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By Docket Room at

8:30am, Oct. 15, 2013

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October 11, 2013

Via Email and Courier

Mr. John Anderson Office of Fuels Program, Fossil Energy U.S. Department of Energy Docket Room 3F-056, FE-50 Forrestal Building 1000 Independence Avenue, S.W. Washington, D.C. 20585

Re: Magnolia LNG, LLC FE Docket No. 13 -<u>132</u>-LNG Application for Long-Term Multi-Contract Authorization to Export Liquefied Natural Gas to non-Free Trade Agreement Countries

Dear Mr. Anderson:

Magnolia LNG, LLC ("Magnolia LNG") hereby submits for filing with the U.S. Department of Energy, Office of Fossil Energy ("DOE/FE") an original and five (5) copies of its application seeking long-term, multi-contract authorization to export liquefied natural gas ("LNG") to any country with which the United States does not have a free trade agreement requiring national treatment for trade in natural gas and LNG, which has or in the future develops the capacity to import LNG via ocean-going carrier, and with which trade is not prohibited by U.S. law or policy.

As set forth in greater detail in the attached application, Magnolia LNG requests authorization to export up to the equivalent of approximately 1.08 billion cubic feet of natural gas per day (approximately 420 trillion Btu per annum), or approximately 8 million metric tons per annum of domestically produced LNG over a twenty-five (25) year period commencing on the earlier of the date of first export or ten (10) years from the date the requested authorization is granted. Magnolia LNG requests such export authorization on its own behalf and as agent for others.



Enclosed please find a check for the filing fee in the amount of \$50.00, as required by 10 C.F.R. § 590.207. In addition, pursuant to 10 C.F.R. § 590.103(b), a Verification statement is included at Exhibit C, and pursuant to 10 C.F.R. § 590.202(c), an Opinion of Counsel letter is included at Exhibit D.

Respectfully submitted,

David L. Wochner Counsel for Magnolia LNG, LLC

UNITED STATES OF AMERICA BEFORE THE DEPARTMENT OF ENERGY OFFICE OF FOSSIL ENERGY

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In the Matter of				
MAGNOLIA LNG. LLC				

FE Docket No. 13-___-LNG

APPLICATION OF MAGNOLIA LNG LLC FOR LONG-TERM AUTHORIZATION TO **EXPORT LNG TO NON-FREE TRADE AGREEMENT COUNTRIES**

Pursuant to Section 3 of the Natural Gas Act ("NGA")¹ and Part 590 of the Department of Energy's ("DOE") regulations,² Magnolia LNG LLC ("Magnolia LNG") hereby submits this application ("Application") to the DOE, Office of Fossil Energy ("FE") for long-term, multicontract authorization to export liquefied natural gas ("LNG"). Magnolia LNG seeks the authorization in this Application for up to the equivalent of approximately 1.08 billion cubic feet of natural gas per day ("Bcf/d") (or approximately 420 trillion Btu per annum), which is approximately equivalent to eight (8) million tons per annum ("mtpa") of domestically produced LNG. Authorization is sought for a 25-year period, commencing on the earlier of the date of first export or ten (10) years from the date of issuance of the authorization requested by this Application.

Magnolia LNG proposes to export LNG from the terminal it intends to construct, own, and operate near Lake Charles, Louisiana ("Magnolia LNG Terminal") to any country with which the United States does not have a free trade agreement ("non-FTA") requiring national treatment for trade in natural gas and LNG, which has or in the future develops the capacity to

¹ 15 U.S.C. § 717b. ² 10 C.F.R. § 590 (2013).

import LNG via ocean-going carrier, and with which trade is not prohibited by U.S. law or policy.³

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

I. COMMUNICATIONS AND CORRESPONDENCE

Correspondence and communications regarding this Application should be addressed to

the following and those designated with an (*) should be designated as the agent for service for

Magnolia LNG:

Fletcher Maurice Brand Manager Magnolia LNG LLC 5 Ord Street West Perth, Western Australia 6005 Tel: + 61 8 9366 3700 Fax: + 61 8 9366 3799 mbrand@lnglimited.com.au

Ernie Megginson Vice President, Development Magnolia LNG LLC 1001 McKinney, Suite 400 Houston, TX 77002 Tel: 713.815.6900 emegginson@magnolialng.com David L. Wochner* Sandra E. Safro* K&L Gates, LLP 1601 K Street, N.W. Washington, D.C. 20006 Tel: 202.778.9000 Fax: 202.778.9100 david.wochner@klgates.com sandra.safro@klgates.com

II. DESCRIPTION OF THE APPLICANT

The exact legal name of the applicant is Magnolia LNG, LLC, a limited liability company organized under the laws of Delaware, and a wholly owned indirect subsidiary of Liquefied Natural Gas Limited ("LNG Limited"). Magnolia LNG's principal place of business is 1001 McKinney, Suite 400, Houston, Texas 77002. LNG Limited is a publicly listed Australian

³ Magnolia LNG received authorization from DOE/FE to export 4 mtpa of LNG to FTA countries on February 27, 2013. *Magnolia LNG, LLC,* DOE/FE Order No. 3245 (2013). This requested authorization to export 8 mtpa of LNG to non-FTA countries is not additive of the 4 mtpa authorized for export to FTA countries in DOE/FE Order No. 3245. Magnolia LNG is filing simultaneously with this Application, a separate application to export an additional 4 mtpa of LNG to FTA nations, bringing the entire requested FTA volumes to 8 mtpa to match the non-FTA volumes of this Application. Magnolia LNG seeks a total authorized LNG export volume for the Magnolia LNG Terminal of 8 mtpa.

company with the objective of identifying and developing LNG projects in Australia and overseas. For example, LNG Limited is in the process of developing the Gladstone LNG Project at Fisherman's Landing in the Port of Gladstone, Queensland, Australia. The Gladstone LNG Project will consist of two 1.9 mtpa liquefaction trains.

III. DESCRIPTION OF THE MAGNOLIA LNG TERMINAL

In this Application, Magnolia LNG seeks long-term authorization to export domestically produced LNG from the Magnolia LNG Terminal to be constructed pursuant to Section 3 of the NGA (the "Project"). The Project facilities are anticipated to include four (4) LNG trains, two (2) LNG storage tanks each with capacity of approximately 160,000 m³, and vessel loading facilities. Each of the LNG trains will be capable of producing up to two (2) mtpa of LNG, for a total capacity of eight (8) mtpa of LNG. Currently, the Project facilities would permit natural gas to be received by pipeline at the Magnolia LNG Terminal, liquefy such natural gas, and load the LNG from the storage tanks onto an LNG carrier berthed alongside the Magnolia LNG Terminal. Magnolia LNG will construct, own, and operate the Magnolia LNG Terminal.

The Project is planned to be located on Industrial Canal South Shore PLC Tract 475, an approximately 120-acre parcel of land in Calcasieu Parish, south of Lake Charles, available through a long-term lease with the Lake Charles Harbor & Terminal District (the "Port"). The Industrial Canal is located off the main Calcasieu River Ship Channel. The Magnolia LNG Terminal will be located in an area zoned for heavy industrial use and will be consistent with other industrial facilities along the shoreline. The coordinates of the proposed Project site are as follows: Latitude: 30° 06' 20.30" N; Longitude: 93° 17' 54.00" W.

Earlier this year, Magnolia LNG secured property from the Port of Lake Charles to construct the Magnolia LNG Terminal through a lease agreement. On March 6, 2013, Magnolia

LNG signed an exclusive and binding four-year Real Estate Lease Option Agreement ("Option Agreement") with the Port for the Project site.⁴ The Option Agreement includes as an annex an agreed form of Ground Lease, which includes a 30-year lease term, with Magnolia LNG having the right to extend the lease term, at its sole discretion, for four further periods of ten (10) years, or 70 years in total. Subject to compliance with the terms of the Option Agreement, Magnolia LNG may exercise the option and enter into the Ground Lease with the Port at any time.

On March 20, 2013, the Federal Energy Regulatory Commission ("FERC") accepted Magnolia LNG's request to commence the pre-filing process, for authorization to site, construct, own, and operate the Magnolia LNG Terminal.

IV. AUTHORIZATION REQUESTED

In this Application, Magnolia LNG requests that DOE/FE grant a long-term, multicontract authorization to export up to 8 mtpa of domestically produced LNG (equivalent to approximately 1.08 Bcf/d) for a twenty-five (25) year period commencing upon the earlier of the date of first export or the tenth (10) anniversary of the date authorization is granted by DOE/FE. Magnolia LNG requests that such long-term, multi-contract authorization provide for export 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. As further described in Section IX below, Magnolia LNG has commenced the pre-filing process at FERC for authorization to site, construct, own, and operate the Magnolia LNG Terminal.

Magnolia LNG requests such authorization to export LNG to non-FTA countries on its own behalf or as agent for others. To ensure all exports are permitted and lawful under United States laws and policies, Magnolia LNG will comply with all DOE requirements for an exporter

⁴ The Real Estate Lease Option Agreement is attached hereto as Exhibit B.

or agent. As set forth in prior DOE/FE orders authorizing LNG exports,⁵ Magnolia LNG will register with DOE/FE each LNG title holder for whom Magnolia LNG seeks to export LNG. In such registrations, Magnolia LNG will provide DOE/FE with a written statement by the title holder acknowledging and agreeing to (i) comply with all requirements in Magnolia LNG's long-term export authorization and (ii) include those requirements in any subsequent purchase or sale agreement entered into for the exported LNG by that title holder. Magnolia LNG also will file with DOE/FE under seal any relevant long-term commercial agreements it enters into with the LNG title holders on whose behalf the exports will be performed.

The long-term, multi-contract authorization sought in this Application is necessary to permit Magnolia LNG to incur the substantial cost of developing the liquefaction and export project. The terms and conditions related to the use of the Magnolia LNG Terminal facilities will be set forth in agreements with Project customers. Magnolia LNG anticipates that these agreements will be for terms of up to twenty-five (25) years in duration and will run concurrently with Magnolia LNG's export authorization. Magnolia LNG is engaged in commercial negotiations with several potential terminal customers, including Gunvor Group Ltd, a global energy trading company,⁶ and Gas Natural SDG SA.⁷

⁶ Press Release, 2 mtpa Tolling Term Sheet Signed with Gunvor Major Step for Magnolia LNG Project (July 17, 2013), *available at* <u>http://magnolialng.com/IRM/Company/ShowPage.aspx/PDFs/1912-</u>42259405/2MTPATollingTermSheetSignedwithGunvorMagnoliaLNG (last visited Oct. 4, 2013). Gunvor has indicated that it intends to export the LNG to Panama, a country with which the United States has a free trade agreement.

⁷ Press Release, Heads of Agreement with Gas Natural SDG, SA for up to 2 mtpa from Magnolia LNG (Aug. 9, 2013), *available at* <u>http://magnolialng.com/IRM/Company/ShowPage.aspx/PDFs/1959-</u>

⁵ See, e.g., Dominion Cove Point LNG, LP, DOE/FE Order No. 3331, at 153-54 (2013) ("Cove Point Order"); and Lake Charles Exports, LLC, DOE/FE Order No. 3324, at 137 (2013) ("Lake Charles Order").

^{57600014/}HoAwithGasNaturalSDG2mtpafromMagnolia (last visited Oct. 4, 2013). Gas Natural is a Spain-based natural gas company that has a broad portfolio of natural gas assets, some of which are used to satisfy demand in Spain through its existing LNG import terminals. As a member of the European Union, Spain is a key trading ally of the United States. In 2012, as explained by the California Chamber of Commerce, the United States exported to Spain over \$9.5 billion and imported \$11.8 billion. *See* California Chamber of Commerce, Trade Partner Portal: Spain, *available at* http://www.calchamber.com/international/portals/spain/pages/default.aspx} (last visited Oct. 10, 2013).

DOE/FE's regulations require applicants to submit information regarding the terms of the transaction, including long-term supply agreements and long-term export agreements.⁸ In prior orders, DOE/FE has found that applicants need not submit this information with their applications if such transaction specific information is not available because neither the supply contracts nor the long-term export contracts have been executed.⁹ In such instances, DOE/FE has permitted applicants to submit such information when contracts are executed, which DOE/FE has found conforms to the requirement in its regulations that such information be submitted "when practicable."¹⁰ Magnolia LNG requests that DOE/FE make the same finding in this proceeding and commits that it will file such information with DOE/FE when practicable in compliance with DOE's pronouncement in *Sabine Pass*.

V. EXPORT SOURCES

Magnolia LNG seeks authorization to export natural gas available from the United States' natural gas pipeline supply and transmission system. The Magnolia LNG Terminal will be situated within approximately three miles of four major interstate/intrastate natural gas pipelines owned by Trunkline Gas Company, Kinder Morgan Louisiana Pipeline ("KMLP"), Gulf South Pipeline Company, LP, and Chevron Pipe Line Company. Of these, Magnolia LNG is in advanced discussions with KMLP to provide the direct connection to the Magnolia LNG Terminal through which feed gas supplies will flow, and the compression required to transport the feed gas to the terminal. Through KMLP, Magnolia LNG's tolling customers will be able to directly access multiple other interstate natural gas pipelines and storage facilities, thus providing a variety of stable and economical supply options.

⁸ 10 C.F.R. § 590.202(b)(4).

⁹ See, e.g., Dominion Cove Point LNG, LP, DOE/FE Order No. 3331, at 152-53 (2013); and Lake Charles Exports, LLC, DOE/FE Order No. 3324, at 136 (2013).

¹⁰ Sabine Pass Liquefaction, LLC, DOE/FE Order No. 2833 (2010).

Magnolia LNG anticipates that the sources of natural gas will include conventional and unconventional supplies from various producing regions, including recent shale gas discoveries in the Haynesville, Eagle Ford, Barnett, Floyd-Neal/Conasauga, and Marcellus shale plays. These shale plays represent a vast supply of natural gas, with a combined area of approximately 100,000 square miles and contain an estimated 553 trillion cubic feet ("Tcf") of recoverable gas.¹¹ The size of traditional and emerging natural gas supply sources in close proximity to the Magnolia LNG Terminal will provide Magnolia LNG's potential customers with diverse and reliable alternative gas supply options.

VI. APPLICABLE LEGAL STANDARD

Section 3(a) of the NGA sets forth the general standard of review for applications seeking authorization to export LNG to countries 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. Section 3(a) provides:

> [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] authorizing it to do so. The [Secretary] shall issue such order upon application, unless, after opportunity for hearing, it finds that the proposed exportation or importation will not be consistent with the public interest. The [Secretary] may by its 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, and may from time to time, after opportunity for hearing, and for good cause shown, make such supplemental order in the premises as it may find necessary or appropriate.

DOE/FE has recognized that "[t]his provision creates a rebuttable presumption that a proposed export of natural gas is in the public interest."¹² DOE/FE has further explained that, pursuant to

¹¹ U.S. ENERGY INFORMATION ADMINISTRATION, REVIEW OF EMERGING RESOURCES: U.S. SHALE GAS AND SHALE OIL PLAYS (2011).

¹² See, e.g., Dominion Cove Point LNG, LP, at 7; and Lake Charles Exports, LLC, at 6.

this standard of review, "DOE/FE must grant such an application unless opponents of the application overcome that presumption by making an affirmative showing of inconsistency with the public interest."¹³ Beyond this broad public interest standard and presumption in favor of exports, the NGA does not further define "public interest" nor does it point to specific criteria that DOE/FE must consider when issuing a decision on an application. DOE/FE's prior decisions have taken a number of factors into account, including economic impacts, international impacts, security of natural gas supply, and environmental impacts, and also have depended on principles established in its 1984 Policy Guidelines,¹⁴ the goals of which are "to minimize federal control and involvement in energy markets and to promote a balanced and mixed energy resource system."¹⁵ In pertinent part, the 1984 Policy Guidelines provide:

The market, not government, should determine the price and other contract terms of imported [or exported] natural gas The federal government's primary responsibility in authorizing imports [or exports] will be to evaluate the need for the gas and whether the import [or export] arrangement will provide the gas on a competitively priced basis for the duration of the contract while minimizing regulatory impediments to a freely operating market.¹⁶

DOE/FE recently affirmed that in its review of export applications, it will continue to take into account the principles embodied in the 1984 Policy Guidelines, as well as: (i) the domestic need for the natural gas proposed to be exported, (ii) whether the proposed export poses 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

¹³ See, e.g., Dominion Cove Point LNG, LP, at 7-8; and Lake Charles Exports, LLC, at 6-7.

¹⁴ New Policy Guidelines and Delegations Order Relating to Regulation of Imported Natural Gas, 49 Fed. Reg. 6684 (Feb. 22, 1984).

¹⁵ Dominion Cove Point LNG, LP, DOE/FE Order No. 3331, at 8 (2013).

¹⁶ New Policy Guidelines and Delegations Order Relating to Regulation of Imported Natural Gas, 49 Fed. Reg. 6684, at 6685 (Feb. 22, 1984).

public interest.¹⁷ As demonstrated herein, Magnolia LNG's Application is not inconsistent with the public interest and therefore DOE/FE should grant its Application.

VII. PUBLIC INTEREST

Under the NGA, the burden clearly rests on the party that is challenging the issuance of the export or import license to demonstrate that the proposed exports or imports are not consistent with the public interest. DOE/FE's recent LNG Export Study, a two-part study commissioned by the DOE including a more limited assessment by the Energy Information Administration ("EIA") and a macroeconomic study conducted by NERA Economic Consulting ("NERA Study") (collectively, the "LNG Export Study"), and data from EIA's Annual Energy Outlook 2013 ("AEO 2013") support the conclusion that the authorization requested in this Application is not inconsistent with the public interest. In addition, to support this Application, Magnolia LNG retained the Berkeley Research Group ("BRG"), a leading energy market analytics firm, to provide an up-to-date analysis of the impacts to domestic natural gas prices, consumption, production, and trade from Magnolia LNG's proposed LNG export terminal and other scenarios for higher LNG export and/or natural gas demand levels ("BRG Study"). BRG's findings in its Study further support the conclusion that the LNG exports that Magnolia LNG proposes in this Application are not inconsistent with the public interest. BRG's Study and its appendices are attached hereto as Exhibit A.

While several entities have spent the last two years asserting that exports of LNG will harm the nation, no credible evidence has yet been presented to support these baseless allegations and DOE/FE has rejected such attempts.¹⁸ Regardless, even if DOE does accept the minimal evidence presented by those opposing LNG exports, as demonstrated below Magnolia

¹⁷ See, e.g., Dominion Cove Point LNG, LP, at 8-9.

¹⁸ See, e.g., id. at 151; Lake Charles Exports, LLC, DOE/FE Order No. 3324, at 125-27 (2013); and Freeport LNG Expansion L.P. and FLNG Liquefaction LLC, DOE/FE Order No. 3282 at 112-14 (2013).

LNG's proposed exports affirmatively are consistent with public interest. As a result, DOE should grant the requested authorization. LNG exports from the proposed Magnolia LNG Terminal in Lake Charles, Louisiana will create jobs, develop industry, foster continued production of domestic conventional and unconventional natural gas supplies, promote international trade and improve the U.S. balance of trade, and promote strong relationships with strategic international allies.

A. The BRG Study

Before proceeding to an analysis of the public interest, it is useful to introduce the methodology BRG employed in preparing its Study, which presents an analysis of the impacts that authorizing the proposed LNG exports requested in this Application would have on natural gas prices, consumption, production, and trade. BRG also provided a high level assessment of the potential range of impacts on global LNG markets and prices as related to the long-term feasibility of LNG exports.

BRG employed a three-pronged analytic approach to assess the potential impacts of longterm LNG exports from the United States and Canada, along with a high-level assessment of the potential range of long-term impacts on global LNG prices and their differential to U.S. prices that provide the long-term rationale economic rationale for U.S. LNG exports. BRG's threepronged approach is as follows:

> First, BRG prepared and simulated the market for a Reference Case to prove a baseline simulation of U.S. natural gas markets and prices with limited LNG exports from the most advanced facilities (with DOE non-FTA approvals and long-term commercial agreements in hand). The Reference Case includes baseline assumptions for (1) domestic U.S. natural gas consumption by sector,

using AEO 2013 reference case data to derive demand targets; (2) limited LNG exports from three lower-48 export facilities, as noted below; (3) BRG's independent baseline analysis of future pipeline capacity construction; and (4) BRG's independent analysis of long-term shale gas production potential and costs derived using BRG's Shale Resource Potential ("ShaRP") model.¹⁹

- 2. Second, BRG defined a set of five scenarios for varying combinations of higher LNG exports and/or higher domestic demand growth than are reflected in the Reference Case (collectively, the "Scenarios"). For each scenario, BRG simulated the market to test the market and price impacts with all other variables for natural gas supply, production cost, and pipeline transportation held constant with the Reference Case.
- Third, BRG compared the market and price results from each scenario to measure the impacts of increased LNG exports on U.S. natural gas prices and on U.S. natural gas demand in response to the price impacts.

