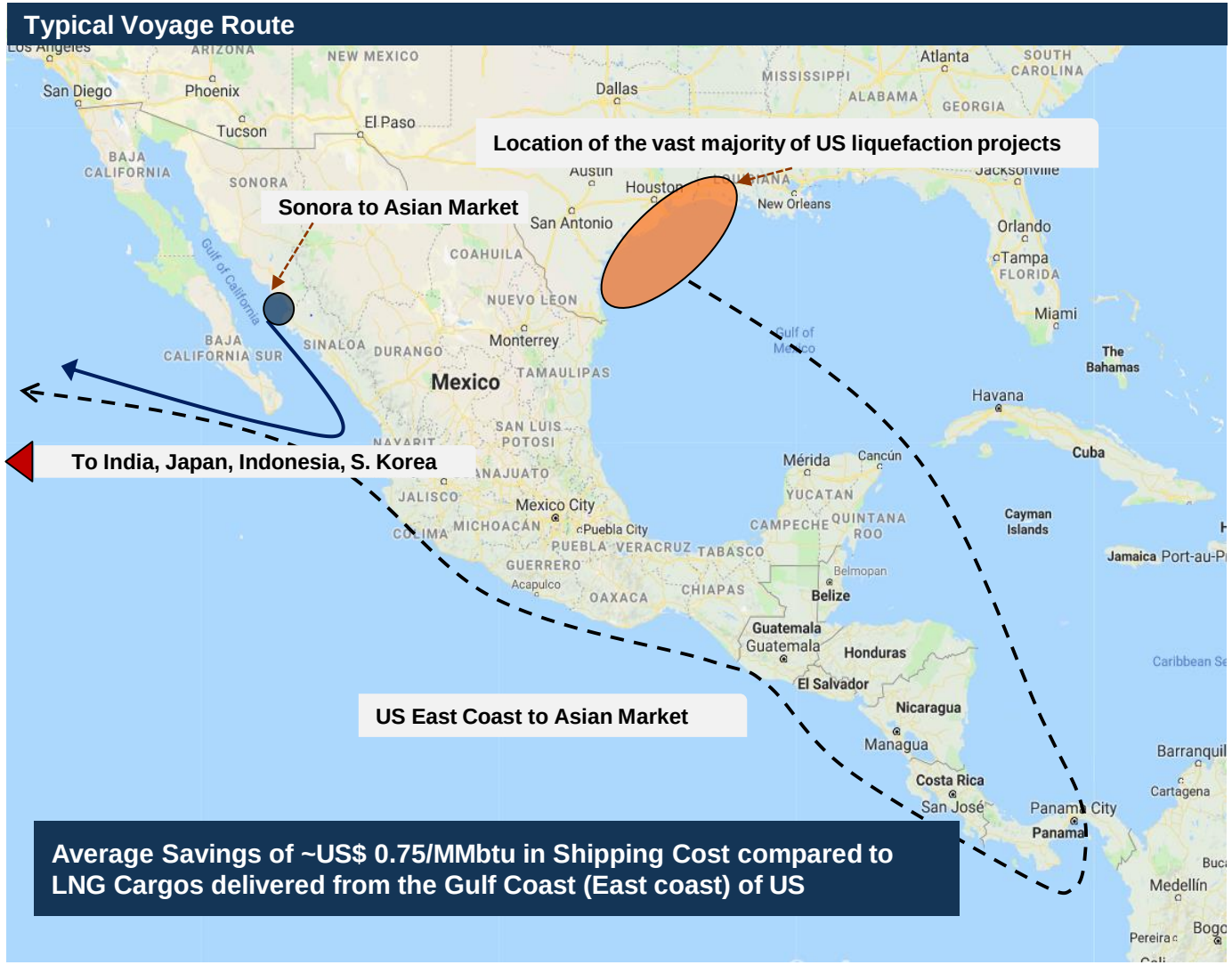


Waha in West Texas is the main hub for the Permian Basin. A levelized price curve for the Waha Hub is shown in green in adjacent figure.. This curve illustrates the phenomenon of Permian bottlenecking, a result of significant associated gas production exceeding the takeaway pipeline infrastructure coming out of the Permian Basin.