As noted above, BRG designed the Reference Case and five Scenarios set forth below to reflect reasonable ranges for low, moderate, and high levels of LNG exports from North America. In two scenarios the higher LNG export assumptions are combined with higher growth potential for U.S. natural gas demand, coming predominantly from the electric generation and industrial sectors. As a group, the Reference Case and Scenarios assume a range of LNG export terminal capacity from 4.6 Bcf/d to 13.9 Bcf/d and a range of future U.S. natural gas demand

¹⁹ BRG developed the ShaRP model in collaboration with Enegis, LLC as a comprehensive tool to analyze and forecast the long-term production potential cost targets for several different classes of wells for each of the major shale plays in the United States. Enegis, LLC is a boutique upstream energy consultancy specializing in geological, technical, and economic analysis.

ranging from 70.2 Bcf/d to 74.8 Bcf/d in 2035. The Reference Case and five Scenarios are as follows:

- <u>Reference Case</u>: The Reference Case assumes total U.S. LNG export capacity of 4.6 Bcf/d from the Sabine Pass, Freeport, and Cove Point LNG terminals (i.e., the three terminals with both DOE non-FTA approvals and publicly announced, long-term offtake contracts in place). In addition, the Reference Case assumes target U.S. natural gas demand of 70.2 Bcf/d in 2035, for a combined U.S. natural gas "demand" of 74.8 Bcf/d. This provides a baseline for market operations and prices without any further LNG development and/or higher demand growth.
- <u>Magnolia Scenario</u>: This Scenario adds Magnolia LNG's proposed approximately1.1 Bcf/d of LNG exports to the Reference Case for a total U.S. LNG export capacity of 5.7 Bcf/d. The Magnolia Scenario also assumes the same baseline target U.S. natural gas demand of 70.2 Bcf/d in 2035, for a combined U.S. natural gas "demand" of 75.9 Bcf/d.
- <u>Moderate LNG Scenario</u>: This Scenario adds 4.2 Bcf/d of LNG exports to the Magnolia Scenario for a total U.S. LNG export capacity of 9.9 Bcf/d. The Moderate LNG Scenario also assumes the same baseline target U.S. natural gas demand of 70.2 Bcf/d in 2035, for a combined U.S. natural gas "demand" of 80.1 Bcf/d.
- <u>High LNG Scenario</u>: This Scenario adds 4.0 Bcf/d of LNG exports to the Moderate LNG Scenario for a total U.S. LNG export capacity of 13.9 Bcf/d. The High LNG Scenario also assumes the same baseline target U.S. natural gas demand of 70.2 Bcf/d in 2035, for a combined U.S. natural gas "demand" of 84.1 Bcf/d.

- <u>High Demand/Moderate LNG Scenario</u>: This Scenario assumes the Moderate LNG Scenario set forth above, but with higher target U.S. natural gas demand of 74.8 Bcf/d in 2035, for a combined U.S. natural gas "demand" of 84.7 Bcf/d.
- <u>High Demand/High LNG Scenario</u>: This Scenario assumes the High LNG Scenario set forth above, but with higher target U.S. natural gas demand of 74.8 Bcf/d in 2035, for a combined U.S. natural gas "demand" of 88.7 Bcf/d.

BRG considers the four Scenarios that assume U.S. natural gas demand of 70.2 Bcf/d to be more likely, particularly those involving moderate LNG export capacity and/or moderate potential U.S. demand. The combination of the high ends of the LNG export terminal capacity and the future U.S. natural gas demand, captured in BRG's High Demand/High LNG Scenario, reflects the potential addition of almost 14 Bcf/d in incremental demand above the Reference Case by 2035. The BRG Study notes that while this scenario may be relevant to the review, it represents an unlikely future market scenario.

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

As noted above, DOE/FE has indicated that there are several factors it will take into account when determining whether an application to export LNG to a non-FTA nation is in the public interest. Prime among these factors, is the domestic demand for the natural gas proposed to be exported. In its recent orders, DOE/FE has analyzed the domestic need for natural gas by comparing domestic supply to domestic demand for natural gas using the results of the LNG Export Study.²⁰ The results of the LNG Export Study and DOE/FE's own conclusions in recent orders approving LNG export authorizations, as well as BRG's up-to-date analysis and conclusions in its study, compel a similar approval for Magnolia LNG.

²⁰ See, e.g., Dominion Cove Point LNG, LP, at 106-11; and Lake Charles Energy, LLC, at 93-98.

i. Domestic Natural Gas Supply

In its orders authorizing LNG exports, DOE/FE has rooted its analysis in the EIA AEO reports. As of the date of this Application, the most current information available from EIA is AEO 2013, which includes projections out to 2040.²¹ DOE/FE's analysis in both the *Cove Point* and *Lake Charles* orders is based on the information in AEO 2013.²² The AEO 2013 projections of proved U.S. natural gas reserves and projected production rates demonstrate that the United States has an abundant supply of natural gas that is sufficient to meet domestic demand and support the LNG export authorization that Magnolia LNG requests in this Application.

a. Proved U.S. Natural Gas Reserves

As DOE/FE has explained, proved reserves represent the "volume of oil and natural gas that geological and engineering data demonstrate with reasonable certainty to be recoverable in future years from known reservoirs under existing economic and operating conditions."²³ The United States has vast proved wet natural gas reserves. EIA reports that proved wet natural gas reserves increased by 9.8 percent from 2010 to 2011, to 348.81 Tcf, while wet gas production only increased by 6 percent to 24.26 Tcf.²⁴ In addition to abundant wet natural gas reserves, in the *Cove Point* and *Lake Charles* orders, DOE/FE analyzed EIA's report of 2010 domestic dry natural gas proved reserves and noted that proved reserves have increased by 72 percent since 2000 to 304.63 Tcf. By comparison, the estimated dry gas production rate in 2010 was 22.24 Tcf, a mere 16 percent increase over the estimated dry gas production rates in 2000.

²¹ U.S. ENERGY INFORMATION ADMINISTRATION, ANNUAL ENERGY OUTLOOK 2013 WITH PROJECTIONS TO 2040 (April 2013), *available at* <u>http://www.eia.gov/forecasts/aeo/pdf/0383(2013).pdf</u> (last visited Sept. 10, 2013) (hereinafter AEO 2013).

²² Dominion Cove Point LNG, LP, DOE/FE Order No. 3331, at n.95 (2013); and Lake Charles Energy, LLC, DOE/FE Order No. 3324, at n.109 (2013).

²³ Dominion Cove Point LNG, LP, at 106; and Lake Charles Energy, LLC, at 93.

²⁴ EIA, U.S. Crude and Natural Gas Proved Reserves, 2011, at Table 9 (August 2013), available at <u>http://www.eia.gov/naturalgas/crudeoilreserves/pdf/uscrudeoil.pdf</u> (last visited Sept. 10, 2013).

DOE/FE has indicated that it will continue to update its analysis based on the most current information available at the time. On August 1, 2013, EIA released updated information on U.S. dry natural gas reserves showing that proved reserves as of December 31, 2011, reached 334.07 Tcf,²⁵ while production increased to 23.56 Tcf.²⁶ This updated information further supports DOE/FE's conclusions in the *Cove Point* and *Lake Charles* orders that domestic natural gas supply as measured by proved natural gas reserves has been increasing²⁷ and that a "growing supply of natural gas available under existing economic and operating conditions."²⁸

b. Projected U.S. Natural Gas Production

As noted above, DOE/FE has based its analysis in its orders authorizing LNG export applications on the conclusions of the NERA Study, which relied on information from AEO 2011. With regard to natural gas production, DOE/FE noted in the *Cove Point* and *Lake Charles* orders that the projection of 2035 dry natural gas production in the AEO 2013 Reference Case increased by 13.8 Bcf/d over the 2035 projections in the AEO 2011 Reference Case,²⁹ which represents a nearly 20 percent increase in projected dry natural gas production. Furthermore, based on its Reference Case, EIA projects in AEO 2013 that U.S. dry natural gas production will increase by 1.3 percent per year through 2040.³⁰ It estimates that annual dry natural gas production will reach 33.14 Tcf by 2040, which represents an increase of nearly 38 percent over 2012 production levels. These projections demonstrate not only that a greater quantity of natural gas is projected to be available, as DOE/FE points out, but also that the conclusions in the NERA

 ²⁵ EIA, U.S. Crude and Natural Gas Proved Reserves, 2011, at Table 9 (August 2013), available at http://www.eia.gov/naturalgas/crudeoilreserves/pdf/uscrudeoil.pdf (last visited Sept. 10, 2013).
²⁶ Id.

²⁷ *Dominion Cove Point LNG, LP,* DOE/FE Order No. 3331, at 106-08 (2013); and *Lake Charles Energy, LLC,* DOE/FE Order No. 3324, at 93-94 (2013).

²⁸ Dominion Cove Point LNG, LP, at 106-07; and Lake Charles Energy, LLC, at 94.

²⁹ Dominion Cove Point LNG, LP, at 106; and Lake Charles Energy, LLC, at 93.

³⁰ AEO 2013 at Table A13.

Study, which found that LNG exports result in a net economic benefit in all cases studied, remain true.

ii. Domestic Natural Gas Demand

The second component in assessing the domestic need for the natural gas proposed to be exported is domestic natural gas demand. Data from EIA and the BRG Study support the conclusion that LNG exports, including the LNG exports Magnolia LNG proposes in this Application, will have only a modest impact on U.S. domestic natural gas demand and, as DOE/FE itself has found, U.S. natural gas supply will rise to meet any such increases in demand.

a. Domestic Natural Gas Demand Data from EIA's AEO

In the AEO 2013 Reference Case, EIA projects that total domestic consumption of natural gas will increase by 0.7 percent per year until 2040, at which time it estimates that total domestic consumption will reach 29.54 Tcf, or approximately 81 Bcf/d.³¹ The majority of this demand is projected to come from the electric power sector, at 9.50 Tcf (approximately 26 Bcf/d) and the industrial sector, at 7.90 Tcf (approximately 21.6 Bcf/d). In the *Cove Point* and *Lake Charles* orders, DOE/FE explained that, while AEO 2012 and AEO 2013 Early Release Overview both forecast greater U.S. consumption than AEO 2011 projected, both of these reports also project higher domestic production than AEO 2011.³² Thus, increased demand was met by increased supply.

³¹ *Id*.

³² Dominion Cove Point LNG, LP, at 88-89; and Lake Charles Energy, LLC, at 74.

b. Conclusions on Domestic Natural Gas Demand from the BRG Study

In its Reference Case, BRG estimates that U.S. domestic natural gas demand, excluding LNG exports, will grow by 5.2 Bcf/d by 2020, and will reach 77.5 Bcf/d by 2035.³³ With U.S. LNG exports remaining at approximately 4.1 Bcf/d to 4.2 Bcf/d throughout the period, the BRG Study projects the total estimated U.S. natural gas demand will increase to 78.8 Bcf/d in 2020, and will reach 81.6 Bcf/d in 2035. As compared to the BRG Reference Case, the five Scenarios for higher LNG exports and/or higher U.S. domestic natural gas consumption will have modest impacts on domestic demand. BRG finds that as LNG exports increase across the higher LNG export Scenarios, U.S. natural gas demand gradually declines relative to the BRG Reference Case. This occurs primarily in the electric sector due to this sector's price sensitivity relative to other sectors.

The BRG Study suggests that the U.S. draw on economic shale production relative to other supply sources, like conventional gas and coal bed methane, could potentially be even higher than the figures provided by EIA. However, BRG notes that this does not account for either the potential addition of new reserves or ongoing industry efforts to prove up the technical and economic feasibility of bringing new shale production to market. Further, BRG concludes that shale gas production increases substantially and consistently by 2035. As expected, the higher LNG exports and U.S. domestic natural gas demand Scenarios draw increasing amounts of shale production into the market. Thus, BRG's analysis finds that increased demand is met by

³³ As BRG explains, the actual demand levels resulting in the Reference Case and Scenarios (as simulation outputs) varies from the target demand derived from EIA figures (as simulation inputs). This occurs due to the price elasticity of demand and equilibration of supply, demand, and prices in each simulation.

increased supply from low cost shale production, as DOE concluded in the *Cove Point* and *Lake Charles* orders.³⁴

iii. The Adequacy of Supply Vis-Á-Vis Domestic Demand

The EIA data and the BRG Study conclusions cited above demonstrate that as natural gas demand increases over the next 30 years, natural gas production always increases to meet that demand. In fact, the EIA projects that U.S. dry natural gas production will exceed consumption by 2019,³⁵ and that U.S. dry natural gas production alone will exceed total U.S. natural gas consumption by 3.60 Tcf in 2040.³⁶

DOE/FE has stated that it will continue to process the pending applications for authorization to export LNG to non-FTA countries in the order of precedence established in December 2012.³⁷ As of the date of this Application, DOE/FE has authorized 6.37 Bcf/d of LNG exports to non-FTA countries.³⁸ Assuming that DOE/FE proceeds along its current path and continues to process applications in accordance with its established order of precedence and grants multiple additional LNG export licenses, it does not alter the empirically based conclusion regarding the adequacy of natural gas supply as compared to domestic demand. The export of the volumes of LNG proposed herein will not impact this conclusion, whether considered independently or on a cumulative basis. The incremental impact of Magnolia LNG's proposal is no different than the incremental impact of any other proposed LNG export terminal and no

³⁴ Dominion Cove Point LNG, LP, DOE/FE Order No. 3331, at 88-89 (2013); and Lake Charles Energy, LLC, DOE/FE Order No. 3324, at 74 (2013).

³⁵ AEO 2013 at p. 3.

 $^{^{36}}$ *Id.* at Table A13.

³⁷ Order of Precedence - Non-FTA LNG Export Applications, DOE/FE, available at

http://www.doe.gov/fe/downloads/order-precedence-non-fta-Ing-export-applications (last visited Sept. 11, 2013). ³⁸ Dominion Cove Point LNG, LP, DOE/FE Order No. 3331 (2013); Lake Charles Exports, LLC, DOE/FE Order No. 3324 (2013); Freeport LNG Expansion, LP, DOE/FE Order No. 3282 (2013); and Sabine Pass Liquefaction, LLC, DOE/FE Order No. 2833 (2010).

party has submitted any empirical evidence that would support a determination regarding the incremental impact of one LNG project versus another.

DOE/FE itself has rejected contentions that U.S. natural gasproduction could not meet both U.S. demand and unlimited LNG exports, pointing out that the NERA Study included scenarios in which LNG exports were unconstrained.³⁹ DOE/FE has explained that "[s]hould the U.S. resource base be less robust and more expensive than anticipated, U.S. LNG exports would be less competitive in the world market, thereby resulting in lower export levels, and, in some instances, no exports, from the United States."⁴⁰ DOE/FE also has recognized that, like Magnolia LNG's Application, all of the applications it has received to date are pursuant to longterm contracts and the U.S. market "would adjust to this increased demand through increases in production, and plan for its delivery utilizing the significant production and storage infrastructure that exists."⁴¹ Again, no empirical data has been submitted by any party seeking limits on LNG exports that counters the real data from EIA regarding the U.S. resource base and estimated natural gas production. Accordingly, Magnolia LNG respectfully submits that its application is not inconsistent with the public interest. Furthermore, even in the face of unlimited LNG exports, DOE/FE supports the conclusion of the NERA Study that there would be net economic benefits to the United States.⁴²

C. Impact on U.S. Natural Gas Demand Market Prices

The up-to-date results of the BRG Study support the conclusion that Magnolia LNG's proposed LNG exports will have a minimal and manageable impact on U.S. natural gas demand market prices. DOE/FE has concluded in its recent orders that LNG exports will not necessarily

³⁹ See, e.g., Dominion Cove Point LNG, LP, at 109; and Lake Charles Energy, LLC, at 96.

⁴⁰ See, e.g., Dominion Cove Point LNG, LP, at 109; and Lake Charles Energy, LLC, at 96.

⁴¹ See, e.g., Dominion Cove Point LNG, LP, at 127; and Lake Charles Energy, LLC, at 114.

⁴² See, e.g., Dominion Cove Point LNG, LP, at 109; and Lake Charles Energy, LLC, at 96.

exacerbate the risk of large upward natural gas price spikes.⁴³ In fact, DOE/FE points out that "under some international market conditions, LNG export facilities are likely to make natural gas demand in the United State more price-elastic and less conducive to sustained upward spikes."⁴⁴ DOE/FE explains that it is "not persuaded that LNG exports will substantially increase the volatility of domestic natural gas prices."⁴⁵

The BRG Study demonstrates that the impacts of LNG exports on U.S. natural gas prices and U.S. domestic natural gas demand in all Scenarios studied would be minimal.

- The BRG Study concludes that the Henry Hub price for natural gas in the Reference Case remains stable at or above approximately \$4 per MMBtu through 2020, then climbs to just above \$6 per MMBtu by 2035, which most of the price increase concentrated in the latter years of the forecast.
- With respect to the Magnolia Scenario, the Study states, "Over the long-term through 2035, the incremental market and price impact of the Magnolia project is negligible as compared to the Reference Case. The \$0.13 per MMBtu price impact represents only a 2% increase in prices over the Reference Case."⁴⁶
- The potential impacts on U.S. natural gas prices resulting from the higher LNG and higher demand Scenarios that BRG studied range from an additional \$0.06 to \$0.43 per MMBtu in 2020 and an additional \$0.14 to \$1.40 per MMBtu in 2035.
- Based on this data the BRG Study concludes that for all scenarios except the compound High LNG/High Demand scenario, which BRG considers unlikely, the results reflect "modest market and price impacts that should not raise

⁴³ See, e.g., Dominion Cove Point LNG, LP, at 124.

⁴⁴ See, e.g., id. at 124-25.

⁴⁵ See, e.g., *id.* at 125.

⁴⁶ Exhibit A, "North American Market Impact Study," Berkeley Research Group, at p. 14 (Oct. 8, 2013).

substantial concerns for natural gas consumers," particularly in light of the "ongoing uncertainty regarding the true long term potential for shale gas production and production costs, especially from new plays and resource areas that have yet to be developed and explored and therefore cannot yet be properly analyzed."⁴⁷ BRG further points out that "[t]hose additional resources, should they prove economic could significantly mitigate some of the impacts described [in the BRG Study]."⁴⁸

D. Domestic Energy Security and International Impacts

In comparison to the projected domestic supply and projected domestic demand data set forth in Section VII.B. above, Magnolia LNG seeks to export relatively small volumes of LNG to non-FTA countries. Consequently, the authorization requested in this Application will have a minimal effect, if any, on domestic energy security. Rather, granting Magnolia LNG the authorization requested in this Application will assist in promoting a more robust global market for natural gas. As U.S. Senator Lisa Murkowski (R-AK), Ranking Member of the Senate Committee on Energy and Natural Resources, recently pointed out:

> In geopolitical terms, the build-out of LNG capacity also provides the U.S. an opportunity to provide relief to several of its allies. The mere entry of the U.S. into the global market will improve competition, reducing prices for importers. In fact, to some degree this has already begun. Imports of LNG from the U.S. will also enable other countries to diversify their sources of energy. Japan and India in particular, which do not have free trade agreements with the United States, have urged the federal government to approve LNG exports to those countries. Observers have also noted that American LNG would serve to reduce the leverage Russia can currently exert over Europe through its gas pipeline network. The argument is not that U.S. exports would necessarily replace Russian gas, but that clients of Russia would have a stronger negotiating position, as well as access to additional

supply. LNG exports from the U.S. would also strengthen global resilience to turmoil in the Middle East, including the capacity of the international community to impose sanctions on Iran.⁴⁹

DOE/FE has recognized these positive international implications of authorizing LNG exports. DOE/FE has explained that U.S. LNG exports may advance the public interest for reasons that are separate and apart from the net economic benefits identified in the LNG Export Study "to the extent U.S. exports can counteract concentration within global LNG markets, thereby diversifying international supply options and improving energy security for many of this country's allies and trading partners."⁵⁰ This fact remains true whether it is the first LNG export authorization DOE grants or the last.

In addition, DOE/FE has identified and underscored President Obama's National Export Initiative ("NEI"), which was established by Executive Order on March 11, 2010. There, President Obama noted that "[a] critical component of stimulating economic growth in the United States is ensuring that U.S. businesses can actively participate in international markets by increasing their exports of goods."⁵¹ In the *Lake Charles* and *Cove Point* orders, DOE/FE noted that "to the extent U.S. exports can counteract concentration within global LNG markets, thereby diversifying international supply options and improving energy security for many of this country's allies and trading partners, authorizing U.S. exports may advance the public interest."⁵² This is precisely what the proposed export of LNG from the Magnolia LNG Terminal will do. As noted above, Magnolia LNG already has executed a Term Sheet and Heads of Agreement with two parties that would take the supplies to strategic trading allies of the United States. In

⁴⁹ U.S. SENATOR LISA MURKOWSKI, THE NARROWING WINDOW: AMERICA'S OPPORTUNITY TO JOIN THE GLOBAL GAS TRADE 12-13 (2013), *available at*

http://www.energy.senate.gov/public/index.cfm/files/serve?File_id=e1527027-558f-4fb0-92bd-f8b9d7515075 (last visited Sept. 11, 2013).

⁵⁰ See, e.g., Dominion Cove Point LNG, LP, DOE/FE Order No. 3331, at 141 (2013); and Lake Charles Energy, LLC, DOE/FE Order No. 3324, at 124 (2013).

⁵¹ Exec. Order No. 13534, 75 Fed. Reg. 12433 (Mar. 11, 2010).

⁵² Dominion Cove Point LNG, LP, at 140-41; and Lake Charles Energy, LLC, at 124.

addition, natural gas exports support the replacement of diesel and heavy fuel oil with more environmentally friendly natural gas in the generation of electricity abroad. Authorizing the LNG exports requested in this Application will support these important national policies.

E. **Economic Benefits**

The Magnolia LNG Terminal will stimulate the local, regional, and national economies through the direct and indirect creation of new jobs, increased economic activity, and tax revenues. Magnolia LNG will use U.S. companies to supply much of the equipment and materials needed for the Magnolia LNG Terminal. Construction of the first two LNG trains will lead to the direct creation of over 1,000 construction jobs. In addition, at full capacity of four liquefaction trains the Magnolia LNG Terminal will lead to the creation of 55-60 permanent direct jobs and an additional 175 indirect jobs. The overall capital investment for the first two trains will be approximately \$2.2 billion and approximately \$3.7 billion for the entire four trains. Magnolia LNG will become an active part of the local community-creating jobs, spurring economic development and working with local business and governing bodies to efficiently export LNG.

At a national level, authorizing the LNG exports requested in this Application will promote President Obama's goals set forth in the NEI. As President Obama notes in the Executive Order, the NEI is intended to "improve conditions that directly affect the private sector's ability to export"⁵³ and to "enhance and coordinate Federal efforts to facilitate the creation of jobs in the United States through the promotion of exports."⁵⁴ The President went on to explain that "[i]mproved export performance will, in turn, create good high-paying jobs."55 Magnolia LNG's Project will support this domestic economic growth potential. In addition,

 ⁵³ Exec. Order No. 13534, 75 Fed. Reg. 12433 (Mar. 11, 2010).
⁵⁴ Id.
⁵⁵ Id.

granting Magnolia LNG's request for authorization in this Application will help balance the U.S. trade deficit and, as noted above, assist our nation's allies by diversifying their supply options and allowing commercial parties a greater opportunity to freely negotiate trade agreements with their counterparties,⁵⁶ as evidenced by recent testimony before the House Committee on Energy and Commerce by representatives of foreign nations interested in investing in the U.S. economy through LNG exports.⁵⁷

Louisiana's state economy, the Gulf Coast regional economy, and the Lake Charles economy will benefit from the immediate influx in commerce during the construction and operation of the Magnolia LNG Terminal. In addition, the Magnolia LNG Terminal site is leased from the Port of Lake Charles. The lease payments that Magnolia LNG will make to the Port of Lake Charles over the term of the lease will help stimulate the local economy. Abundant support for the Magnolia LNG Terminal has been demonstrated in Magnolia LNG's pre-filing docket at the Federal Energy Regulatory Commission, where the Southwest Louisiana Economic Development Alliance; the Mayor of Lake Charles; the Mayor of the City of Sulfur, Louisiana; the Mayor of the City of DeQuincy, Louisiana; Louisiana State Senators Ronnie Johns and Dan Morrish; Louisiana State Representatives Mike Danahay, A.B. Franklin, John Guinn, and Brett Geymann; Louisiana State Speaker of the House Chuck Kleckley; U.S. Representative Charles Boustany; and U.S. Senator Mary Landrieu, all have filed comments in support of Magnolia LNG, noting the economic benefits it will create in Southwestern Louisiana through the significant investment and job creation.

⁵⁶ See supra note 49 and text.

⁵⁷ Press Release, Members and Foreign Diplomats Discuss Mutual Benefits of U.S. LNG Exports, U.S. House of Representatives, Committee on Energy and Commerce (Oct. 10, 2013), *available at* <u>http://energycommerce.house.gov/press-release/members-and-foreign-diplomats-discuss-mutual-benefits-us-lng-exports</u> (last visited Oct. 10, 2013).

Furthermore, the NERA Study, on which DOE/FE has relied in granting LNG export authorizations, found that LNG exports will have net economic benefits in all scenarios analyzed, including scenarios with unlimited exports.⁵⁸ The NERA Study found that U.S. economic welfare increases consistently with increased LNG exports.⁵⁹ DOE's authorization of Magnolia LNG's proposed LNG exports will play a role in such economic welfare increases.

In addition, authorizing the exports requested in this Application would have a positive impact on the U.S. balance of trade. BRG's study concludes that once LNG exports commence, after 2015, the United States quickly moves from being a net natural gas importer to becoming a net natural gas exporter in all Scenarios.

For these reasons, Magnolia LNG respectfully submits that the authorization requested in this Application is not inconsistent with the public interest and, moreover, would have net benefits to the national, Louisiana, and local economies.

VIII. ENVIRONMENTAL IMPACT

On March 20, 2013, FERC accepted Magnolia LNG's request to commence FERC's prefiling process. Consistent with the National Environmental Policy Act ("NEPA") requirements, FERC will act as the lead agency for the environmental review, with the DOE acting as a cooperating agency. Therefore, Magnolia LNG respectfully requests that the DOE/FE issue a conditional order approving this Application, conditioned upon FERC's satisfactory completion of the environmental review as it has done in other LNG export applications.

In addition to the authorization from DOE/FE sought in this Application and the authorizations from FERC, Magnolia LNG will seek the necessary permits from and consultations with other federal, state, and local agencies. The federal permits and consultations

 $^{^{58}}$ Macroeconomic Impacts of LNG Export from the United States, NERA Economic Consulting at 6. 59 Id.

Magnolia LNG will seek in connection with the Project include a Water Suitability Assessment from the U.S. Coast Guard, the Clean Water Act Section 404 Permit from the U.S. Army Corps of Engineers, and a consultation with the U.S. Fish and Wildlife Service, as appropriate. The state permits and consultations Magnolia LNG will seek in connection with the Project include a Section 401 Water Quality Certificate from the Louisiana Department of Environmental Quality, an Air Quality Permit by the Louisiana Department of Environmental Quality, and consultations with the Louisiana Department of Wildlife and Fisheries and the Louisiana Department of Culture, Recreation, and Tourism, as appropriate. Magnolia LNG already has begun the process of working with federal and state agencies to meet these requirements.

IX. RELATED AUTHORIZATIONS

The siting, construction, and operation of the Magnolia LNG Terminal is subject to approval by FERC pursuant to Section 3 of the NGA. On March 20, 2013, FERC accepted Magnolia LNG's request to commence the mandatory pre-filing process at FERC for the Magnolia LNG Terminal and Magnolia LNG is currently actively engaged in that process with FERC. Magnolia LNG anticipates that it will file its formal application with FERC by no later than March 31, 2014, and will request that FERC issue authorization for the siting, construction, and operation of the Magnolia LNG Terminal by June 30, 2015.

X. EXHIBITS

The following Appendices are included with this Application:

- Exhibit A Berkeley Research Group Study
- Exhibit B Option Agreement
- Exhibit C Verification
- Exhibit D Opinion of Counsel

26

XI. CONCLUSION

For the reasons set forth above, Magnolia LNG respectfully requests that the DOE issue an order granting Magnolia LNG authorization to export for a twenty-five (25) year period on its own behalf and as agent for others, up to approximately 1.08 Bcf/d of domestic natural gas (or approximately 420 trillion Btu per annum), which is approximately equivalent to eight (8) mtpa of domestically produced LNG, 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. In addition, Magnolia LNG respectfully reserves the right to update the record in this proceeding to augment the data provided in this Application as new information regarding technically recoverable reserves in the United States and other similar data become available.

As demonstrated herein, the authorization requested is not inconsistent with the public interest and, accordingly, should be granted pursuant to Section 3 of the NGA.

Respectfully submitted,

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Dated: October 11, 2013

EXHIBIT A BERKELEY RESEARCH GROUP STUDY

(See attached)

BRG BERKELEY RESEARCH G R O U P







North American Market Impact Study

Magnolia LNG DOE Application for Authority to Export LNG to Non-FTA Nations

October 10th. 2013



Disclaimer

This report was prepared for Magnolia LNG, LLC ("Client") and should not be disclosed to, used or relied upon by any other person or entity. The authors and Berkeley Research Group are not responsible for any loss from any unauthorized use or reliance on the information or opinions contained in this report. Client may, however, submit this report to the U.S. Department of Energy and the Federal Energy Regulatory Commission for their use in connection with Client's liquefied natural gas ("LNG") export application. The analysis set forth in this report is based on the application of economic principles and certain assumptions, and the opinions expressed and results contained in the report are not and are not intended to be predictions of events or future outcomes.

The opinions expressed in this report are those of the individual authors and do not represent the opinions of Berkeley Research Group, LLC ("BRG") or its other employees and affiliates. The information provided is not intended to and does not render legal, accounting, or tax advice or services.



Table of Contents

Ι.	а.	Executive summary Project Description	3 3
	b.	Natural Gas Market Drivers and Impacts	3
	с.	Global LNG Market Impacts	6
	d.	Approach and Methodology	8
	е.	Data and Scope Constraints	9
j	f.	Reference Case and LNG Scenario Definitions	10
!	g.	Summary Results	12
	h.	Conclusions	14
II.	а.	Modeling Overview and Assumptions	15 15
	b.	Key Drivers	16
	с.	Demand by Sector	16
	d.	Gas Transportation	17
	e.	Shale Production	18
j	f.	Other Supply Sources	19
III.	а.	REFERENCE CASE RESULTS	20 20
	b.	Supply, Demand, and Trade	23
IV.	а.	Scenario results Price Impacts	25 25
	b.	Demand and Consumption Impacts	27
	с.	Supply and Shale Production	29
	d.	Trade Balances	30
	e.	LNG Market Implications	30



I. EXECUTIVE SUMMARY

This report presents the natural gas market analysis prepared by Berkeley Research Group, LLC ("BRG") for Magnolia LNG, LLC ("Magnolia") for inclusion in Magnolia's permit filing to the U.S. Department of Energy ("DOE") for authority to export LNG to non-Free Trade Agreement ("non-FTA") nations.

a. Project Description

Magnolia is a subsidiary of Liquefied Natural Gas Limited ("LNG Limited") and proposes to build, own, and operate an 8 million tonnes per annum ("MMtpa") – approximately equivalent to 1.1 billion cubic feet per day ("Bcfd")¹ – liquefied natural gas ("LNG") facility in the Port of Lake Charles, Louisiana ("the Magnolia Project"). The Project will include four LNG trains, each with a nominal capacity of 2 MMtpa (~0.27 Bcfd) of LNG.

Feed gas would be transported to the site boundary via an existing 42-inch interstate gas pipeline owned by KMLP and a short interconnect pipeline of approximately 200 feet would tie-in the existing underground pipeline to the Gas Gate Station within the Project site boundary. Natural gas would be treated, liquefied, stored onsite, and loaded onto LNG carriers for export overseas to customers in both FTA and non-FTA nations; LNG carriers and barges for marine distribution and the possibility of LNG bunkering; and LNG trucks for road distribution to LNG refueling stations in Louisiana and the surrounding states.

Magnolia proposes to use its patented Optimized Single Mixed Refrigerant (OSMR[®]) technology, which optimizes the SMR process through the use of aero derivative gas turbines, combined heat and power ("CHP") technology, and ammonia auxiliary refrigeration. The LNG would be stored in two full containment LNG storage tanks of approximately 160,000 cubic meters (m3) each. To transfer the LNG from the berth and loading platform to LNG vessels, two 16-inch LNG loading arms and a 16-inch vapor return arm would be used to achieve a maximum loading rate for LNG vessels of 10,000 m3 per hour (m3/hr).

b. Natural Gas Market Drivers and Impacts

We understand that applications for authorization to export LNG to non-FTA nations require analysis of the potential North American natural gas market impacts of increased LNG exports from the United States. As the number of approved and pending LNG export permit applications have grown and as

¹ Based on the conversion factor of 1 MMtpa LNG equals to 0.1334 Bcfd natural gas.



the applicants continue to enter long-term LNG sales contracts with foreign LNG customers, concerns with the U.S. natural gas market and price impacts of the LNG exports have increased.

Critical issues of interest include the potential impacts on natural gas prices, markets (supply-demand balances), and trade (import-export balances) that could result from:

- 1. Increased levels of LNG exports: As of September 2013, 40 North American LNG Export projects have announced or submitted applications to DOE for LNG export permits (27 U.S. projects, including expansion projects, and 13 Canadian projects). These terminals represent approximately 386 MMtpa (~51 Bcfd) of export capacity. Of these, only one U.S. project, the first phase of Cheniere's Sabine Pass Liquefaction Terminal ("Sabine") is currently under construction with a capacity of 16.5 MMtpa (~2.2 Bcfd), having been the first LNG project to obtain DOE non-FTA approval on May 20, 2011. An additional 58 MMtpa (~7.7 Bcfd) of U.S. projects are in the advanced stages of development including permitting, commercial contracts and/or financing. These include three projects that recently received DOE non-FTA approvals:
 - The Freeport Liquefaction Terminal ("Freeport") was permitted for export capacity of 10.5 MMtpa (~1.4 Bcfd) on May 17, 2013;
 - The Lake Charles Liquefaction Terminal ("Lake Charles") was permitted for 15.0 MMtpa (~2 Bcfd) August 7, 2013; and
 - The Dominion Cove Point Liquefaction Terminal ("Cove Point") was permitted for 7.5 MMtpa (~1.0 Bcfd) on September 11, 2013.

In addition, there are ~19 MMtpa (~2.5 Bcfd) of U.S. terminal projects that are in earlier stages of development, with permitting and/or commercial agreements underway.

2. Increased U.S. demand for natural gas: Based on the Energy Information Administration ("EIA") Annual Energy Outlook ("AEO") 2013 reference case,² total U.S. demand will increase by 6.1 Bcfd from 64.1 Bcfd in 2012 to 70.2 Bcfd in 2035. The electric generation and industrial sectors will increase by 0.8 Bcfd and 1.9 Bcfd respectively. Other sectors including residential, commercial, and natural gas vehicle ("NGV") consumers will increase by 3.4 Bcfd collectively. In the AEO 2013 High Economic Growth Case,³ total demand by end-user sector will increase by 10.7 Bcfd to 74.8 Bcfd in 2035, or 4.6 Bcfd higher than the reference case.

These impacts ultimately reflect the extent to which North American natural gas supply -- and unconventional gas reserves and production in particular – can sustain increased levels of LNG exports

² We rely on EIA's reference case as the basis for our Reference Case demand. See discussion below.

³ We rely on EIA's High Economic Growth Case as the basis for our High Demand scenarios. See below.



and U.S. demand growth. What volume of exports and demand growth can be supplied and for how long? What will be the cost in terms of increased natural gas prices?

Recent EIA estimates of shale gas technically recoverable reserves ("TRR") approximated only 482 trillion cubic feet ("Tcf"), including both "dry" and "wet" shale plays. (We note that other recent TRR estimates have been meaningfully higher than EIA, including the Potential Gas Committee or "PGC").⁴ Wet plays are rich in natural gas liquids ("NGL") content. Recent shale output levels of 25 Bcfd equal amount to approximately 9 Tcf per year, meaning that the total shale resource represents a reserves-to-production ("RP") ratio over 50 years of shale production at current shale production levels.

With declining conventional production, however, EIA expects that the overall draw on shale production could reach 42 Bcfd or more by 2035 – almost double current production levels and representing well over 50% of an expanded future natural gas market. Stated on an annual basis, that would represent over 15 Tcf per year of shale production by 2035. Thus, the cumulative shale production from 2013 to 2035 could exceed 280 Tcf -- or well over half of the current shale resource base identified by EIA.

As discussed below, our analysis suggests that natural gas demand and the draw on economic shale production relatively to other supply sources will be even higher than the figures provided by EIA.

However, this does not account for the addition of new reserves and ongoing industry efforts to prove up the technical and economic feasibility of bringing new shale production to market. The more prices increase, the more this can be expected to occur in the future just as it has in the recent past.

Economically, there are big differences between the "dry" and "wet" shale resources. Of the shale resources identified by EIA, approximately 250 Tcf is located in NGL rich plays that tend to offer lower methane net production costs due to the significant revenues available from NGLs to cover production costs.

However, not all of that gas will be economically recoverable. And much of it will not be as economic as current production, which remains focused on the geological and logistical "sweet spots" and other categories of "economic" wells.⁵ The different categories of wells in these areas have the best geologic features and production potential, but other classes of wells are less promising, and over time will yield substantially less gas per well.

⁴ The PGC is comprised of committees of industry specialists for each basin or play who use confidential data to perform reserves analysis. PGC does not provide detailed breakdowns of reserves by play due to the confidentiality of data utilized. In our analysis, we have relied upon a base of reserves data from EIA, which unlike PGC is broken down for the reserves in each play, but have scaled the EIA figures up toward PGC levels to capture a higher level reserves expected by industry.

⁵ We refer to "sweet spots" and "economic" wells as the top two classes of wells that have the most compelling production features and economics. In our analysis, these classes of wells typically account for the about half of all reserves for each shale play.


Among several other factors, critical drivers of the average per well cost of producing shale gas include:

- Above all NGL prices and their continued linkage to high oil prices because the revenue from NGL production and sales pays for much of the production investment and thereby reduces the net cost of producing the dry gas or methane.
- Environmental regulations and the attendant compliance costs for flow-back water treatment and/or recycling and well casings and completion standards will also play a role.
- State level production royalties and severance taxes, and federal fiscal policy incentives for drilling (or their removal) will impact well economics, and
- Land lease rates will also have an impact.

The per MMBtu cost of producing shale gas in the various well classes of each play will reflect the combination of average well productive features and average per well all-in production costs. This is the analysis provided by our shale production model (as described in the next chapter) to produce the production cost curves we deploy in our scenario simulations of the North American gas market.

The scenario simulations for increased LNG exports and domestic consumption levels, in turn, inform our analysis of each scenarios price and market impacts.

c. Global LNG Market Impacts

A secondary set of questions concerns the ability of global LNG markets to absorb increased levels of North American LNG exports and the foreign LNG price impact of the additional supply and potential supply competition. The increased LNG exports could eventually cause global LNG prices to decline, perhaps significantly, if one or more of the following conditions occur:

- LNG demand growth is lackluster so that markets become oversupplied and supply competition intensifies,
- Asian LNG buyers are successful in implementing new natural gas and LNG market trading hubs, and/or
- Asian and European buyers are successful in revising the terms of LNG pricing and indexation either by reducing LNG price levels relative to oil indices or eliminating oil indexation altogether.



In addition to potential U.S. natural gas price increases, a substantial LNG price response to such conditions could eventually erode the "shale spreads"⁶ that now underpin the economic rationale and feasibility of LNG exports. The rapid increase in Pacific and Atlantic shale spreads since 2008 – 2009 is depicted in Figure 1. This shows the emergence of sustained shale spreads after the shale production boom was consolidated in 2008-2009, with a compounding effect after the Fukushima nuclear tragedy of March 2011 and subsequent Japanese nuclear shutdowns began to substantially increase Japanese LNG demand levels.



The sustainability of these high price differentials will be critical to sustaining North American LNG exports over the long-term. Should the Pacific shale spreads decline substantially back toward differentials of less than \$6.00 per MMBtu, the competitiveness of exporting LNG from the U.S. would be questioned by buyers and sellers.

How likely is this to occur and when? For how long is the economic window of opportunity for U.S. LNG exports likely to remain open? We provide a high level assessment of these important issues, although detailed analysis of the global LNG market impacts of North American LNG exports is outside the scope of this report.

⁶ "Shale spread" is a term we have coined to describe the sustained differential between low U.S. shale production costs and liquid trading prices for natural gas and higher international LNG prices (typically indexed or benchmarked to oil).



d. Approach and Methodology

To analyze the U.S. market and price impacts of LNG exports, we prepared this analysis using an independent market simulation⁷ of long-term scenarios for U.S. and Canadian LNG exports and domestic natural gas consumption through 2035. Our analytic approach was three-fold:

- 1. We first prepared and simulated the market for a Reference Case including baseline assumptions for:
 - Domestic U.S. natural gas consumption by sector, assuming demand targets derived from the 2013 AEO published by EIA.
 - Limited LNG exports from the three most advanced terminals namely the 16.5 MMtpa (2.2 Bcfd) Sabine terminal, the 10.5 MMtpa (1.4 Bcfd) Freeport terminal, and the 7.5 MMtpa (1.0 Bcfd) Cove Point Terminal– that as of September 11, 2013 had received DOE export authorizations as well as commercial commitments from buyers to purchase most of their available LNG supply. One other advanced terminal was also very close to this status namely the 15 MMtpa (2.0 Bcfd) Lake Charles terminal was excluded from the Reference Case.
 - o BRG's independent baseline analysis of future pipeline capacity construction; and
 - BRG's independent analysis of long-term shale gas production potential and costs derived upon our Shale Resource Potential ("ShaRP") model. The ShaRP model was developed in collaboration with Enegis, LLC⁸ as a comprehensive tool to analyze and forecast the long-term production potential and production cost targets for several different classes of wells for each of the major shale plays in the United States. (Please see Chapter II for a summary of the ShaRP model features).
- 2. We next defined a set of 5 scenarios for varying combinations of higher LNG exports and/or higher domestic demand growth than included in the Reference Case. We simulated the market in each scenario to test the market and price impacts of increased LNG exports insolation and in combination with higher domestic demand growth. For these scenarios, all other variables for natural gas supply potential, production costs, and pipeline transportation were held constant with the Reference Case.

⁷ BRG's North American natural gas market simulations are performed using the Gas Pipeline Competition Model ("GPCM") licensed from Robert Brooks & Associates ("RBAC"). This is a detailed model that simulates monthly gas market equilibrium at the national and local levels based upon available supply resources and production cost curves, transportation capacity and costs, and local sector by sector demand targets and demand elasticity functions for end markets.

⁸ Enegis is a boutique upstream energy consultancy specializing in geological, technical, and economic analysis.