Gas sourced from Waha Hub are priced at a large discount of compared to Henry Hub Prices



Bypassing the busy Panama Canal, results in lower voyage days and shipping fees



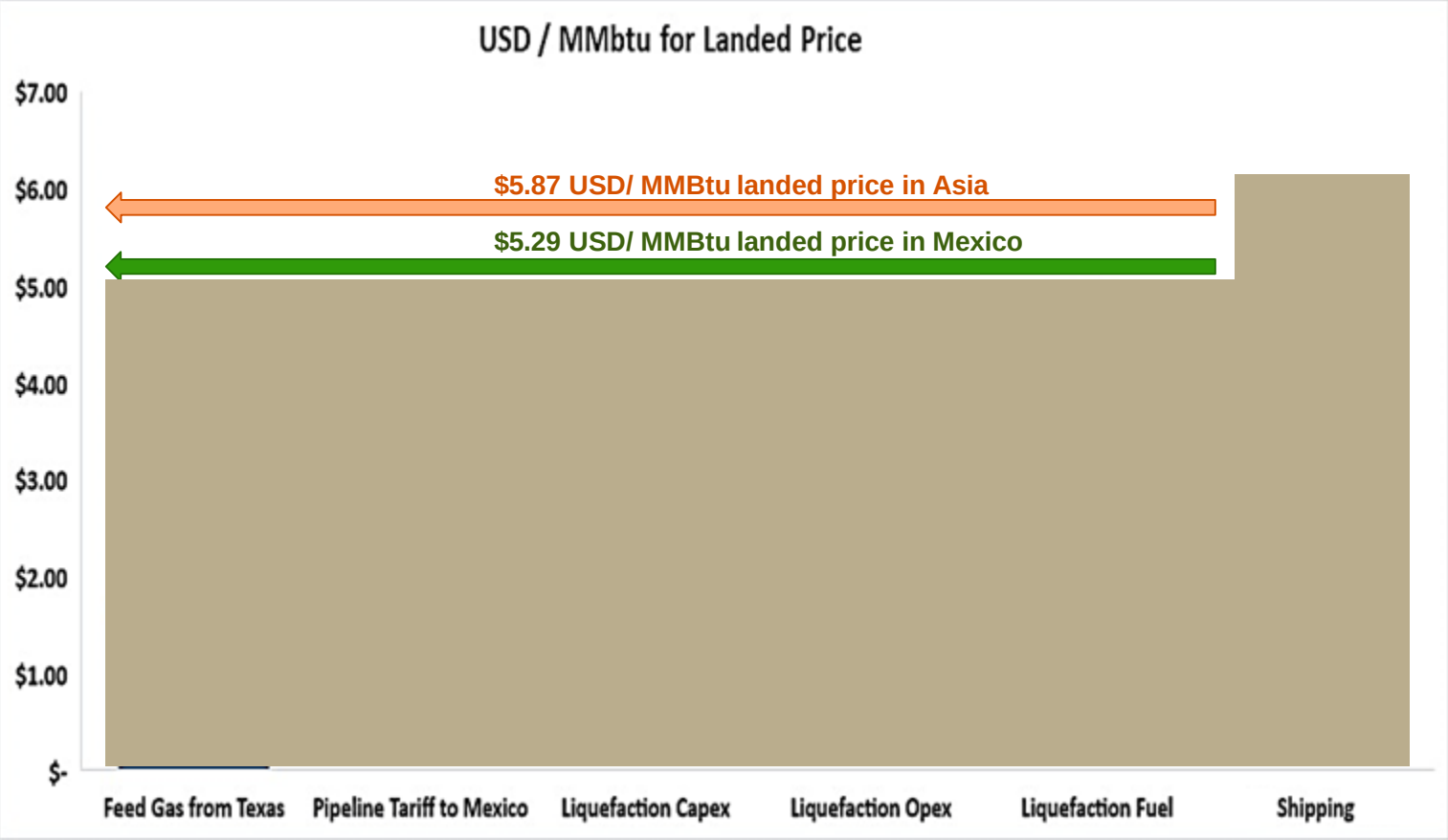
Distance Advantage for Project AMIGO over conventional US Liquefaction projects

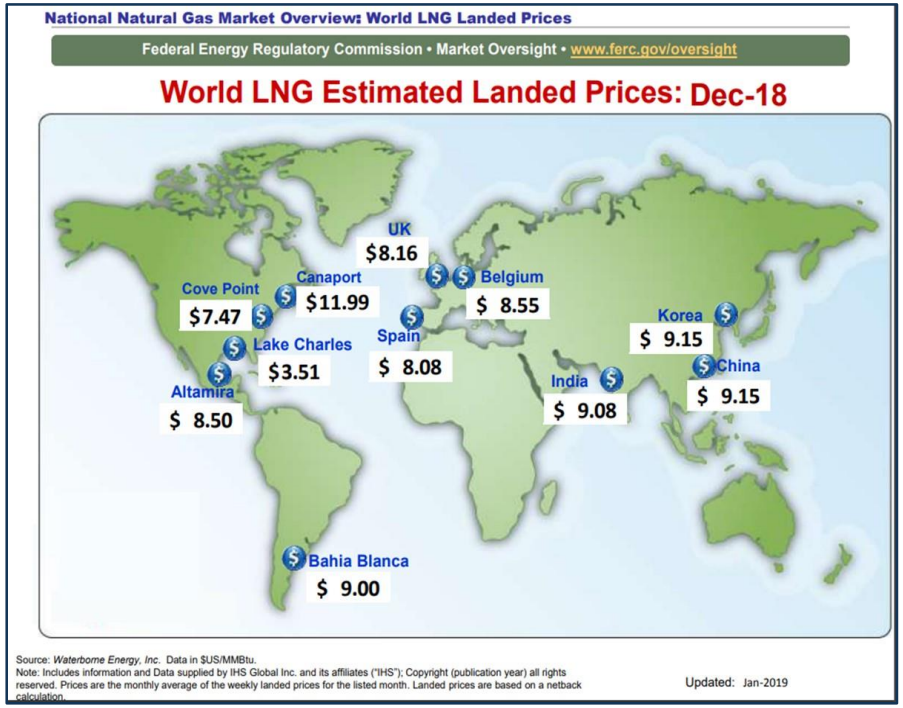
- Shorter distance for Asian bound LNG Cargos – Voyage days are reduced by 35%
- Nearly 42% reduction in Shipping cost due to shorter voyage and absence of Panama Canal charge

		Port Calls		
		Japan	S. Korea	China
East Coast of US	Distance (Nm)	9200	9600	10100
	Voyage Duration for Round Trip (Days)	40	42	44
	Estimated Shipping Cost (US$/MMbtu)	1.71	1.81	1.92
Project AMIGO	Distance (Nm)	5900	6300	6800
	Voyage Duration for Round Trip (Days)	25	27	29
	Estimated Shipping Cost (US$/MMbtu)	0.96	1.06	1.15

Competitive delivered price of LNG is expected at below 6 US$/MMbtu

Project AMIGO LNG (DES) Landed Price provides long term LNG at below 6 USD/ MMbtu





Delivered Price of LNG from Project AMIGO to Mexico and Asia is expected to be 2 to 4 USD/MMbtu cheaper than LNG sourced from any other international projects for the long term, and will be more competitive than Qatar, Malaysia, USA or Australia.

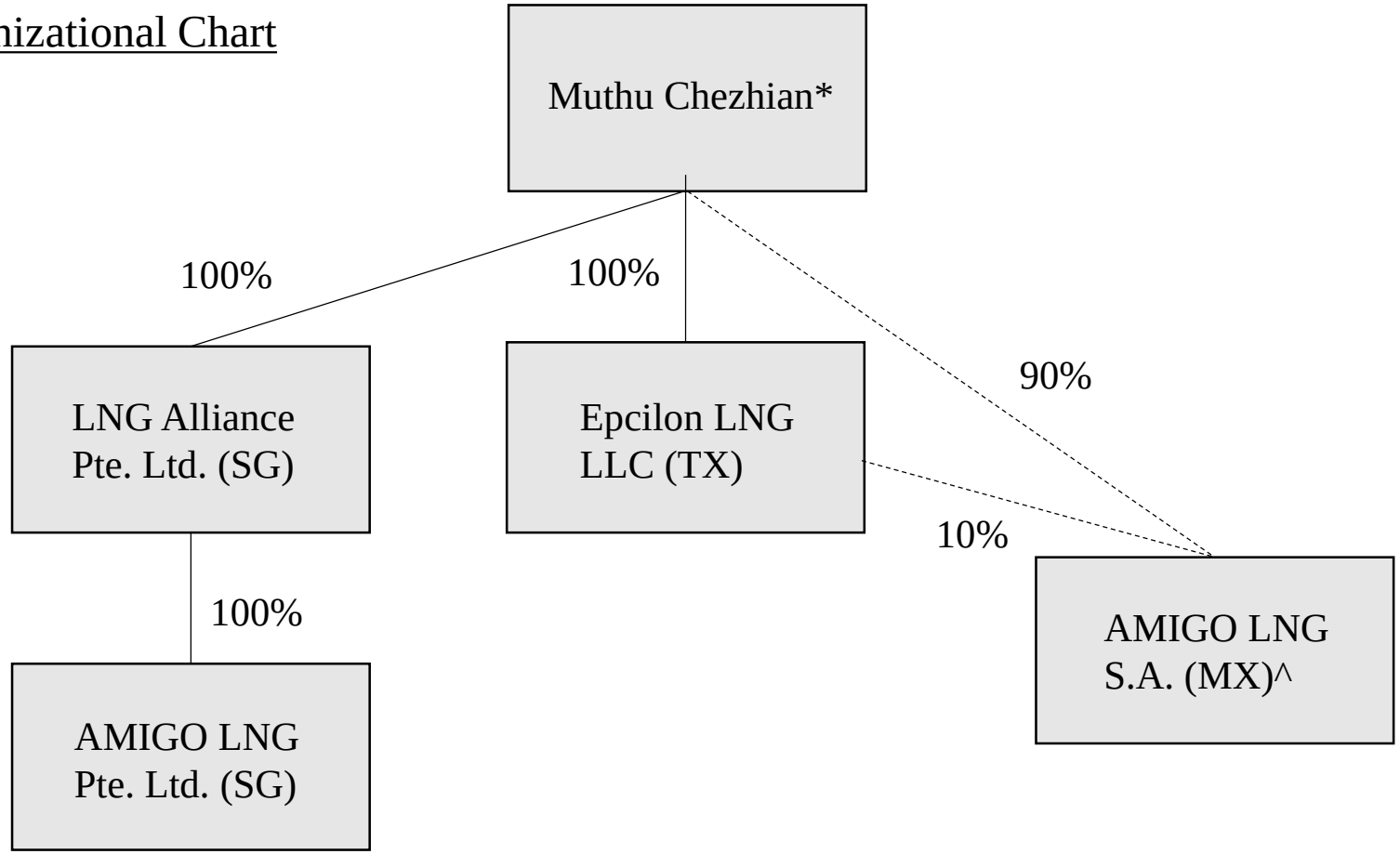
USA : (+1) 713 240 2631 / Email: mc@lngalliance.com