3. Finally, we compared the market and price results of each scenario to measure the impacts of increased LNG exports on natural gas prices and on natural gas demand in response to the price impacts.

e. Data and Scope Constraints

There are three analytic constraints or limitations that should be noted with regard to the current analysis. These are listed below:

- 1. After less than a decade of large scale shale gas exploration and production, much remains to be learned and the state of available information is in a state of constant improvement. Our approach to the available information regarding the shale resource potential from the top producing plays is thorough, but there are many other plays and potential production areas that have not been explored and for which there is no available or reliable information on production potential and costs. Because natural gas market simulation does not capture this information, it is quite possible that as new shale plays are explored and their economic potential becomes known the outlook for shale production potential and costs will improve. This means that, over the long-term, the ability of shale gas to economically sustain higher levels of LNG exports and demand growth may be even greater than current information and market simulations suggest.
- 2. Increased LNG exports and higher natural gas prices could have important impacts on U.S. power generation economics and, in particular, the extent to which natural gas and coal each will be utilized for power generation. As natural gas prices increase, coal supplies could become more competitive and the amount of power generation fired by natural gas will adjust. Our natural gas simulations estimate this impact with an elasticity function for the power generation demand for natural gas. This is a reasonable approach for estimating the overall reciprocal impacts of the natural gas and power generation markets on each other. In the power generation sector, however, the fuel price competition and switching between natural gas and coal are considered complex, dynamic topics that require detailed power market simulation. Such detailed power market simulation is outside the scope of this analysis.
- 3. Increased North American LNG exports could have significant impacts on global LNG prices and the shale spread between U.S. Henry Hub ("HH") prices and Asian and European LNG import prices. Over the long-term, the greater the global supply competition from LNG exports, the greater will be the downward pressure on foreign LNG prices. Such lower LNG prices could substantially reduce shale spreads, which are the primary economic driver for U.S. LNG exports. If this should happen, the economic feasibility and commercial appeal of U.S. LNG exports could



be significantly reduced. As a result, LNG exports could stabilize or even decline (depending in part on the amount of commercial flexibility offered to buyers in the LNG Sale Purchase Agreements or "SPAs"). Based upon our experience analyzing global LNG markets, we offer a high level assessment to identify the potential range of global price impacts as related to the commercial demand for U.S. LNG supply, but global LNG market simulation for the various North American LNG export scenarios is beyond the scope of this analysis.

f. Reference Case and LNG Scenario Definitions

The Reference Case and Scenarios we analyzed reflect our view of a reasonable range for:

- Low, moderate, and high LNG liquefaction terminal construction and exports from North America, combined with
- Moderate and high growth potential for U.S. natural gas demand, principally in the electric and industrial sectors.

The primary scenario parameters and assumptions are provided in Figure 2 below.

No.	Scenario Name	LNG Export Drivers	U.S. Demand Drivers
1	Reference Case	Sabine + Freeport + Cove Point (3 Terminals)	
2	Magnolia Scenario	Reference Case + Magnolia Terminal (4 Terminals)	Based upon EIA's 2013 AEO
3	Moderate LNG Scenario	Magnolia Case + 3 advanced terminals in the U.S. Gulf Coast and East Coast (7 Terminals)	Reference Case
4	High LNG Scenario	Moderate LNG Case + 5 more possible terminals in the U.S. and Canada (12 Terminals)	
5	High Demand / Moderate LNG Scenario	Moderate LNG Case (7 Terminals)	Based upon EIA's 2013 AEO High Case for Power
6	High Demand / High LNG Scenario	High LNG Case (12 Terminals)	Generation and Industrial Demand

Figure 2: Scenario Definitions and Drivers⁹

This analysis captures a full range of potential market outcomes and the possible impacts from increased LNG exports in combination with various levels of U.S. demand growth:

⁹ For the Moderate and High LNG Scenarios, we do not specify the individual terminals included in our analysis because their specific identity is immaterial to the results of our analysis. Only the location and export capacity and volumes are consequential.



- The range of LNG terminals built assumed ranges from a minimum of 3 terminals with a capacity of 4.6 Bcfd in the Reference Case to a maximum of 12 terminals with a capacity of 13.9 Bcfd in the High LNG Export Case. The total market and price impacts measured are thus for a range of over 9 terminals and 9 Bcfd of incremental export capacity.
- The range of potential future U.S. natural gas demand ranges from 70.2 Bcfd to 74.8 Bcfd in 2035, representing a variation of 4.6 Bcfd.
- Thus, the maximum market impact from the combination High Demand / High LNG scenario reflects the impact of a potential addition of almost 14 Bcfd in incremental "demand" above the Reference Case by 2035. This represents an unlikely future market scenario, but one that may be relevant to public concern with LNG exports and therefore worthy of review.
- The other 4 scenarios fall in between these extremes, with combined incremental "demand" from LNG exports and/or potential U.S. natural gas consumption above the Reference Case of as little as 1 Bcfd (the Magnolia scenario) to 10 Bcfd (the High Demand / Moderate LNG scenario) by 2035. These scenarios are considered to be more likely, particularly those involving moderate LNG export capacity and/or moderate potential U.S. demand.

The Reference Case and scenario parameters for LNG export capacity and potential U.S. natural gas demand are provided in Figure 3.

No.	Scenario Name	LNG Export Capacity (Bcfd)	Target U.S. Demand (Bcfd)	Combined "Demand" (Bcfd)
1	Reference Case	4.6		74.8
2	Magnolia Scenario	5.7	70.2	75.9
3	Moderate LNG Scenario	9.9	70.2	80.1
4	High LNG Scenario	13.9		84.1
5	High Demand / Moderate LNG Scenario	9.9	74.9	84.7
6	High Demand / High LNG Scenario	13.9	74.8	88.7

Figure 3: Scenario Combined LNG Exports and Target Demand in 2035



g. Summary Results

As set forth in Figure 4, the results of our analysis suggest that:

- In the Reference Case, HH gas prices will remain stable at just above \$4 per MMBtu through 2020, before climbing to exceed \$6 per MMBtu by 2035, with most of the increase concentrated in the latter years of the forecast.
- By contrast, the higher LNG export and high demand scenario results range from HH prices of \$4.21 to \$4.58 per MMBtu in 2020 and between \$6.30 and \$7.56 per MMBtu in 2035. As expected, the higher the level of LNG exports and U.S. domestic demand, the greater the overall level of market equilibrium prices.

No.	Scenario Name	Historical	rical		Forecasts				
		2012	2015	2020	2025	2030	2035		
1	Reference Case			\$4.15	\$4.21	\$4.53	\$6.16		
2	Magnolia Scenario		¢4.01	\$4.21	\$4.26	\$4.61	\$6.30		
3	Moderate LNG Scenario	ćo zr	Ş4.UI	\$4.42	\$4.58	\$5.11	\$6.65		
4	High LNG Scenario	\$2.75		\$4.47	\$4.86	\$5.32	\$7.06		
5	High Demand / Moderate LNG Scenario		Ć 4 OF	\$4.50	\$4.77	\$5.31	\$7.09		
6	High Demand / High LNG Scenario		Ş4.05	\$4.58	\$5.09	\$5.56	\$7.56		

Figure 4: HH Natural Gas Price Results (Annual Average \$U.S. / MMBtu)

Overall, relative to the Reference Case the higher LNG export and U.S. demand scenarios add between \$0.06 and \$0.43 per MMBtu (or 1% to 10%) to HH prices by 2020 and between \$0.14 and \$1.40 per MMBtu (or 2% to 23%) to HH prices by 2035. The greater the combined level of "demand" for LNG exports and target U.S. consumption levels, the higher the price impact. These results are presented in Figure 5.



No		Scenario Name	Historical			Forecasts	orecasts			
	NU.		2012	2015	2020	2025	2030	2035		
	1	Reference Case	-	-	-	-	-	-		
2 14		Magnelia Scenario	-	-	\$0.06	\$0.06	\$0.09	\$0.13		
	2 1		-	-	1%	1%	2%	2%		
2 140	Madarata ING Scaparia	-	-	\$0.27	\$0.37	\$0.58	\$0.49			
	3	Moderate ENG Scenario	-	-	6%	9%	13%	8%		
	4	High ING Scopario	-	-	\$0.32	\$0.65	\$0.80	\$0.80 \$0.90		
	4	ngh LNG Scenario	-	-	8%	16%	18%	15%		
	E	High Domand / Moderate LNG Scenaria	-	\$0.04	\$0.35	\$0.56	\$0.79	\$0.93		
	5	ngh Demand / Moderate LNG Scenario	-	1%	8%	13%	17%	15%		
	G	High Domand (High INC Sconaria	-	\$0.04	\$0.43	\$0.88	\$1.03	\$1.40		
	6	nigh Demand / nigh LNG Scenario	-	1%	10%	21%	23%	23%		

Figure 5: HH Price Scenario Increases Above Reference Case (Annual Avg. \$U.S. / MMBtu and Percent)

In our analysis, a second market impact from increased LNG imports is downward adjustment (decrease) in U.S. natural gas consumption, primarily in the electric sector. As LNG exports increase, as measured in our LNG export scenarios, U.S. natural gas consumption decreases moderately. This is especially true for the electric generation sector over the long term.¹⁰ The overall impacts are set forth in Figure 6.

Scenario Name	2020	2025	2030	2035
Magnolia Scenario	-0.2	-0.2	-0.2	-0.2
Moderate LNG Scenario	-0.7	-0.9	-1.3	-0.8
High LNG Scenario	-0.9	-1.7	-1.9	-1.5
High Demand / Moderate LNG Scenario	0.9	1.8	2.4	2.8
High Demand / High LNG Scenario	0.7	1.0	1.7	2.0

Figure 6: Demand Variation to Reference Case (Bcfd)

¹⁰ It is important to note that this impact essentially reverses some of the higher demand measured in our Reference Case compared to EIA, as discussed in Chapter III below. In other words, at the lower price levels yielded in our Reference Case the simulation calls for more demand than EIA, but as prices increase due to increased LNG export and U.S. demand targets, that higher U.S. demand is progressively reversed.



Just as the HH price impacts from limited additional LNG exports are small for the Magnolia Scenario, higher for the Moderate LNG Scenario, and higher still for the High LNG Scenario, the same pattern applies to the impact on domestic gas demand. Higher levels of LNG exports cause upward price pressure in the market, which results in a negative demand response to higher prices. This is particularly true in the price sensitive electric sector.

By 2035, the level of demand reduction resulting from increased LNG imports ranges from 0.2 Bcfd in the Magnolia Scenario to 1.5 Bcfd in the High LNG Scenario. As a general matter these domestic demand decreases reflect a small fraction (approximately 20%) of the volume of additional LNG exported in each scenario.

Although the two High Demand scenarios show demand increases relative to the Reference Case, these should be understood in light of the higher 4.6 Bcfd higher consumption target for these scenarios. The targets are only partially achieved because the higher combined LNG and domestic demand levels promote the highest equilibrium prices and a part of the equilibrium solution is a reduction in natural gas consumption in the electric and other sectors.

h. Conclusions

Over the long-term through 2035, the incremental market and price impact of the Magnolia project is negligible as compared to the Reference Case. The \$0.13 per MMBtu price impact represents only a 2% increase in prices over the Reference Case.

For the higher LNG and/or domestic demand scenarios (each including Magnolia) by 2035:

- Adding the Moderate LNG export levels yields an approximate 8% price increase and very limited indigenous demand reduction, primarily in the power sector.
- Adding the High LNG or High Demand levels (but not both) yields price increases of just over 15% and a modest level of domestic demand destruction, primarily in the power sector.
- Adding the improbable combination of High LNG exports and High Demand yields price increases of approximately 23% as well as more significant indigenous demand destruction relative to the higher demand targets set for the analysis.

For all scenarios but the compound High LNG / High Demand scenario these results may be considered modest market and price impacts that should not raise substantial concerns for natural gas consumers. This is especially true in light of the ongoing uncertainty regarding the true long term potential for shale gas production and production costs, especially from new plays and resource areas that have yet to be developed and explored and therefore cannot yet be properly analyzed. Those additional resources, should they prove economic could significantly mitigate some of the impacts described above.



II. MODELING OVERVIEW AND ASSUMPTIONS

This section provides a brief overview of our market modeling and simulation infrastructure, market drivers, and key assumptions used to establish our Reference Case as a baseline for the scenario analysis of LNG exports.

a. Model Architecture

We used two interrelated models to produce this analysis – a North American gas market equilibrium model and our proprietary shale production cost model.

Gas Industry Equilibrium Model

The Gas Industry Equilibrium ("GIEq") model is a comprehensive model of the North American natural gas industry based on GPCM11 architecture. GIEq forecasts monthly prices, basis differentials, and gas flows throughout North America. Key parameters for the GIEq model include:

- Forecasts monthly natural gas prices at over 90 locations and pipeline and storage flows and capacity utilization on all current and anticipated infrastructure;
- Integrates production potential and cost curves for conventional basins and for the various classes of wells for each shale play (see below);
- Reflects regional and local demand, and demand elasticity, by sector; and
- Incorporates current and anticipated transportation and storage capacity and costs for over 200 pipelines and 430 storage areas.

Shale Resource Potential Model

Our Shale Resource Potential ("ShaRP")¹² Model was used to develop the shale gas production and cost input parameters for several classes of wells in each of the major shale plays. For each class of wells, the estimated total reserves are characterized by discrete production potential and production costs – ranging from "sweet spots" to unproductive, uneconomic classes of wells and reserves. The underlying analysis is based upon detailed geo-technical analysis of the Estimated Ultimate Recovery ("EUR"), Initial Production ("IP") Rate, and Decline Rate associate with each class of wells.

The long-term production potential and production cost from each class of wells in each play is calculated as a function of these varying production parameters as well as detailed research and

¹¹ GPCM is a natural gas market analysis and forecasting software product licensed from RBAC, Inc.

¹² BRG has teamed with Enegis LLC to create the ShaRP model.



analysis of the all-in per well costs for drilling and producing natural gas in each play and production area¹³ net of the revenue available from the production of NGLs. NGL revenues are calculated as a function of the potential output volume and projected long-term prices for each NGL fraction (ethane, propane, butane, etc.).

b. Key Drivers

In our experience with North American natural gas market analysis and forecasting, a few critical market and price drivers stand out above other variables:

- 1. The magnitude and timing of LNG export terminal construction and export volumes,
- 2. The volume and timing of potential natural gas demand growth, particularly in the electric sector, and the sensitivity of that demand growth to increasing prices, and
- 3. Above all the ability of shale gas production to carry the LNG export and U.S. domestic demand growth based upon the production potential and cost of production for known shale plays.

c. Demand by Sector

The level of U.S. natural gas demand is a key market driver even though historical demand growth has been limited and future demand growth is expected to be moderate.

We base our future demand targets on EIA's sector by sector forecasts provided in two scenarios14 from the AEO 2013. The main EIA reference case sector target demand and growth levels are described below and tabulated in Figure 7:

- 1. Electric sector gas demand spiked in 2012 resulting from very low gas prices relative to coal. As a result, power demand is expected to decrease by 8% from 25.0 Bcfd in 2012 to 23.2 Bcfd in 2025 and then slowly climb to 25.9 Bcfd by 2035.
- Industrial gas demand will grow more rapidly, by 10% from 19.6 Bcfd in 2012 to 21.4 Bcfd in 2025 due to relatively low natural gas prices that are sustained by growing shale gas production. After 2025, growth will stall and industrial demand will remain at 21.5 Bcfd in 2035.

¹³ Among other items, this includes capital and drilling costs, environmental compliance costs (e.g. wastewater treatment, fugitive methane, etc.), non-drill costs, direct operating costs, fiscal incentives, royalties and production taxes.

¹⁴ Our Reference Case demand targets are based on AEO 2013 reference case. Our High Demand scenario targets are based on the AEO 2013 High Economic Growth Case.



- 3. The additional growth comes from the Natural Gas Vehicle ("NGV") sector, including heavyduty freight trucking and other transportation fuel. NGV demand increases from almost nothing in 2012 (0.1 Bcfd) to 1.6 Bcfd in 2035.
- 4. Gas demand in the commercial sector will increase by 1.7 Bcfd in 2035 relative to 2012 and the residential sector will remain nearly constant, as increased demand is offset by increasing end-use efficiency.¹⁵

Demand Target	Historical			Forecasts		
(AEO 2013 Reference Case)	2012	2015	2020	2025	2030	2035
Electric	25.0	22.1	22.6	23.2	24.4	25.9
Industrial	19.6	19.5	21.0	21.4	21.3	21.5
Commercial	8.0	9.1	9.1	9.2	9.4	9.6
Residential	11.5	12.8	12.4	12.2	11.9	11.6
NGV	0.1	0.2	0.2	0.3	0.7	1.6
Total	64.1	63.6	65.3	66.2	67.7	70.2

Figure 7: Reference Case Demand Targets (AEO 2013)

d. Gas Transportation

The natural gas infrastructure assumed in our market simulations includes:

- All existing North American pipelines,
- Most planned pipelines, with in-service timing adjustments base upon our case-by-case evaluation of each project's development, commercial, and/or construction status.

By way of summary, the universe of proposed new pipeline capacity includes:

- 4.4 Bcfd new pipeline capacity under construction, with almost all pipelines focused on serving the Marcellus and Utica basins.
- Over 6.4 Bcfd of pipeline projects in the advanced stages of development, and

¹⁵ EIA Annual Energy Outlook 2013, Natural gas from Executive Summary, April 15 – May 2, 2013 accessed via http://www.eia.gov/forecasts/aeo/source_natural_gas_all.cfm#netexporter



• 19.8 Bcfd of additional announced pipeline capacity in various stages of planning and development.

The new pipeline capacity assumed in our market equilibrium simulations is calibrated to shale production targets provided by our ShaRP model to allow adequate takeaway capacity for regional supply growth. Due to the substantial pre-build of new pipelines over the past 4 years in anticipation of increased shale production, we assumed that:

- New pipeline projects under construction will be completed and commissioned on time,
- The other projects in advanced development will either be completed on time or delayed, based upon case by case evaluation of their development status and regional shale production targets that will drive the demand for pipeline capacity.
 - e. Shale Production

The tremendous boom in shale production over recent years has brought vast amounts of low-cost natural gas production to market. U.S. shale gas production recently reached 25 Bcfd, which accounts for 37% of total market supply.

This has resulted in market oversupply, bulging storage inventories, and a stabilization of natural U.S. gas prices at relatively low levels – especially as compared to Europe where prices remain 2 to 3 times higher and Asia where prices are 3 to 4 times higher.

Looking forward, the critical question is whether shale production can be economically redoubled to supply reasonable scenarios for the combination of LNG exports and U.S. demand growth.

To address this question, production cost modeling is critical. The shale supply cost curve for each class of wells was provided by our ShaRP model. As described above, the model incorporates economic and financial analysis of the average well economics for shale production with detailed geotechnical analysis of the long-term shale production potential and production parameters in various classes of wells within each shale play.

This approach provides a rigorous analysis of the existing or major shale resource base that has or will soon commence production. As noted, however, this does not account for the production economics of plays that have not yet been developed and explored. Thus, the ability of shale production to economically supply natural gas demand and LNG exports over the coming decades could exceed the results of our analysis.



f.Other Supply Sources

The other supply sources including conventional gas and Coal Bed Methane ("CBM") have been in decline and are expected to stabilize at lower levels over the coming years.

In the GIEq model, the production targets for these resources are based upon drilling activity and well established cost parameters for well known resources. Conventional gas production targets decline through 2012 and then bottom at 10.3 Tcf (28.2 Bcfd) in the coming decade, before recovering slightly to 11 Tcf in 2035 (30.1 Bcfd). CBM production targets decline almost 50% from 2012 to 2035, reflecting the relatively less compelling economics of CBM (which lacks the economic benefits of NGL production) relative to the lower cost of shale production (especially for those liquid rich basins).



Ш. **REFERENCE CASE RESULTS**

This section of the report provides a brief summary of the drivers behind and results of our Reference Case simulation as a baseline for scenario analysis of increased LNG exports and U.S. natural gas We compare the Reference Case to similar EIA forecasts and the natural gas futures demand. markets.

a. Natural Gas Prices

For the Reference Case, our analysis suggests that HH prices will remain at just over \$4 per MMBtu by 2020 but then grow to just over \$6 per MMBtu by 2035, with most of this growth occurring after 2025 and particularly after 2030.

In the short-term through 2014, our Reference Case forecast is roughly in line with Nymex futures prices and the 2013 Short-Term Energy Outlook ("STEO") published by the EIA. The comparison is presented in Figure 8.



Figure 8: Monthly HH Prices Comparison



Over the long-term our Reference Case presents material variation from EIA's 2013 AEO Reference Case, resulting approximately \$0.39 to \$0.97 per MMBtu below EIA in the 2022-2030 period, with lesser differences before and after that period. The comparison is provided in Figure 9.



As compared to the targets derived from EIA's 2013 AEO, our Reference Case yields substantially more electric sector consumption as a function of this sector's responsiveness to sustained low gas prices. Our analysis also yields slightly higher industrial consumption of natural gas, particularly in the short-term.

By contrast, our forecast yields more LNG export volume through the middle of the next decade because our LNG export target is 2.4 Bcfd higher than EIA's in 2025. After 2025, however, our Reference Case yields slightly less LNG export than EIA because our export target is very close to EIA target. In other words, we anticipate LNG exports occurring more rapidly than EIA even though our overall LNG export targets are very close to those assumed by EIA.

These comparisons are provided in Figure 10.