Attachment 2

Epcilon Organization Chart and Permits

(Epcilon's Organizational Chart and Related Project Permit-Holders)

Simplified Organizational Chart



* Dr. Chezhian is a citizen of Norway with a principal place of residence in Katy, Texas.

^ Holder of the following permits: ZOFEMAT (Zona Federal Maritimo Terrestre, translated as Federal Maritime Terrestrial Zone) Concession Permit; Environmental Impact Authorization from SEMARNAT; LNG Export Permit from SENER; LNG Liquefaction and Storage Permits from CRE.

CONFIDENTIAL
Attachment 3

Documentation on Site Control

(Applicable Contracts and Other Documentation)

Filed under seal pursuant to 10 C.F.R. § 590.202(e)

CONFIDENTIAL
Attachment 4

Project Environmental Impact Assessment (Mexico)

(Documentation for Applicable Mexican Governmental Authorities)

Filed under seal pursuant to 10 C.F.R. § 590.202(e)

Appendix A

Legal Opinion of Counsel for Epcilon

THOMPSON & KNIGHT LLP

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March 20, 2020

Ms. Amy Sweeney
Office of Fossil Energy (FE-34)
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585

Re: *Epcilon LNG LLC*, FE Docket No. 20-_____-LNG
Application for Long-Term Authorization to Export Liquefied Natural Gas to Both FTA and Non-FTA Countries

Dear Ms. Sweeney:

This opinion is provided pursuant to Section 590.202(c) of the Department of Energy Regulations, 10 C.F.R. § 590.202(c), in support of the Application of Epcilon LNG LLC ("Epcilon") for Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas to Free Trade Agreement and Non-Free Trade Agreement Nations.

I am counsel to Epcilon, a limited liability company organized under the laws of the State of Texas. I have reviewed and relied upon the corporate documents of Epcilon LNG LLC, and it is my opinion that the proposed exports described in the Application are within the limited liability company powers of Epcilon.

Very truly yours,

/s/Nicolas A. McTyre
Nicolas A. McTyre

Counsel to Epcilon LNG LLC

Appendix B

Verification

VERIFICATION

I, Muthu Chezhian, being first duly sworn, state that I am a duly authorized representative of Epcilon LNG LLC; I have read the above Application and I am familiar with its contents; and the matters set forth in the Application are true and correct to the best of my knowledge, information, and belief.

Muthu Chezhian, Ph.D
Chief Executive Officer
Epcilon LNG LLC

Subscribed and sworn to before me this 19th day of [MARCH], 2020.

Notary Public

My Commission expires: 12-28-2022

CHEYANNE M CHAVEZ
NOTARY PUBLIC
STATE OF TEXAS
ID 131841612
EXP. 12-28-2022