Figure 10: BRG Reference Case Variations from the AEO 2013 Targets

The only significant U.S. demand variation occurs in the electric sector. This occurs largely because:

- 1. Our proprietary analysis of shale gas production potential and costs includes 40% higher reserves and appears to result in more responsive and economic shale production¹⁶ over the long-term. Therefore, the market equilibrium prices obtained in our Reference Case eventually decline below EIA's reference case, especially after 2015 when the LNG exports commence (beginning in 2016).
- 2. Given the elasticity of natural gas consumption we assume for the electric sector, the electric demand targets are "adjusted" downward in the simulation in conjunction with overall market and price equilibration. Although we use the AEO reference case sector demand levels as "targets," this target demand is allowed to adjust in line with equilibrium prices and the price elasticity of demand. The electric sector is particularly responsive to price levels between \$3.0 and \$5.5 per MMBtu due to the favorable prospects for ongoing coal-to-gas switching for power generation. These low price levels are obtained consistently throughout next two decades in the Reference Case. By the end of the period

¹⁶ The EIA shale production cost curves are not available for detailed comparison.



approaching 2035, electric sector demand responds much less once prices levels approach \$6.0 per MMBtu

b. Supply, Demand, and Trade

Detailed results for Reference Case supply, demand, and trade are provided in Appendix 1. These results can be summarized as follows for the period from 2012 to 2035:

- As provided in Figure 11, U.S Domestic Demand grows by 4.8 Bcfd to 74.7 Bcfd by 2020 and reaches 77.5 Bcfd by 2035. U.S. LNG Exports remain at approximately 4.1 to 4.2 Bcfd throughout the period.
- As presented in Figure 12, indigenous production increases approximately 14.2 Bcfd from 65.1 Bcfd in 2012 to 79.3 Bcfd in 2035, due to substantial shale gas production growth (26.5 Bcfd) that is partially offset by declining conventional and CBM output (12.3 Bcfd). Meanwhile, combined total LNG and net pipeline imports decline from 4.7 Bcfd to 2.2 Bcfd.
- As provided in Figure 13, by 2020 the U.S. switches from a net importer of natural gas and LNG to a net exporter. After 2020, the net export levels increase moderately due to growing LNG and pipeline exports and declining pipeline imports. Although we continue shifting toward greater levels of LNG and pipeline exports, Canadian pipeline imports continue because no Canadian LNG exports are assumed in the Reference Case and Canadian supply remains abundant and relatively economic (especially for delivery into the Pacific Northwest and California where little or no competition from shale gas is expected).

Sector	Historical			Forecasts		
Sector	2012	2015	2020	2025	2030	2035
Electric	25.0	23.1	24.5	24.5	25.4	26.5
Industrial	19.6	19.6	21.4	21.7	21.5	21.2
Commercial	8.0	9.1	9.2	9.2	9.4	9.6
Residential	11.5	12.8	12.5	12.2	12.0	11.6
NGVs	0.1	0.2	0.2	0.4	0.8	1.5
Lease & Plant Fuel	3.8	4.0	4.5	4.6	4.6	4.5
Pipe Fuel	2.0	2.0	2.4	2.5	2.6	2.6
Subtotal US Domestic Demand	69.9	70.7	74.7	75.1	76.2	77.5
US LNG Exports	-	-	4.1	4.2	4.1	4.1
Total US Demand	69.9	70.7	78.8	79.3	80.3	81.6

Figure 11: Reference Case-U.S. Demand by Sector (Bcfd)



Supply Sourco	Historical			Forecasts		
Supply Source	2012	2015	2020	2025	2030	2035
Conventional	35.6	32.7	27.8	24.6	23.5	25.8
Shale	25.0	30.5	45.5	50.6	53.2	51.5
CBM	4.6	3.6	2.8	2.1	1.9	2.0
Subtotal Indigenous Production	65.1	66.8	76.1	77.3	78.7	79.3
LNG Imports	0.5	0.4	0.4	0.4	0.4	0.5
Net Pipeline Imports	4.2	3.5	2.3	1.5	1.2	1.7
Subtotal Imports	4.7	3.9	2.7	2.0	1.7	2.2
Total US Supply	69.9	70.7	78.8	79.3	80.3	81.6

Figure 12: Reference Case-U.S. Supply Composition (Bcfd)

Figure 13: Reference Case-U.S. Trade Balance (Bcfd)

Imports/Exports	Historical			Forecasts		
	2012	2015	2020	2025	2030	2035
Pipeline Imports	-8.4	-7.5	-6.8	-6.4	-6.1	-6.6
LNG Imports	-0.5	-0.4	-0.4	-0.4	-0.4	-0.5
Subtotal Imports	-8.9	-7.9	-7.3	-6.9	-6.5	-7.1
Pipeline Exports	4.2	4.0	4.6	4.9	4.9	4.9
LNG Exports			4.1	4.2	4.1	4.1
Subtotal Exports	4.2	4.0	8.7	9.1	9.0	9.0
Total Trade Balance	-4.7	-3.9	1.4	2.2	2.5	1.9



IV. SCENARIO RESULTS

This section of the report provides a summary of the results of our scenario analysis for increased LNG exports and U.S. natural gas demand relative to the Reference Case. We concentrate on the range of scenario impacts on natural gas prices, demand/consumption, supply/production, and trade balances. We also make high level observations on the impact of LNG exports on global LNG trade and pricing.

a. Price Impacts

As compared to our Reference Case, our 5 scenarios for higher LNG exports and/or higher U.S. domestic natural gas consumption result in a mix of HH price increases and overall demand decreases, particularly in the electric sector. The overall results are:

- The HH price impacts by 2035 range from an increase of \$0.13 per MMBtu in the Magnolia scenario to \$1.40 per MMBtu in the High Demand / High LNG scenario, with the other scenarios falling in between.
- For the 3 LNG scenarios with moderate U.S. demand targets, the total combined demand adjustments (for all sectors) below the Reference Case results (due to higher prices and price elasticity of demand) range from 0.2 Bcfd in the Magnolia scenario to 1.5 Bcfd in the High LNG scenario.
- In the 2 High U.S. Demand scenarios, demand increases relative to the Reference Case due to the 4.6 Bcfd higher input target demand. However, the full targets for higher demand are not achieved in the simulation due to higher equilibrium prices and the price elasticity of demand (above all in the electric sector). Compared to the Reference Case, the total combined demand increases (from all sectors) for the High Demand / Moderate LNG Scenario and the High Demand / High LNG scenarios are 2.8 Bcfd and 2.0 Bcfd, respectively.

In 2020 to 2035, the Magnolia scenario adds between \$0.06 and \$0.13 per MMBtu to the Reference Case results of \$4.15 and \$6.16, respectively. The price impact is small because the 1 Bcfd of incremental export demand does not represent a significant draw on shale resources.

The remaining scenarios have more significant impacts by 2035:

• The Moderate LNG scenario prices increase to \$6.65 per MMBtu by 2035 due to the potential LNG export capacity increase of approximately 5.3 Bcfd relative to the Reference Case.



- The High LNG and High Demand / Moderate LNG scenarios both add potential combined demand of approximately 9-10 Bcfd¹⁷ above the reference case, causing prices to just exceed \$7 per MMBtu.
- In the High Demand / High LNG scenario where potential combined demand is targeted to • increase by almost 14 Bcfd,¹⁸ prices reach \$7.56 per MMBtu.

These results are provided in Figure 14.



Figure 14: Monthly HH Price Forecasts

Based on this analysis, the incremental HH price impact of each of the 5 scenarios as compared to the Reference Case is provided in Figure 15.

 ¹⁷ High LNG Scenario export target includes 1.5 Bcfd Canadian export capacity.
¹⁸ High Demand / High LNG Scenario export target also includes 1.5 Bcfd Canadian export capacity.





Figure 15: Scenario HH Price Differentials Relative to Reference Case

b. Demand and Consumption Impacts

As compared to our Reference Case, the 5 scenarios for higher LNG exports and/or higher U.S. domestic natural gas consumption will have modest impacts on domestic demand. As LNG exports are increased across the scenarios, U.S. natural gas demand gradually declines relative to the Reference Case. This occurs primarily in the electric sector due to the relative higher price sensitivity in that sector relative to other sectors. The overall results are tabulated in Figure 16.



Scenario	2020	2025	2030	2035
Magnolia Scenario				
Electric	-0.2	-0.1	-0.1	-0.2
Industrial	0.0	0.0	0.0	0.0
Commercial	0.0	0.0	0.0	0.0
Residential	0.0	0.0	0.0	0.0
NGVs	0.0	0.0	0.0	0.0
Subtotal Domestic Demand Variation	-0.2	-0.2	-0.2	-0.2
US LNG Exports	1.0	1.0	1.0	1.0
Total Demand Variation	0.8	0.8	0.8	0.7
Moderate LNG Scenario				
Electric	-0.6	-0.8	-1.1	-0.6
Industrial	-0.1	-0.1	-0.1	-0.1
Commercial	0.0	0.0	0.0	0.0
Residential	0.0	0.0	0.0	0.0
NGVs	0.0	0.0	0.0	0.0
Subtotal Domestic Demand Variation	-0.7	-0.9	-1.3	-0.8
U.S. LNG Export Variations	4.5	4.7	4.7	4.7
Total Demand Variation	3.7	3.8	3.4	3.9
High LNG Scenario				
Electric	-0.8	-1.4	-1.6	-1.1
Industrial	-0.1	-0.2	-0.2	-0.2
Commercial	0.0	0.0	0.0	0.0
Residential	0.0	0.0	0.0	0.0
NGVs	0.0	0.0	0.0	-0.1
Subtotal Domestic Demand Variation	-0.9	-1.7	-1.9	-1.5
U.S. LNG Export Variations	4.9	6.9	6.9	6.9
Total Demand Variation	4.0	5.3	5.0	5.4
High Demand / Moderate LNG Scenario				
Electric	-0.2	0.3	0.2	-0.3
Industrial	1.0	1.3	1.7	2.4
Commercial	-0.1	-0.1	-0.1	0.0
Residential	0.2	0.3	0.5	0.7
NGVs	0.0	0.0	-0.1	0.0
Subtotal Domestic Demand Variation	0.9	1.8	2.4	2.8
U.S. LNG Export Variations	4.4	4.7	4.7	4.7
Iotal Demand Variation	5.4	6.5	7.1	7.5
High Demand / High LNG Scenario	0.4			
	-0.4	-0.4	-0.3	-0.9
	1.0	1.2	1./	2.3
	-0.1	-0.1	-0.1	0.0
Kesidential	0.1	0.3	0.5	0.7
	0.0	0.0	-0.1	0.0
Suptotal Domestic Demand Variation	0.7	1.0	1./	2.0
	4.6	6.9	6.9	/.4
I otal Demand Variation	5.5	7.9	8.6	9.4

Figure 16: Demand Differential between Scenarios and Reference Case



c. Supply and Shale Production

In the Reference Case and all 5 scenarios, shale production increases substantially and consistently by 2035, reaching over 50 Bcfd and 60% of total production – a share obtained by 2020 in all scenarios and maintained throughout the remainder of the period. As expected, the higher LNG export and U.S. demand scenarios draw increasing amounts of shale production into the market. The shale production volumes and share of total production is presented in Figure 17.

Scenario	2012	2015	2020	2025	2030	2035
Reference Case						
Shale Production	25.0	30.5	45.5	50.6	53.2	51.5
Other Production	40.1	36.3	30.6	26.7	25.4	27.8
Total Production	65.1	66.8	76.1	77.3	78.7	79.3
Shale Share of Total Production (%)	38%	46%	60%	65%	68%	65%
Magnolia Scenario						
Shale Production			45.4	50.6	53.2	51.5
Other Production			31.1	26.8	25.8	28.3
Total Production			76.5	77.5	79.0	79.8
Shale Share of Total Production (%)			59%	65%	67%	65%
Moderate LNG Scenario						
Shale Production			47.3	53.9	55.4	53.0
Other Production			32.5	27.7	26.8	30.3
Total Production			79.8	81.5	82.2	83.4
Shale Share of Total Production (%)			59%	66%	67%	64%
High LNG Scenario						
Shale Production			48.4	55.8	57.7	53.6
Other Production			32.9	28.4	27.4	32.1
Total Production			81.3	84.2	85.1	85.7
Shale Share of Total Production (%)			60%	66%	68%	63%
High Demand / Moderate LNG Scenario						
Shale Production			48.6	55.8	58.0	54.0
Other Production			33.0	28.3	27.6	32.6
Total Production			81.6	84.1	85.6	86.6
Shale Share of Total Production (%)			60%	66%	68%	62%
High Demand / High LNG Scenario						
Shale Production			49.5	57.1	60.1	55.5
Other Production			33.5	29.5	28.4	33.8
Total Production			83.0	86.6	88.5	89.4
Shale Share of Total Production (%)			60%	66%	68%	62%

Figure 17: Shale Production (Bcfd) and Share of Total Production (%)



d. Trade Balances

The U.S. remains a net gas importer in 2012 and will continue as such through 2015, due above all to the volume of Canadian pipeline imports relative to more limited pipeline exports to Mexico. However, once LNG exports commence after 2015, the U.S. will become a net gas exporter in all scenarios.

As depicted in Figure 18, the natural gas and LNG trade balance in the Reference Case reaches net exports of 1.9 Bcfd in 2035 and will increase to 2035 levels in the higher LNG scenarios to between 2.6 Bcfd in the Magnolia scenario to approximately 8.6 Bcfd in the High LNG scenarios. In all scenarios, these results reflect continued pipeline trade with Canada and Mexico and a very small amount of LNG imports into the Everett terminal.

Scenario	2012	2015	2020	2025	2030	2035
Reference Case						
Total Imports	-8.9	-7.9	-7.3	-6.9	-6.5	-7.1
Total Exports	4.2	4.0	8.7	9.1	9.0	9.0
Total Trade Balance	-4.7	-3.9	1.4	2.2	2.5	1.9
Magnolia Scenario						
Total Imports			-7.3	-6.9	-6.6	-7.2
Total Exports			9.2	9.3	9.6	9.8
Total Trade Balance			1.9	2.4	3.0	2.6
Moderate LNG Scenario						
Total Imports			-7.4	-7.1	-7.0	-7.4
Total Exports			12.7	13.7	13.6	13.4
Total Trade Balance			5.2	6.7	6.7	6.0
High LNG Scenario						
Total Imports			-6.6	-6.6	-6.4	-7.0
Total Exports			13.3	16.2	16.2	15.5
Total Trade Balance			6.7	9.7	9.7	8.6
High Demand / Moderate LNG Scenario						
Total Imports			-7.3	-6.8	-6.5	-7.1
Total Exports			12.5	13.1	12.7	12.5
Total Trade Balance			5.2	6.2	6.1	5.5
High Demand / High LNG Scenario						
Total Imports			-6.7	-6.8	-6.8	-7.1
Total Exports			13.3	15.9	16.1	15.7
Total Trade Balance			6.7	9.1	9.3	8.6

Figure 18: Trade Balance by Scenario (Bcfd)

e. LNG Market Implications

The amount and speed with which global LNG markets can physically absorb the additional North American LNG supply under a variety of scenarios remains unclear. The more LNG exported from



North America, the more intense will be global supply competition and the greater the prospect for negative impacts on global LNG pricing practices, prices levels, and therefore shale spreads.

In our recent LNG analyses, global supply (including North American LNG) grows substantially, more than doubling in both the high and low production ranges. These production scenarios vary by only 39 MMtpa (5.2 Bcfd) and 36 MMtpa (4.8 Bcfd) in 2020 and 2035, respectively. Despite the increased levels of North American LNG exports in the high LNG scenarios, these exports tend to be partially offset over time by lower levels of new LNG supply from Australia, East Africa, and/or the East Mediterranean.

Our scenarios for LNG demand growth vary much more significantly, with demand swing variations of 75 MMtpa (10.0 Bcfd) to 94 MMtpa (12.5 Bcfd) in 2020 and 2035, respectively. In both scenarios, LNG demand growth will be substantial, resulting in more than a doubling of current levels. LNG demand growth is particularly responsive to LNG price levels in the key potential growth markets of China, India, Europe and other emerging markets in South/Central America and South Asia. The lower LNG prices the greater the potential demand growth and vice versa.

As a result, substantial surpluses could develop during the next decade if both LNG production and demand growth are slow because demand will not catch up to supply until after 2035. But if production is solid and demand is robust, markets could remain tight over the next decade, rebalance in 2020-2030, and then tighten again in 2030-2035. This occurs because the higher demand growth is needed to absorb most or all of the projected supply. These results are depicted in Figure 19.¹⁹



¹⁹ These results should be considered illustrative. Other scenario combinations are possible.



The mostly likely outcome is somewhere in between these results, but becomes weighted toward surplus as North America exports greater volumes. The implications for global LNG prices and shale spreads are significant. The greater the potential future LNG supply surplus, the more LNG buyers will have increasing influence on the terms of trade.

- It is clear that global LNG buyers, particularly in East Asia, are already using low North American import costs (HH + pipeline, liquefaction, and shipping costs) in efforts to redesign the terms of trade and drive Asian prices down.²⁰ Producers are holding firm on pricing terms for now, but once North American LNG begins to flow, that may no longer be feasible.
- By contrast in a more balanced or supply constrained market, suppliers will maintain the commercial control needed to defend high oil-indexed prices in Asia.

The range of potential price impacts is illustrated in Figure 20.²¹ With a wide range of up to \$9 per MMBtu feasible for downward impacts on Japanese LNG prices and a much more limited range of upward impacts on HH prices due to increased LNG exports, the importance of foreign LNG impacts on shale spreads is up to 10 times greater than U.S. domestic impacts. Should shale spreads decrease significantly, the economic rationale underpinning North American LNG exports could be undermined.



Figure 20: Pacific Basin LNG Prices and Shale Spreads

²⁰ As discussed at the 2nd Japan LNG Producer-Consumer Conference on September 10, 2013, "Gas buyers in Europe, Japan and other parts of Asia are teaming up to reduce the price of liquefied natural gas (LNG), which officials say is threatening a recovery in the European Union and growth in the Japanese economy, the world's third largest." European, Asian LNG buyers teaming up to push cheaper prices, Reuters, September 10, 2013, accessed via http://www.cnbc.com/id/101022122.

²¹ These results should be considered illustrative. Other scenarios involving LNG demand factors, commercial policy factor, and oil prices are all possible but not represented here.

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North American Market Impact Study

Appendices

Magnolia LNG DOE Application for Authority to Export LNG to Non-FTA Nations

October 10th, 2013



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Table of Contents

Append	DIX 1: REFERENCE CASE RESULTS	3
а.	Gas Prices	3
b.	Demand	4
с.	Supply	5
d.	Trade Balances	6
Append	dix 2: Magnolia Scenario Results	7
а.	Gas Prices	7
b.	Demand	8
с.	Supply	9
d.	Trade Balances	
Append	IDIX 3: MODERATE LNG SCENARIO RESULTS	
а.	Gas Prices	
b.	Demand	
с.	Supply	
d.	Trade Balances	14
Append	IDIX 4: HIGH LNG SCENARIO RESULTS	
а.	Gas Prices	
b.	Demand	
с.	Supply	
d.	Trade Balances	
Append	IDIX 5: HIGH DEMAND / MODERATE LNG SCENARIO RESULTS	
а.	Gas Prices	
b.	Demand	20
с.	Supply	21
d.	Trade Balances	22
Append	idix 6: high demand / High LNG scenario Results	23
а.	Gas Prices	23
b.	Demand	24
с.	Supply	25
d.	Trade Balances	26



APPENDIX 1: REFERENCE CASE RESULTS

a. Gas Prices



Figure 1: HH Prices-Reference Case



b. Demand



Figure 2: US Demand by Sector (Bcfd)

Sector	Historical	Forecasts				
(Bcfd)	2012	2015	2020	2025	2030	2035
Electric	25.0	23.1	24.5	24.5	25.4	26.5
Industria	19.6	19.6	21.4	21.7	21.5	21.2
Commercial	8.0	9.1	9.2	9.2	9.4	9.6
Residential	11.5	12.8	12.5	12.2	12.0	11.6
NGVs	0.1	0.2	0.2	0.4	0.8	1.5
Lease & Plant Fuel	3.8	4.0	4.5	4.6	4.6	4.5
Pipe Fuel	2.0	2.0	2.4	2.5	2.6	2.6
Subtotal US Domestic Demand	69.9	70.7	74.7	75.1	76.2	77.5
US LNG Exports	-	-	4.1	4.2	4.1	4.1
Total US Demand	69.9	70.7	78.8	79.3	80.3	81.6



c. Supply



Figure 3: US Supply Composition (Bcfd)

Supply Sourco	Historical	Forecasts				
Supply Source	2012	2015	2020	2025	2030	2035
Conventional	35.6	32.7	27.8	24.6	23.5	25.8
Shale	25.0	30.5	45.5	50.6	53.2	51.5
СВМ	4.6	3.6	2.8	2.1	1.9	2.0
Subtotal Indigenous Production	65.1	66.8	76.1	77.3	78.7	79.3
LNG Imports	0.5	0.4	0.4	0.4	0.4	0.5
Net Pipeline Imports	4.2	3.5	2.3	1.5	1.2	1.7
Subtotal Imports	4.7	3.9	2.7	2.0	1.7	2.2
Total US Supply	69.9	70.7	78.8	79.3	80.3	81.6



d. Trade Balances



Figure 4: US Trade Balance (Bcfd)



APPENDIX 2: MAGNOLIA SCENARIO RESULTS

a. Gas Prices



Figure 5: HH Prices-Magnolia Scenario



b. Demand



Figure 6: US Demand by Sector (Bcfd)

Sector (Bcfd)	Historical	Forecasts				
	2012	2015	2020	2025	2030	2035
Electric	25.0	23.1	24.4	24.4	25.2	26.4
Industrial	19.6	19.6	21.3	21.7	21.5	21.2
Commercial	8.0	9.1	9.2	9.2	9.4	9.6
Residential	11.5	12.8	12.5	12.2	12.0	11.6
NGVs	0.1	0.2	0.2	0.4	0.8	1.5
Lease & Plant Fuel	3.8	4.0	4.6	4.7	4.6	4.5
Pipe Fuel	2.0	2.0	2.4	2.5	2.6	2.6
Subtotal US Domestic Demand	69.9	70.7	74.6	75.0	76.1	77.3
US LNG Exports	-	-	5.1	5.1	5.1	5.1
Total US Demand	69.9	70.7	79.6	80.2	81.2	82.3


c. Supply





Supply Source	Historical	Forecasts					
SupprySource	2012	2015	2020	2025	2030	2035	
Conventional	35.6	32.7	28.2	24.7	23.9	26.2	
Shale	25	30.5	45.4	50.6	53.2	51.5	
СВМ	4.6	3.6	2.9	2.2	1.9	2.1	
Subtotal Indigenous Production	65.1	66.8	76.5	77.5	79.0	79.8	
LNG Imports	0.5	0.4	0.4	0.4	0.5	0.5	
Net Pipeline Imports	4.2	3.5	2.8	2.3	1.7	2.0	
Subtotal Imports	4.7	3.9	3.2	2.7	2.2	2.5	
Total US Supply	69.9	70.7	79.6	80.2	81.2	82.3	



d. Trade Balances



Figure 8: US Trade Balance (Bcfd)



APPENDIX 3: MODERATE LNG SCENARIO RESULTS

a. Gas Prices







b. Demand

Figure 10: US Demand by Sector (Bcfd)



Sector (Bcfd)	Historical	Forecasts						
	2012	2015	2020	2025	2030	2035		
Electric	25.0	23.1	23.9	23.7	24.3	25.9		
Industrial	19.6	19.6	21.3	21.6	21.4	21.1		
Commercial	8.0	9.1	9.1	9.2	9.4	9.6		
Residential	11.5	12.8	12.4	12.2	11.9	11.6		
NGVs	0.1	0.2	0.2	0.3	0.7	1.5		
Lease & Plant Fuel	3.8	4.0	4.7	4.9	4.7	4.7		
Pipe Fuel	2.0	2.0	2.9	2.9	3.0	3.0		
Subtotal US Domestic Demand	69.9	70.7	74.6	74.9	75.5	77.3		
US LNG Exports	-	-	8.6	8.9	8.9	8.8		
Total US Demand	69.9	70.7	83.2	83.8	84.4	86.1		



c. Supply





Supply Source	Historical	Forecasts					
Supply Source	2012	2015	2020	2025	2030	2035	
Conventional	35.6	32.7	29.6	25.5	24.9	28.1	
Shale	25.0	30.5	47.3	53.9	55.4	53.0	
СВМ	4.6	3.6	2.9	2.2	2.0	2.2	
Subtotal Indigenous Production	65.1	66.8	79.8	81.5	82.2	83.4	
LNG Imports	0.5	0.4	0.4	0.5	0.5	0.5	
Net Pipeline Imports	4.2	3.5	2.9	1.8	1.7	2.2	
Subtotal Imports	4.7	3.9	3.3	2.3	2.2	2.8	
Total US Supply	69.9	70.7	83.2	83.8	84.4	86.1	



d. Trade Balances



Figure 12: US Trade Balance (Bcfd)



APPENDIX 4: HIGH LNG SCENARIO RESULTS

a. Gas Prices



Figure 13: HH Prices-High LNG Scenario



b. Demand



Sector	Historical	Forecasts						
(Bcfd)	2012	2015	2020	2025	2030	2035		
Electric	25.0	23.1	23.7	23.1	23.8	25.4		
Industrial	19.6	19.6	21.3	21.5	21.3	21.0		
Commercial	8.0	9.1	9.1	9.2	9.4	9.5		
Residential	11.5	12.8	12.4	12.2	11.9	11.5		
NGVs	0.1	0.2	0.2	0.3	0.7	1.4		
Lease & Plant Fuel	3.8	4.0	4.8	5.0	4.9	4.8		
Pipe Fuel	2.0	2.0	2.9	3.2	3.3	3.3		
Subtotal US Domestic Demand	69.9	70.7	74.5	74.5	75.3	77.1		
US LNG Exports	-	-	9.0	11.1	11.1	11.0		
Total US Demand	69.9	70.7	83.5	85 .7	86.4	88.0		



c. Supply



Figure 15: US Supply Composition (Bcfd)

Supply Source	Historical	Forecasts						
Supply Source	2012	2015	2020	2025	2030	2035		
Conventional	35.6	32.7	29.9	26.1	25.4	29.8		
Shale	25.0	30.5	48.4	55.8	57.7	53.6		
СВМ	4.6	3.6	2.9	2.3	2.0	2.3		
Subtotal Indigenous Production	65.1	66.8	81.3	84.2	85.1	85.7		
LNG Imports	0.5	0.4	0.4	0.5	0.5	0.6		
Net Pipeline Imports	4.2	3.5	1.8	1.0	0.9	1.8		
Subtotal Imports	4.7	3.9	2.3	1.4	1.4	2.4		
Total US Supply	69.9	70.7	83.5	85.7	86.4	88.0		



d. Trade Balances



Figure 16: US Trade Balance (Bcfd)



APPENDIX 5: HIGH DEMAND / MODERATE LNG SCENARIO RESULTS

a. Gas Prices



Figure 17: HH Prices-High Demand / Moderate LNG Scenario



b. Demand



Figure 18: US Demand by Sector (Bcfd)

Sector	Historical	Forecasts						
(Bcfd)	2012	2015	2020	2025	2030	2035		
Electric	25.0	23.0	24.4	24.8	25.6	26.2		
Industrial	19.6	19.9	22.4	23.0	23.2	23.6		
Commercial	8.0	9.1	9.1	9.2	9.3	9.5		
Residential	11.5	12.8	12.6	12.5	12.5	12.3		
NGVs	0.1	0.2	0.2	0.3	0.7	1.6		
Lease & Plant Fuel	3.8	4.0	4.8	5.0	4.9	4.8		
Pipe Fuel	2.0	2.0	2.9	3.0	3.1	3.1		
Subtotal US Domestic Demand	69.9	70.9	76.4	77.8	79.5	81.2		
US LNG Exports	-	-	8.5	8.9	8.8	8.8		
Total US Demand	69.9	70.9	85.0	86.7	88.3	89.9		



c. Supply

Figure 19: US Supply Composition (Bcfd)



Supply Source	Historical	Forecasts						
SupprySource	2012	2015	2020	2025	2030	2035		
Conventional	35.6	32.7	30.1	26.0	25.6	30.3		
Shale	25.0	30.5	48.6	55.8	58.0	54.0		
CBM	4.6	3.6	2.9	2.3	2.0	2.3		
Subtotal Indigenous Production	65.1	66.8	81.6	84.1	85.6	86.6		
LNG Imports	0.5	0.4	0.5	0.5	0.5	0.6		
Net Pipeline Imports	4.2	3.5	2.9	2.2	2.2	2.8		
Subtotal Imports	4.7	3.9	3.3	2.7	2.7	3.3		
Total US Supply	69.9	70.7	85.0	86.7	88.3	89.9		



d. Trade Balances



Figure 20: US Trade Balance (Bcfd)



APPENDIX 6: HIGH DEMAND / HIGH LNG SCENARIO RESULTS

a. Gas Prices



Figure 21: HH Prices-High Demand / High LNG Scenario



b. Demand





Sector	Historical	Forecasts						
(Bcfd)	2012	2015	2020	2025	2030	2035		
Electric	25.0	23.0	24.2	24.1	25.1	25.6		
Industrial	19.6	19.9	22.4	22.9	23.2	23.5		
Commercial	8.0	9.1	9.1	9.1	9.3	9.5		
Residential	11.5	12.8	12.6	12.5	12.5	12.3		
NGVs	0.1	0.2	0.2	0.3	0.7	1.5		
Lease & Plant Fuel	3.8	4.0	4.9	5.1	5.1	5.0		
Pipe Fuel	2.0	2.0	3.0	3.3	3.4	3.4		
Subtotal US Domestic Demand	69.9	70.9	76.3	77.4	79.2	80.8		
US LNG Exports	-	-	8.7	11.1	11.1	11.5		
Total US Demand	69.9	70.9	85.0	88.5	90.3	92.3		



c. Supply

Figure 23: US Supply Composition (Bcfd)



Supply Source	Historical	Forecasts					
Supply Source	2012	2015	2020	2025	2030	2035	
Conventional	35.6	32.7	30.5	27.0	26.3	31.5	
Shale	25.0	30.5	49.5	57.1	60.1	55.5	
СВМ	4.6	3.6	3.0	2.4	2.2	2.3	
Subtotal Indigenous Production	65.1	66.8	83.0	86.6	88.5	89.4	
LNG Imports	0.5	0.4	0.5	0.5	0.5	0.6	
Net Pipeline Imports	4.2	3.5	1.5	1.5	1.3	2.4	
Subtotal Imports	4.7	3.9	2.0	1.9	1.8	3.0	
Total US Supply	69.9	70.7	85.0	88.5	90.3	92.3	



d. Trade Balances



Figure 24: US Trade Balance (Bcfd)

EXHIBIT B OPTION AGREEMENT

(See attached)

PLC Tract No. 475

a:

REAL ESTATE LEASE OPTION AGREEMENT

BE IT KNOWN, that on the dates hereinafter set forth, before the undersigned Notaries Public, duly commissioned and qualified in and for their respective State and County/Parish, and in the presence of the undersigned competent witnesses personally came and appeared:

MAGNOLIA LNG, LLC ("<u>PROJECT COMPANY</u>"), a Delaware limited liability company with its principal business office located at 5 Ord Street, West Perth, Western Australia 6005, and with its registered office in Louisiana at 5615 Corporate Blvd, Suite 400B, Baton Rouge, LA 70808, herein represented by its duly authorized undersigned representative; and

LAKE CHARLES HARBOR & TERMINAL DISTRICT ("<u>DISTRICT</u>"), a political subdivision of the State of Louisiana, herein represented by its duly authorized Executive Director, with its principal business office located in Calcasieu Parish, Louisiana at 751 Bayou Pines East, Suite P, Lake Charles, Louisiana 70601;

which hereinafter collectively declare that:

WITNESSETH:

WHEREAS, the DISTRICT is a deep-water port and political subdivision of the State of Louisiana (the "<u>State</u>") exercising governmental powers of the State as delegated and authorized pursuant to the Louisiana Constitution and other statutory supplemental authorities thereof, acting by and through the Executive Director of the DISTRICT, having its office and domicile at 751 Bayou Pines East, Suite P, Lake Charles, Louisiana;

WHEREAS, the PROJECT COMPANY has determined that DISTRICT-owned land along the south side of the Industrial Canal is needed for and essential to the construction, operation and maintenance of a liquefied natural gas processing and export facility ("the <u>Facility</u>"); such lands (the "<u>Project Site</u>") being described on Exhibit 1 attached hereto; and

WHEREAS, in an effort to realize its objective of promoting the economic development and creation of jobs in the greater Lake Charles area, the DISTRICT has decided to enter into this Real Estate Lease Option Agreement (this "<u>Option Agreement</u>") to give PROJECT COMPANY the opportunity to assess the Project Site for purposes of locating, constructing, operating and maintaining the Facility, and any other facilities related to the operations of the PROJECT COMPANY as described above (collectively, the "<u>Project</u>").

NOW, THEREFORE, in consideration of the above recitals and the mutual covenants hereinafter contained, the parties herein covenant and agree as follows:

AGREEMENT

1. **PARTIES.** This Option Agreement is between the DISTRICT and PROJECT COMPANY on the terms and conditions hereinafter set forth, to-wit:

2. IRREVOCABLE AND EXCLUSIVE OPTION TO LEASE.

A. <u>Initial Option Period</u>. For and in consideration of an option payment in the amount of One Hundred Thousand and NO/100 (\$100,000.00) Dollars (the "<u>Initial Option</u> <u>Payment</u>") and the mutual covenants hereinafter contained, the DISTRICT does hereby grant unto PROJECT COMPANY, or its assignee, an irrevocable and exclusive option (the "<u>Option</u>") to lease the Project Site, on the terms and conditions set forth in the attached and annexed Ground Lease marked as <u>Annex A</u> (the "<u>Ground Lease</u>"). This Option is hereby granted to PROJECT COMPANY for a period of twelve (12) months from the Effective Date (as defined in Paragraph 21) (the "<u>Initial Option Period</u>"). The Initial Option Payment shall be payable to the DISTRICT not later than fifteen (15) calendar days after the Effective Date of this Option Agreement.

B. <u>First Extended Option Period</u>. The Initial Option Period shall be subject to an extension for up to twelve (12) months (the "<u>First Extended Option Period</u>") for any reason that the PROJECT COMPANY deems necessary in its sole discretion. The right to extend the Initial Option Period for the First Extended Option Period may be exercised by PROJECT COMPANY in its sole discretion in accordance with Paragraph 5 below. If PROJECT COMPANY exercises its right to extend the Initial Option Period, then PROJECT COMPANY will make a payment to

DISTRICT in the amount of One Hundred Twenty-Five Thousand and NO/100 (\$125,000.00) Dollars for the First Extended Option Period (the "<u>First Additional Option Payment</u>") not later than fifteen (15) calendar days after exercising such right in accordance with Paragraph 5 below.

C. <u>Second Extended Option Period</u>. The First Extended Option Period shall be subject to an extension for up to twelve (12) months (the "<u>Second Extended Option Period</u>"), for any reason that the PROJECT COMPANY deems necessary in its sole discretion. The right to extend the First Extended Option Period for the Second Extended Option Period may be exercised by PROJECT COMPANY in its sole discretion in accordance with Paragraph 5 below. If PROJECT COMPANY exercises its right to extend the First Extended Option Period, then PROJECT COMPANY will make a payment to DISTRICT in the amount of Two Hundred Thousand and NO/100 (\$200,000.00) Dollars for the Second Extended Option Period (the "<u>Second Additional Option Payment</u>"), not later than fifteen (15) calendar days after exercising such right in accordance with Paragraph 5 below.

D. <u>Third Extended Option Period</u>. The Second Extended Option Period shall be subject to an extension for up to twelve (12) months (the "<u>Third Extended Option Period</u>"), for any reason that the PROJECT COMPANY deems necessary in its sole discretion. The right to extend the Second Extended Option Period for the Third Extended Option Period may be exercised by PROJECT COMPANY in its sole discretion in accordance with Paragraph 5 below. If PROJECT COMPANY exercises its right to extend the Second Extended Option Period, then PROJECT COMPANY will make a payment to DISTRICT in the amount of Three Hundred Thousand and NO/100 (\$300,000.00) Dollars for the Third Extended Option Period (the "<u>Third</u> <u>Additional Option Payment</u>"), not later than fifteen (15) calendar days after exercising such right in accordance with Paragraph 5 below. However, if Project Company properly exercises this Option to Lease the Project Site, then, in that event, the DISTRICT shall grant a credit to PROJECT COMPANY of \$100,000.00 toward any rent due under the Ground lease.

E. <u>Option Exercise</u>. In order to exercise its Option to lease the Project Site, PROJECT COMPANY shall give written notice to the DISTRICT of its intention to lease the Project Site in accordance with the provisions of Paragraph 5. If PROJECT COMPANY fails to timely exercise its Option during the Initial Option Period, the First Extended Option Period, the

Second Extended Option Period, or Third Extended Option Period, as applicable, no further payments shall be due by PROJECT COMPANY and this Option Agreement shall be terminated and be of no further force or effect. If PROJECT COMPANY, after meeting all required conditions, timely exercises its Option, during the Initial Option Period or, if applicable, during the First Extended Option Period, the Second Extended Option Period or Third Extended Option Period, the parties shall execute and deliver the Ground Lease on or before the Closing Date (as defined in Paragraph 8.D herein). Except as provided for in Paragraph, 2.D, any Option Payments made by PROJECT COMPANY under the Option Agreement shall not be deemed or considered rent, rental, or any other consideration under the Ground Lease.

F. <u>Cancellation of Option by Project Company</u>. Notwithstanding anything to the contrary in this Option Agreement, the PROJECT COMPANY shall have the right at any time during the Initial Option Period or, if applicable, during the First Extended Option Period, the Second Extended Option Period or Third Extended Option Period, to cancel the Option at any time without any additional liability to the DISTRICT upon delivery of written notice to the DISTRICT of PROJECT COMPANY's desire to cancel the Option. Upon such cancellation of the Option by PROJECT COMPANY at any time, the Initial Option Payment and, if applicable, the First Additional Option Payment, the Second Additional Option Payment and the Third Additional Option Payment (collectively, the "Option Payments"), shall be non-refundable to PROJECT COMPANY, but no other payments shall be due by PROJECT COMPANY and this Option Agreement shall be terminated and be of no further force and effect.

3. Intentionally left blank.

4. **<u>RENT CREDIT</u>**. Project Company shall not be entitled to any credit for the Option Payments against rent due under the Ground Lease, except as set forth in Paragraph 2D.

5. **EXERCISE OF OPTION/EXTENDED OPTION PERIOD.** The Option to lease the Project Site, or the right to extend the Initial Option Period, the First Extended Option Period or the Second Extended Option Period as set forth above, must be exercised in each case, if at all, by delivery of a written notice from PROJECT COMPANY to the DISTRICT in substantially

the form of <u>Exhibit 2</u> with the appropriate blanks completed on or before the expiration of the Initial Option Period or the First Extended Option Period, Second Extended Option Period or Third Extended Option Period, as applicable. Failure to timely exercise the Option or the right to extend the Initial Option Period, First Extended Option Period or Second Extended Option Period shall automatically terminate the right of PROJECT COMPANY to exercise the Option or to extend the Initial Option Period or First Extended Option Period, as applicable.

6. <u>CONSIDERATION FOR THE LEASE OF PROJECT SITE</u>. If PROJECT COMPANY meets all required conditions and timely exercises its Option to lease the Project Site, the DISTRICT shall comply with all terms and conditions of this Option Agreement as hereinafter set forth to lease the Project Site to PROJECT COMPANY on the Closing Date for the consideration as stated in the Ground Lease and in accordance with the provisions of this Option Agreement and the Ground Lease.

7. <u>PROJECT COMPANY'S RIGHTS AND DISTRICT'S OBLIGATIONS DURING</u> THE OPTION PERIOD.

A. Access and Inspection; Early Works. At all times during this Option Agreement, PROJECT COMPANY shall, at its cost, have reasonable access to the Project Site for the purpose of determining the suitability of the Project Site and performing any and all other inspections, analyses, tests and other due diligence that PROJECT COMPANY deems necessary or desirable in its sole discretion, including, without limitation, (i) developing preliminary engineering, design and construction information relative to the facilities required to comprise and support the Project, (ii) performing site assessments of the Project Site by a contractor or contractors, including, without limitation, Phase I and Phase II environmental site assessments and any other environmental assessments that PROJECT COMPANY or any governmental entity regulating the Project deems necessary, (iii) performing engineering design, geotechnical, geophysical, seismic, archaeological and land surveys and assessments of and around the Project Site, (iv) performing tests and inspections of improvements, structures, wells, septic tanks, underground storage tanks, soils, geologic hazards, utility lines and systems located on or under, the Project Site, (v) conducting soil borings upon the Project Site, for purposes of analyzing such soils, (vi) interviewing persons familiar with the Project Site, (vii) coordinating design activities

with the DISTRICT; (viii) performing a land survey and title review, and (ix) any other actions or activities deemed by PROJECT COMPANY in its sole discretion to be necessary or desirable for PROJECT COMPANY to inspect, assess and establish the suitability of the Project Site or assess compliance with this Option Agreement (collectively, the "Project Site Activities"). Further, PROJECT COMPANY may have additional rights to undertake certain activities on the Project Site subject and in accordance with an "Early Works Agreement" which may be negotiated and agreed upon in the future between PROJECT COMPANY and the DISTRICT. The PROJECT COMPANY and its employees, agents, representatives, contractors and consultants shall have access to the Project Site, during the Initial Option Period, as applicable, unless and until the date on which PROJECT COMPANY shall have entered into the Ground Lease, PROJECT COMPANY shall have access to the Project Site pursuant to the terms of the Ground Lease.

B. <u>Compliance with Laws; No Environmental Liability</u>. PROJECT COMPANY shall take reasonable measures to ensure that its employees, agents, representatives, contractors and consultants, in conducting any Project Site Activities, comply with all applicable laws, rules, regulations, ordinances and decrees of any governmental body. The DISTRICT acknowledges and agrees that PROJECT COMPANY shall not incur any liability for any hazardous materials and/or substances, including, but not limited to, natural occurring radioactive material ("<u>NORM</u>"), asbestos, and polychlorinated bifenyls ("<u>PCB</u>"), existing on the Project Site, as of the Lease Commencement Date (as defined in the Ground Lease) and shall not incur any liability for discovery of such hazardous materials and/or substances.

C. <u>Delivery of Copies of Reports by Project Company</u>. Excluding any materials owned by third parties, proprietary information of the PROJECT COMPANY, materials subject to obligations of confidentiality or other restrictions or materials that cannot easily be separated from materials pertaining to property other than the Project Site, all reports, plans, maps, surveys, soil studies, soil reports, or such other similar information pertaining solely to the physical condition of the Project Site developed by PROJECT COMPANY or its employees, agents, representatives, contractors and/or consultants pursuant to the Project Site Activities prior

to the Closing Date or, if the Option is not exercised, prior to the expiration of this Option Agreement ("<u>Data</u>") shall be provided to DISTRICT at no cost within thirty (30) calendar days following the Closing Date or, if the Option is not exercised, within thirty (30) calendar days following the expiration of the this Option Agreement. DISTRICT acknowledges and agrees that PROJECT COMPANY owns all such Data, subject to DISTRICT's right to utilize such Data for any purpose without further consents or approval of PROJECT COMPANY.

D. Delivery of Diligence Materials by District. No later than thirty (30) calendar days after the Effective Date, the DISTRICT shall provide to PROJECT COMPANY, at the DISTRICT's expense: (i) copies of any and all title insurance policies, title abstracts, title commitments, title exception documents and vesting deeds for the Project Site; (ii) copies of any surveys, environmental assessments, audits, test results or reports, wetland mitigation documentation, engineering studies or surveys and soil conditions reports or studies, within the DISTRICT's possession or access or that of its attorneys, consultants, contractors and/or engineers; (iii) copies of any and all Governmental Approvals (as defined in Paragraph 7.E herein) that apply to or that the DISTRICT has obtained for the Project Site; (iv) copies of all contracts, leases, agreements, security agreements, servitudes, liens and obligations currently in effect relating to the Project Site; (v) copies of any documents relating to pending litigation, written threats of litigation, legal violations, zoning changes or development moratoriums, and (vi) copies of any other information the DISTRICT may have in its possession or control regarding the Project Site (collectively, "Project Site Materials"). The parties acknowledge and agree that the DISTRICT's obligation to provide the Project Site Materials is on-going during this Option Agreement, to the extent that any such information becomes available to or is created by or for the DISTRICT following the Effective Date.

E. <u>Governmental Approvals</u>. The DISTRICT shall assist and support PROJECT COMPANY in its efforts to complete and obtain (i) all regulatory permits and approvals (including, without limitation, the issuance of any FERC permits, special use permits, building permits, zoning matters, environmental permits, and any other permits, approvals or ordinances deemed necessary or desirable by PROJECT COMPANY in its sole discretion in order to construct, develop and operate the Project on the Project Site ("<u>Governmental Approvals</u>"), and (ii) satisfactory results from the Project Site Activities. PROJECT COMPANY agrees to

diligently pursue obtaining all Governmental Approvals and satisfying all requirements in connection therewith. The DISTRICT agrees that PROJECT COMPANY shall have the authority to apply for all Governmental Approvals and to cooperate with PROJECT COMPANY in obtaining and satisfying the requirements of any necessary Governmental Approvals. No Governmental Approvals shall be binding on the DISTRICT or create any obligations to be fulfilled by the DISTRICT unless the DISTRICT specifically consents to be bound by such obligations.

F. Operation of Project Site During Option Period. After the Effective Date, DISTRICT and its employees, contractors and agents (i) shall maintain the Project Site in the same condition as it was on the Effective Date, reasonable wear and tear excepted, and otherwise operate and maintain the Project Site in the same manner as before the Effective Date, (ii) except in the case of an emergency, or to avert a potential emergency, shall not take any action and shall not permit any third party to take any action that would unduly interfere with the PROJECT COMPANY'S lawful Project Site Activities, (iii) shall not take any action and shall not cause any third party to take any action that would materially alter or affect the condition of the Project Site, including, but not limited to, by causing a casualty or introducing, releasing, storing or exacerbating any hazardous waste or hazardous substances, including, but not limited to, NORM, asbestos, and PCBs, upon, around or under any portion of the Project Site or into the ground water beneath or adjacent to the Project Site or the Calcasieu River Ship Channel, and (iv) shall comply with any notices of legal violations or court orders affecting the Project Site. If DISTRICT becomes aware prior to the Closing Date of any introduction, release, storage or exacerbation of any hazardous waste or hazardous substances, including, but not limited to, NORM, asbestos, and PCBs, upon, around or under any portion of the Project Site or into the ground water beneath or adjacent to the Project Site or the Calcasieu River Ship Channel, then DISTRICT shall notify PROJECT COMPANY in writing the earlier of (a) within fifteen (15) calendar days after DISTRICT becomes aware of the same or (b) prior to the Closing Date. If the DISTRICT violates this Paragraph 7.F, then the DISTRICT shall take all reasonable actions to cure or remedy such violation at its sole cost and expense. If the DISTRICT is unable to cure or remedy such violation by the Closing Date, then PROJECT COMPANY shall have the option in its sole discretion (to be exercised in a written notice delivered to the DISTRICT) to: (a) grant the DISTRICT additional time within which to cure the violation, and in such event the Closing

(as defined in Paragraph 8.D herein) shall be extended for such time necessary to cure the violation (in which case PROJECT COMPANY and the DISTRICT shall continue to have all of the rights and obligations set forth in this Option Agreement until the Closing); (b) elect not to enter into the Ground Lease, whereupon the DISTRICT shall immediately refund the aggregate Option Payments paid to the DISTRICT and the DISTRICT shall be liable to PROJECT COMPANY for PROJECT COMPANY's actual third party costs and expenses incurred in the due diligence and/or development of the Project Site, drafting and negotiating of this Option Agreement and the Ground Lease, and preparation of the Closing of the transaction contemplated by this Option Agreement (including, without limitation, all costs and expenses incurred in connection with the Project Site Activities); or (c) waive such violation and proceed to Closing as provided in Paragraph 8.D below.

G. <u>Termination of Prior Letter Agreement</u>. As of the Effective Date, the letter agreement entitled "Authorization for Field Study and Survey- PLC Tract- 475s, Lake Charles, LA" dated September 17, 2012, as amended, by and between the DISTRICT and Liquefied Natural Gas Limited, shall terminate.

8. <u>ADDITIONAL RIGHTS AND OBLIGATIONS PENDING EXERCISE OF LEASE</u> <u>OPTION</u>. During the Initial Option Period, First Extended Option Period, Second Extended Option Period and Third Extended Option Period, as applicable, the DISTRICT and PROJECT COMPANY hereby agree as follows:

A. <u>Verification of Title and Survey</u>.

(i) PROJECT COMPANY, at PROJECT COMPANY's expense, may obtain a title insurance commitment ("<u>Title Commitment</u>") to be issued by a title insurance company acceptable to PROJECT COMPANY in its sole discretion ("<u>Title Company</u>"), pursuant to which the Title Company shall commit to issue a 2006 ALTA extended coverage leasehold title insurance policy to PROJECT COMPANY ("<u>Leasehold Title Policy</u>") and a 2006 ALTA leasehold title loan insurance policy to any lender(s) of PROJECT COMPANY ("<u>Lender Title Policy</u>", and collectively with the Leasehold Title Policy, the "<u>Title Polices</u>"), each in forms and insurable amounts reasonably acceptable to PROJECT COMPANY and with such endorsements as PROJECT COMPANY may reasonably request. The Title Commitment shall show the

DISTRICT to be vested with good, marketable and complete ownership interest of the Project Site, subject only to the following matters (the "<u>Permitted Exceptions</u>"): ad valorem real estate taxes, if any are owed, for the current year and subsequent years, not yet due and payable; all applicable zoning ordinances and regulations; and such other matters as shall be satisfactory to PROJECT COMPANY, in PROJECT COMPANY's sole discretion.

(ii) PROJECT COMPANY may obtain, at PROJECT COMPANY's expense, a current staked ALTA/ACSM survey of the Project Site, complying with the most current Minimum Standard Detail Requirements for ALTA/ACSM Surveys and including any Table A items that PROJECT COMPANY may request in its sole discretion ("<u>Survey</u>"), prepared by a surveyor or engineer licensed in Louisiana with a certificate attached thereto executed by the surveyor in the form of the most current Minimum Standard Detail Requirements certificate for ALTA/ACSM surveys. The Survey shall reflect the boundaries of the Project Site and all improvements, servitudes, highways, pipeline, utility and other rights-of-way, flood zone classifications and other matters affecting or abutting the Project Site, and shall be in a form sufficient to induce the Title Company to delete all standard and printed exceptions contained in the Title Commitment.

(iii) PROJECT COMPANY shall have until sixty (60) calendar days prior to Closing (the "<u>Title Review Period</u>") to notify the DISTRICT of any title defects, encumbrances, servitudes, use restrictions or other matters noted in the Title Commitment, the Survey, or elsewhere that PROJECT COMPANY requires to be removed or corrected prior to the execution and issuance of the Ground Lease ("<u>Title Objections</u>").

(iv) The Title Commitment will show that all standard exceptions will be deleted from the Leasehold Title Policy (and from the Lender Title Policy, if PROJECT COMPANY has requested one), when issued, and that the "gap" will be deleted as of the Closing Date. If, within the Title Review Period, PROJECT COMPANY notifies the DISTRICT of any Title Objections, the DISTRICT shall use its diligent, good faith, best efforts to cure and eliminate the Title Objections (unless caused directly or indirectly by the PROJECT COMPANY) at the DISTRICT's expense. The PROJECT COMPANY shall have the right to make additional requirements or objections as to title, up until the Closing Date, in the event any

title or survey update or endorsement to the Title Commitment discloses matters not shown in the Title Commitment or Survey ("Additional Title Objections" and together with the initial Title Objections, the "Title Objections"). As long as this Option Agreement remains in effect, the DISTRICT shall not convey all or any interest in the Project Site to any third party (an "Unauthorized Transfer") and, without PROJECT COMPANY's prior written consent in its sole discretion, the DISTRICT shall not grant or amend any lease, license, permit to use, servitude, lien, security interest or other encumbrance on the Project Site (an "Unauthorized Encumbrance"). If the DISTRICT is unable to cure the Title Objections, Unauthorized Transfer or Unauthorized Encumbrance by the Closing Date, PROJECT COMPANY shall have the option in its sole discretion (to be exercised in a written notice delivered to the DISTRICT) to: (a) grant the DISTRICT additional time within which to cure the Title Objections, Unauthorized Transfer or Unauthorized Encumbrance, and in such event the Closing shall be extended for such time necessary to cure the Title Objections, Unauthorized Transfer or Unauthorized Encumbrance (in which case PROJECT COMPANY and the DISTRICT shall continue to have all of the rights and obligations set forth in this Option Agreement until the Closing); (b) elect not to enter into the Ground Lease, whereupon the DISTRICT shall immediately refund the aggregate Option Payments paid to the DISTRICT and the parties will be relieved from further liability hereunder, unless the DISTRICT defaulted in its obligations under this Option Agreement (including, but not limited to, causing and failing to cure an Unauthorized Transfer or Unauthorized Encumbrance) or acted in a commercially unreasonable manner in not curing such Title Objections, in which event the DISTRICT shall be liable to PROJECT COMPANY for PROJECT COMPANY's actual third party costs and expenses incurred in the due diligence and/or development of the Project Site; drafting and negotiating of this Option Agreement and preparation of the Closing of the transaction contemplated by this Option Agreement (including, without limitation, all costs and expenses incurred in connection with the Project Site Activities); or (c) waive one or more of the Title Objections, Unauthorized Transfers or Unauthorized Encumbrances (at which point such Title Objections, Unauthorized Transfer or Unauthorized Encumbrances will become Permitted Exceptions) and proceed to the Closing, as provided in Paragraph 8.D below.

(v) For purposes of clarification, if the Survey reflects encroachments, noncontiguity, overlaps, strips, gaps, rights-of-way or other encumbrances or interests on or in the Project Site, or any other survey matters, or if the Project Site, consists of two or more parcels which are not contiguous along the entire length of their common boundary, such defects may also be raised as a Title Objection as described in Paragraph 8.A (iv) above.

B. <u>District's Representations</u>. The DISTRICT warrants, covenants and represents, during the term of this Option Agreement, the following to PROJECT COMPANY with full knowledge that PROJECT COMPANY is relying upon same in agreeing to enter into this Option Agreement:

(i) The DISTRICT owns the Project Site. The DISTRICT has the full power and authority to make, deliver, enter into and perform pursuant to the terms and conditions of this Option Agreement and to consummate the transactions described in this Option Agreement and the Ground Lease, and has taken all necessary action and proceedings to authorize the execution, delivery and performance of the terms and conditions of this Option Agreement and the Ground Lease. No further consent of any person or entity is required in connection with the execution and delivery of, or performance by the DISTRICT of its obligations under this Option Agreement and the Ground Lease.

(ii) This Option Agreement and the documents to be executed and delivered by the DISTRICT in connection with the consummation of this Option Agreement are (and when the Option is exercised and the Closing has occurred, the Ground Lease will be) valid, binding and enforceable in accordance with their respective terms and conditions.

(iii) The execution, delivery and performance by the DISTRICT of this Option Agreement and the Ground Lease are not precluded by, and will not violate, any provisions of any existing law, statute, rule or regulation in Louisiana or any judgment, order, decree, writ or injunction of any court, governmental department, commission, board, bureau or agency, and will not result in a breach of, or default under, any agreement, mortgage, contract, undertaking or other instrument or document to which the DISTRICT is a party or by which the DISTRICT is bound or to which the DISTRICT or any portion of the Project Site is subject.

(iv) No portion of the Project Site is presently being or, as of the Effective Date, previously has been acquired by any governmental authority in the exercise of its power to

condemn or to acquire through eminent domain or private purchase in lieu thereof nor are any of these proceedings or actions threatened, pending or imminent.

(v) There are no actions, suits or proceedings pending or to the DISTRICT's Knowledge (as defined in Paragraph 8.B(xii)), threatened against, by or affecting the DISTRICT in any court or before any government agency regarding the Project Site, including, but not limited to, any such actions, suits or proceedings relating to the ownership of, or the DISTRICT's ability to lease the Project Site or that would affect the value or use or development of the Project Site or the obligations of the DISTRICT to enter into and perform its obligations under this Option Agreement or the Ground Lease .

(vi) All work, labor, service and materials furnished prior to the Closing Date to or in connection with the Project Site and any improvements constructed on the Project Site prior to the Closing Date, will be discharged by the DISTRICT prior to the Closing Date, so that no mechanics', materialmen's or other lien, except those created by PROJECT COMPANY, its affiliates or contractors, may be filed against the Project Site or such improvements. The DISTRICT shall indemnify, defend and hold PROJECT COMPANY harmless from and against any liens affecting the Project Site that were not created by the PROJECT COMPANY and (a) relate to work, labor, services, or materials furnished prior to the Closing Date and (b) are not filed or perfected until after the Closing Date.

(vii) To the DISTRICT's Knowledge there are no parties other than the DISTRICT in possession of any portion of the Project Site, as lessees, tenants at sufferance, licensees, or trespassers, and no person or entity has any right or option to lease, purchase, occupy or possess all or any part of the Project Site.

(viii) The DISTRICT has not entered into any agreement, commitments or arrangements concerning the Project Site, or development thereof with any persons, including, but not limited to, governmental entities or agencies, councils, boards or other entities, adjoining landowners, utility companies or agencies other than PROJECT COMPANY.

(ix) The Project Site is not subject to assessment or collection of additional taxes for prior years based upon a change of land usage or ownership.

To the DISTRICT's Knowledge, the DISTRICT has not manufactured, (\mathbf{x}) stored, released or located any hazardous waste or hazardous substances, including, but not limited to, NORM, asbestos, and PCBs, upon, around or under any portion of the Project Site or into any ground water beneath or adjacent to the Project Site or into the Calcasieu River Ship Channel, and the DISTRICT has received no warning notice, violation notice, complaint (judicial or administrative) or any other formal or informal notice alleging that the Project Site is not in compliance with any statute, ordinance, rule or regulation pertaining to hazardous waste or substances, including, but not limited to, NORM, asbestos, and PCBs. Except as disclosed by any reports provided to PROJECT COMPANY pursuant to Paragraph 7.D of this Option Agreement, to the DISTRICT's Knowledge (a) no hazardous waste or hazardous substances, including, but not limited to, NORM, asbestos, or PCBs, have been manufactured, stored, released or located upon or under any portion of the Project Site or into any ground water beneath or adjacent to the Project Site or into the Calcasieu River Ship Channel, (b) the Project Site has never been used to treat, store, release or dispose of waste materials or hazardous substances, including, but not limited to, NORM, asbestos, or PCBs; (c) there has not been and is no leaching or drainage of waste materials or hazardous substances, including, but not limited to, NORM, asbestos, or PCBs, into the ground water beneath or adjacent to the Project Site or into the Calcasieu River Ship Channel; and (d) there have not been and are not buried or semi-buried or otherwise placed tanks, storage vessels, drums or containers of any kind located on the Project Site.

(xi) The DISTRICT has received no notice from any governmental authority concerning the imposition or widening of any streets, roads or highways abutting the Project Site or widening of the shipping channel alongside the Project Site, or concerning the imposition of any special taxes or assessments against the Project Site. The DISTRICT has no knowledge of general plan, specific plan, zoning or other land use regulation proceedings or special assessment proceedings pending or threatened, with respect to the Project Site. The DISTRICT is not a party to any covenant or agreement to preserve or prevent a change in the existing zoning, land use designations, special use permits or entitlements of the Project Site.

(xii) Other than as set forth in this Option Agreement, the DISTRICT has not(a) entered into any agreement relating to the Project Site, nor (b) encumbered or granted any interest in the Project Site.

Each of the foregoing warranties, covenants and representations shall still be true and correct as of the Effective Date (except where specifically noted) and the Closing Date, shall survive the Closing Date and shall not be merged with or into the Ground Lease or any other related instrument of conveyance or transfer. The term "Knowledge" as used in this Paragraph 8.B shall mean what the DISTRICT knows or should reasonably know about the Project Site, and any other matters addressed by the warranties, covenants, and representations made herein.

C. <u>Project Company's Representations</u>. The PROJECT COMPANY warrants, covenants and represents, during the term of this Option Agreement, the following to the DISTRICT, with full knowledge that the DISTRICT is relying upon same in agreeing to enter into this Option Agreement:

(i) The PROJECT COMPANY has the full power and authority to make, deliver, enter into and perform its obligations pursuant to the terms and conditions of this Option Agreement and has taken all necessary action and proceedings to authorize the execution, delivery and performance of the terms and conditions of this Option Agreement. No further consent of any person or entity is required in connection with the execution and delivery of, or performance by the PROJECT COMPANY of its obligations under this Option Agreement.

(ii) The execution, delivery and performance by the PROJECT COMPANY of this Option Agreement are not precluded by, and will not violate, any provisions of any existing law, statute, rule or regulation in Louisiana or any judgment, order, decree, writ or injunction of any court, governmental department, commission, board, bureau or agency, and will not result in a breach of, or default under, any agreement, mortgage, contract, undertaking or other instrument or document to which the PROJECT COMPANY is a party or by which the PROJECT COMPANY is bound or to which the PROJECT COMPANY is subject.

(iii) There are no actions, suits or proceedings pending or to the PROJECT COMPANY's Knowledge (as defined in Paragraph 8.C(iv)), threatened against, by or affecting

the PROJECT COMPANY in any court or before any government agency regarding the Project Site, including, but not limited to, any such actions, suits or proceedings relating to the ownership of, or the PROJECT COMPANY's ability to lease the Project Site or that would materially affect the contemplated use or development of the Project Site or the obligations of the PROJECT COMPANY to perform its obligations under this Option Agreement.

(iv) All work, labor, service and materials furnished to the PROJECT COMPANY prior to the Closing Date to or in connection with the Project Site, will be discharged by the PROJECT COMPANY prior to the Closing Date, so that no mechanics', materialmen's or other lien, created by the PROJECT COMPANY, its affiliates or contractors, may be filed against the Project Site or such improvements. The PROJECT COMPANY shall indemnify, defend and hold DISTRICT harmless from and against any liens affecting the Project Site that were not created by the DISTRICT and (a) relate to work, labor, services, or materials furnished prior to the Closing Date at the request or direction of the PROJECT COMPANY and (b) are not filed or perfected until after the Closing Date.

Each of the foregoing warranties, covenants and representations shall still be true and correct as of the Effective Date (except where specifically noted) and the Closing Date, shall survive the Closing Date and shall not be merged with or into the Ground Lease or any other related instrument of conveyance or transfer. The term "Knowledge" as used in this Paragraph 8.C shall mean what the PROJECT COMPANY knows or should reasonably know about the matters addressed by the warranties, covenants and representations made herein.

D. <u>Closing</u>. The execution of the Ground Lease (the "<u>Closing</u>") shall take place as soon as practical following the PROJECT COMPANY's exercise of the Option as provided in Paragraph 5 above, but in no event shall the Closing take place later than fifteen (15) calendar days following such exercise, as may be extended by the extensions provided for in Paragraphs 7.F, 8.A and 8.G ("<u>Closing Date</u>"). Possession of the Project Site shall be delivered to PROJECT COMPANY or its assignee as of the Closing Date, free and clear of the rights and claims of any other party other than Permitted Exceptions; provided, however, that prior to the Closing Date, PROJECT COMPANY and its employees, agents, representatives, contractors and

consultants shall have the right to enter upon the Project Site at any and all times for purposes of any further inspections of the Project Site as provided in Paragraph 7 above.

E. Expenses of Closing. At Closing, the DISTRICT shall pay the costs of recording any documents or certificates or taking any other action required to be taken to correct title defects or remove any title encumbrances (including, without limitation, any Title Objections, Additional Title Objections, Unauthorized Transfers or Unauthorized Encumbrances). At Closing, PROJECT COMPANY shall pay the costs of recording an extract or memorandum of the Ground Lease (as provided in the Ground Lease) and for the Leasehold Title Policy (and the Lender Title Policy, if PROJECT COMPANY has requested one) issued pursuant to the Title Commitment. PROJECT COMPANY and the DISTRICT shall each pay the fees and expenses of their respective counsel incurred in connection with the negotiation, preparation and execution of this Option Agreement and the Ground Lease, and satisfying its respective obligations under this Option Agreement. PROJECT COMPANY and the DISTRICT shall each pay any brokerage, finder's fee or similar commission in connection with the option or lease of the Project Site arising from its actions. PROJECT COMPANY shall pay the cost of the Survey and the Leasehold Title Policy (and the Lender Title Policy, if PROJECT COMPANY has requested one).

F. <u>Closing Documents</u>.

(i) The DISTRICT shall deliver the following at Closing:

(a) Fully executed and signed Ground Lease in substantially the form attached hereto as <u>Annex A</u>.

(b) Gap, mechanic's lien and possession affidavit(s) in forms sufficient to cause the Title Company to issue the Leasehold Title Policy (and the Lender Title Policy, if PROJECT COMPANY has requested one), without the applicable standard title policy exceptions.

(c) Resolution by the Board of Commissioners of the DISTRICT, authorizing the execution of the Ground Lease and the transactions and documents contemplated
by this Option Agreement and the Ground Lease in the form required by applicable laws and regulations and the DISTRICT's by-laws.

(d) Possession of the Project Site.

(ii) At Closing, PROJECT COMPANY shall:

(a) Deliver a certified copy of a resolution of the members or managers of PROJECT COMPANY (as required by the operating agreement of PROJECT COMPANY), authorizing the execution of the Ground Lease, and all other documents necessary to effect the valid execution of the Ground Lease.

(b) Cause the execution and delivery of the Ground Lease by a duly authorized officer of PROJECT COMPANY.

G. <u>Conditions Precedent for Project Company to Close</u>. The following are conditions precedent to PROJECT COMPANY's obligations at Closing, including execution of the Ground Lease:

(i) As of the Closing Date, all of the DISTRICT's representations and warranties contained in Paragraph 8.B hereof shall be true and correct.

(ii) The DISTRICT shall have performed all of its obligations under this Option Agreement.

(iii) The DISTRICT's interest in the Project Site shall be (and the DISTRICT hereby warrants and represents to PROJECT COMPANY that the same is) good, merchantable, marketable and free and clear of any liens, encumbrances, highways, rights-of-way, servitudes, licenses, restrictions, leases, agreements, covenants, conditions and limitations, except the Permitted Exceptions. The DISTRICT's title shall also be total and complete and not subject to any outstanding or contingent liens or claims of an undivided interest therein and PROJECT COMPANY shall have received the Survey and an irrevocable written commitment of the Title Company to issue the Leasehold Title Policy (and the Lender Title Policy, if PROJECT COMPANY has requested one), each in form and substance acceptable to PROJECT COMPANY.

(iv) There are no pending, threatened or existing moratoriums or governmental regulations, statutes, proceedings or actions pending, threatened or existing against the DISTRICT, the Project or the Project Site before any court or governmental agency or authority that would prohibit or inhibit PROJECT COMPANY from obtaining utility service, building permits or development approvals, or which would prevent, prohibit, delay or inhibit the construction, development and operation of the Project on the Project Site.

(v) Subsequent final geotechnical investigation does not necessitate any substantial revision to the type of structural design contemplated by the preliminary investigation conducted by or on behalf of PROJECT COMPANY.

(vi) PROJECT COMPANY shall have obtained Final Approval (as hereinafter defined) with respect to all Governmental Approvals, free of any unreasonable or extraordinary conditions imposed by the issuing entity upon the issuance of such Final Approvals (provided that PROJECT COMPANY has used its commercially reasonable efforts to pursue in good faith the necessary Final Approvals). "<u>Final Approval</u>" shall be the date when: (a) all of the Governmental Approvals have been approved and issued, in forms and with conditions satisfactory to PROJECT COMPANY; (b) the time has passed for appeal of all Governmental Approvals; and (c) any appeals or litigation with respect to clause (b) above have been prosecuted and fully and finally resolved in a manner satisfactory to PROJECT COMPANY. If the PROJECT COMPANY exercises the Option but fails to execute the Ground Lease through no fault of the DISTRICT, in addition to forfeiting the aggregate Option Payments paid, the PROJECT COMPANY shall be liable to the DISTRICT for the DISTRICT's actual third party costs and expenses incurred in preparation of the Closing as contemplated by this Option Agreement.

(vii) There shall have been no material change in the condition of the Project Site from the condition in which the Project Site existed as of the date that PROJECT COMPANY exercised the Option without PROJECT COMPANY's prior written consent.

(viii) DISTRICT shall not be in default of any other existing agreement with the PROJECT COMPANY ("Existing Agreements"), after notice and beyond any applicable cure period.

In the event that after PROJECT COMPANY's exercise of the Option, any of the conditions precedent to PROJECT COMPANY's obligation to lease the Project Site are not satisfied as of the Closing Date or not waived by PROJECT COMPANY or it is reasonably determined prior to the Closing Date that such conditions cannot be fulfilled or satisfied and the same are not waived by PROJECT COMPANY, then, at the sole option of PROJECT COMPANY (to be exercised in PROJECT COMPANY's sole discretion by delivery of written notice to DISTRICT): (i) PROJECT COMPANY may elect not to enter into the Ground Lease and this Option Agreement shall be terminated and all parties shall be relieved of any further obligations hereunder; whereupon the DISTRICT shall not be obligated to refund any of the Option Payments, except to the extent that the failure to fulfill or satisfy a condition results from DISTRICT's default under this Option Agreement with respect to its obligations described herein, in which case the DISTRICT shall be obligated to return the aggregate Option Payments paid by the PROJECT COMPANY and shall be liable for PROJECT COMPANY's actual third party costs and expenses incurred in the due diligence and/or development of the Project Site, drafting and negotiating of this Option Agreement and the Ground Lease, and preparation of the Closing of the transaction contemplated by this Option Agreement (including, without limitation, all costs and expenses incurred in connection with the Project Site Activities), or (ii) PROJECT COMPANY may, at its option and at no cost to the PROJECT COMPANY, extend up to three hundred sixty-five (365) days the Closing or for such period as is reasonably necessary to satisfy all of the conditions precedent to PROJECT COMPANY's obligation to proceed with the Closing.

H. <u>Conditions Precedent for the District to Close</u>. The following are conditions precedent to the DISTRICT's obligations at Closing, including execution of the Ground Lease:

 (i) As of the Closing Date, all of the PROJECT COMPANY's representations and warranties contained in Paragraph 8.C hereof shall be true and correct in all material respects.

(ii) PROJECT COMPANY shall not be in default of any other Existing Agreement with the DISTRICT, after notice and beyond any applicable cure period.

(iii) PROJECT COMPANY shall have performed all of its obligations under this Option Agreement.

In the event that after PROJECT COMPANY's exercise of the Option, any of the conditions to DISTRICT's obligation to lease the Project Site are not satisfied as of the Closing Date or not waived by the DISTRICT, and the non-fulfillment or satisfaction of such conditions was not caused by the DISTRICT, in whole or in part, or it is reasonably determined prior to the Closing Date that such conditions cannot be fulfilled or satisfied and the same are not waived by the DISTRICT, then, at the sole option of the DISTRICT (to be exercised in the DISTRICT's sole discretion by delivery of written notice to PROJECT COMPANY): (i) the DISTRICT may elect not to enter into the Ground Lease and this Option Agreement shall be terminated and all parties shall be relieved of any further obligations hereunder; whereupon the DISTRICT shall not be obligated to refund any of the Option Payments. To the extent that the failure of such condition results from PROJECT COMPANY's default under this Option Agreement with respect to its obligations described herein, or any material obligation under any Existing Agreement with respect to its obligations described therein, the PROJECT COMPANY shall be liable for the DISTRICT's actual third party costs and expenses in drafting and negotiating of this Option Agreement and the Ground Lease, and preparation of the Closing of the transaction contemplated by this Option Agreement, or (ii) the DISTRICT may, with the PROJECT COMPANY'S written consent, extend up to three hundred sixty-five (365) days the Closing or for such period as is reasonably necessary to satisfy all of the conditions precedent to the DISTRICT's obligation to proceed with Closing, in exchange for which PROJECT COMPANY shall pay the DISTRICT One Hundred Fifty Thousand and NO/100 (\$150,000.00) Dollars, prorated for the period of such extension.

I. <u>Mutual Indemnification</u>. The PROJECT COMPANY agrees to indemnify, defend and hold the DISTRICT and the DISTRICT's officers and directors harmless from and against any and all claims, actions, damages, liabilities and expenses (including, without limitation, reasonable attorneys' fees and expenses) resulting from any occurrence on the Project Site during the term of this Option Agreement and arising from any act or omission of PROJECT COMPANY or the PROJECT COMPANY's employees, agents, representatives, contractors or consultants, except to the extent that any of the same arise from or out of the negligence or

willful misconduct of the DISTRICT or the DISTRICT's employees, agents, representatives, contractors or consultants. The DISTRICT agrees to indemnify, defend and hold the PROJECT COMPANY and the PROJECT COMPANY's officers, directors, managers, and members harmless from and against any and all claims, actions, damages, liabilities and expenses (including, without limitation, reasonable attorneys' fees and expenses) resulting from any occurrence on the Project Site during the term of this Option Agreement and arising from any act or omission of the DISTRICT or the DISTRICT's employees, agents, representatives, contractors or consultants, except to the extent that any of the same arise from or out of the negligence or willful misconduct of the PROJECT COMPANY or the PROJECT COMPANY's employees, agents, representatives, contractors or consultants.

9. Intentionally left blank.

10. SUCCESSORS AND ASSIGNS. This Option Agreement shall be binding upon and shall inure to the benefit of the parties hereto and their respective successors and lawful assigns. However, this Option Agreement may not be assigned or transferred by PROJECT COMPANY to any other person or entity without the consent of the DISTRICT, which consent shall not be unreasonably withheld, delayed or conditioned; provided that if PROJECT COMPANY is not in default after notice and beyond any applicable cure period under this Option Agreement or any material obligation under an Existing Agreement, PROJECT COMPANY may assign this Option Agreement in its entirety without the DISTRICT's prior consent to (i) an Affiliate or (ii) a successor in interest in connection with a merger, acquisition or sale of all or substantially all of PROJECT COMPANY's assets or membership interests of PROJECT COMPANY, (iii) as collateral in connection with a financing, or (iv) any person to whom PROJECT COMPANY is permitted to assign the Option Agreement. "Affiliate" shall mean an entity that controls, is controlled by or is under common control with the PROJECT COMPANY, where "control" mean means the ownership directly or indirectly of more than fifty percent (50%) of the voting rights in a company or other legal entity or the ability to directly or indirectly appoint a majority of the directors in a company or other legal entity.

11. <u>NOTICES</u>. All notices required or allowed by this Option Agreement shall be delivered by email (with a requirement that such electronic notice shall be followed within three (3)

calendar days by written notice delivered in one of other manners permitted in this paragraph), third party overnight courier (including overnight courier services such as Federal Express) or by certified mail, return receipt requested, postage prepaid, addressed to the party to whom notice is to be given, at the following addresses:

If to PROJECT COMPANY:	Magnolia LNG, LLC 616 Broad Street P.O. Box 3759 (70602) Lake Charles, LA 70601 Attention: Company Secretary Email: dgardner@lnglimited.com.au
with a copy to:	Winfield E. Little, Jr. 616 Broad Street P.O. Box 3759 (70602) Lake Charles, LA 70601 Email: wlittle@littlelawfirm.com
	Chad Mills Sutherland Asbill & Brennan LLP 1001 Fannin Street, Suite 3700 Houston, TX 77002-6760 Email: chad.mills@sutherland.com
If to the DISTRICT:	Lake Charles Harbor & Terminal District 751 Bayou Pines East, Suite P Lake Charles, LA 70601 Attention: Executive Director Email: brase@portlc.com
With a copy to:	General Counsel Lake Charles Harbor & Terminal District 751 Bayou Pines East, Suite P Lake Charles, LA 70601 Email: mdees@portlc.com

Notice shall be deemed to have been given upon receipt by recipient (provided that any notice by email shall have been followed within three (3) calendar days by written notice delivered in one of the other manners permitted under this paragraph), by the overnight courier airbill or by the

return receipt. In the event that the recipient fails or refuses to sign the return receipt for delivery by certified mail, the receipt shall be sufficient.

12. **DEFAULT.** In the event of a default by the DISTRICT with respect to any of its obligations hereunder, including the satisfaction of all conditions precedent or any breach or misrepresentation by the DISTRICT of any warranties, representations and covenants made by the DISTRICT in Paragraph 8.B, PROJECT COMPANY shall, except as otherwise provided for herein, be entitled to the right of specific performance against the DISTRICT together with the recovery of all expenses incurred in obtaining specific performance, including reasonable attorney's fees and all costs of court or, at PROJECT COMPANY's sole election, PROJECT COMPANY shall be entitled to terminate this Option Agreement and the DISTRICT shall immediately return all Option Payments previously paid by PROJECT COMPANY as liquidated damages and shall be liable for PROJECT COMPANY's actual third party costs and expenses incurred in the due diligence and/or development of the Project Site, drafting and negotiating of this Option Agreement and the Ground Lease, and preparation of the Closing of the transaction contemplated by this Agreement (including, without limitation, all costs and expenses incurred in connection with the Project Site Activities) and PROJECT COMPANY may exercise any other rights or remedies available at law or in equity. For the avoidance of doubt, this is in addition to any rights for the return of the Option Payments that the PROJECT COMPANY may have under this Option Agreement.

13. <u>EMINENT DOMAIN/CASUALTY</u>. If, during the term of this Option Agreement, there is any taking of any portion of the Project Site by eminent domain or condemnation, then the DISTRICT shall promptly deliver written notice thereto of the PROJECT COMPANY, and if the PROJECT COMPANY determines that such taking will materially affect the Project Site for the development, construction, maintenance or operation of the Project, in PROJECT COMPANY's reasonable determination, PROJECT COMPANY may, at its option (to be exercised in PROJECT COMPANY's sole discretion by delivery of written notice to the DISTRICT), terminate this Option Agreement or elect to not enter into the Ground Lease (if PROJECT COMPANY has already exercised the Option), whereupon the DISTRICT shall immediately refund the aggregate Option Payments paid to the DISTRICT and the parties will be relieved from further liability hereunder. In the event that the Project Site is rendered, at any

time during the term of this Option Agreement or prior to the Closing, in PROJECT COMPANY's sole determination, permanently unsuitable for the development, construction, maintenance or operation of the Project as a result of a casualty event (including any hurricane, named storm, flood or tornado) or Force Majeure (as hereinafter defined) event occurring in and around Calcasieu Parish, Louisiana, then PROJECT COMPANY may, at its option (to be exercised in PROJECT COMPANY's sole discretion by delivery of written notice to the DISTRICT), terminate this Option Agreement or elect to not enter into the Ground Lease (if PROJECT COMPANY has already exercised the Option), whereupon the DISTRICT shall immediately refund the aggregate Option Payments paid to the DISTRICT and the parties will be relieved from further liability hereunder.

14. <u>ENTIRE AGREEMENT</u>. This Option Agreement constitutes the entire agreement of the parties with respect to subject matter hereof. All understandings and agreements heretofore between the parties hereto with respect to the subject matter hereof are merged in this Option Agreement which alone fully and completely expresses their understanding.

15. <u>ATTORNEY'S FEES</u>. In connection with any litigation concerning this Option Agreement, the prevailing party shall be entitled to recover all of its costs, expenses and reasonable attorney's fees from the non-prevailing party.

16. <u>NO WAIVER</u>. No waiver of any provision of this Option Agreement shall be effective unless it is in writing and signed by the party against whom it is asserted; and any such written waiver shall only be applicable to the specific instance to which it relates and shall not be deemed to be a continuing or future waiver.

17. <u>AMENDMENTS</u>. This Option Agreement may not be amended, modified, altered or changed in any respect whatsoever except by further agreement in writing and duly executed by the parties hereto.

18. <u>GOVERNING LAW</u>. This Option Agreement shall be governed in its enforcement, construction and interpretation by the laws of the State of Louisiana. In the event that either party must file suit as a result of a default on the part of the other, such suit shall be filed in a state court of competent jurisdiction in the Fourteenth Judicial District Court, State of Louisiana,

unless the default of dispute implicates or involves a federal statute, regulation, order, or permit, in which case venue shall be in the federal courts for the Western District of Louisiana.

19. COUNTERPARTS; HEADINGS; TIME OF THE ESSENCE. This Option Agreement may be executed in counterparts by the parties hereto and each of which shall be deemed an original but all of which taken together shall constitute but one and the same instrument. The paragraph captions and headings contained in this Option Agreement are included herein for convenience of reference only and shall not be considered a part hereof and are not in any way intended to define, limit or enlarge the terms hereof. Time shall be of the essence for each and every provision of this Option Agreement of which time is an element.

20. <u>**RECORDING.**</u> This Option Agreement shall not be recorded in the public records, provided, however, that the DISTRICT shall execute, acknowledge and deliver to PROJECT COMPANY a memorandum of this Option Agreement in recordable form prepared by PROJECT COMPANY, which may be recorded by PROJECT COMPANY in the conveyance records of Calcasieu Parish, Louisiana.

21. EFFECTIVE DATE. The effective date of this Option Agreement ("<u>Effective</u> <u>Date</u>") shall be the last date that the DISTRICT or PROJECT COMPANY executes this Option Agreement.

22. **REAL ESTATE COMMISSION.** The DISTRICT and PROJECT COMPANY each represent to the other party that they have dealt with no brokers in connection with the negotiation, execution and/or delivery of this Option Agreement or the Ground Lease, and no party is entitled to any broker's commission, finder's fee or similar payment with respect to this Option Agreement or the Ground Lease arising from the representing party's actions. If any other person shall assert a claim to a finder's fee, brokerage commission or other compensation on account of alleged employment as finder or broker in connection with this transaction, the party against whom the purported finder or broker is claiming shall indemnify, defend and hold the other party harmless from and against any such claim and any and all costs, expenses and liabilities incurred in connection with such claim or any action or proceeding brought thereon, including, but not limited to, reasonable attorney's fees and court costs in defending such claim.

23. FORCE MAJEURE. Notwithstanding any other provision of this Option Agreement, provided that notice is given within thirty (30) calendar days of an occurrence of an event of Force Majeure (as hereinafter defined) by the party hereto seeking to invoke and utilize the provisions of this Paragraph 23, such party shall be excused from performing any of its respective obligations or undertakings required hereunder for so long as the performance of such obligations are prevented or significantly delayed, retarded or hindered by any event of Force Majeure, provide that an event of Force Majeure shall not excuse any party from making any payment of money required under this Option Agreement. As used in this Paragraph, "Force Majeure" means any cause not reasonably within the control of the party claiming suspension, and shall include, but not be limited to, the following: (i) physical events such as acts of God, landslides, lightning, earthquakes, fires, storms, hurricanes, droughts, floods, washouts, or explosions, (ii) weather related events affecting an entire geographic region; (iii) acts of others such as strikes, lockouts or other industrial disturbances, riots, sabotage, terrorism, insurrections, civil disturbance or wars; provided that the settlement of strikes, lockouts or other industrial disturbances shall be within the sole discretion of the party claiming such suspension; (iv) the failure or interruption of performance by PROJECT COMPANY's engineering, procurement and construction contractors or any subcontractors of such contractor to the extent caused by an event of Force Majeure; or (v) the failure or interruption of performance by PROJECT COMPANY's suppliers by reason of such supplier's valid declaration of an event that would constitute an event of force majeure under PROJECT COMPANY's contract with such supplier; or (vi) governmental actions such as necessity for compliance with any court order, law, statute, ordinance, regulation or policy having the effect of law promulgated by a governmental authority having jurisdiction, or that restrict PROJECT COMPANY's ability to construct the Project or any delay in issuance or effectiveness of any Governmental Approval that has been properly applied for by PROJECT COMPANY that is required to construct the Project.

[Signatures on Following Pages]

THUS DONE AND SIGNED by the DISTRICT at Lake Charles, Louisiana, in the presence of the undersigned competent witnesses and me, Notary, on this 2013.

WITNESSES Print Name: W

Print Name:

LAKE CHARLES HARBOR & TERMINAL DISTRICT

By:

William J. Rase, III, Executive Director

Approved By:

Michael K. Dees, General Counsel

BEFORE ME: White My Commission expires: at my duth Winfield Earl Little T 08630

THUS DONE AND SIGNED by MAGNOLIA LNG, LLC at Lake Charles, Louisiana in the presence of the undersigned competent witnesses and me, Notary, on this _____ day of March, 2013.

WITNESSES:

- Chary Print Name: Judy McC

MAGNOLIA LNG, LLC

By:

Name: Fletcher Maurice Brand Title: Managing Director

BEFORE ME: My Commission expires: Winfield End little bot a8630

ANNEX A

(Form of "Ground Lease")

ANNEX A

STATE OF LOUISIANA

PARISH OF CALCASIEU

GROUND LEASE

THIS GROUND LEASE (hereinafter "Lease") is made and entered into, and is effective, as of _______, 20___ ("Lease Commencement Date") by and between the LAKE CHARLES HARBOR AND TERMINAL DISTRICT, a political subdivision of the State of Louisiana (hereinafter "the District" or "LESSOR"), and MAGNOLIA LNG, LLC, a limited liability company organized and existing under the laws of the State of Delaware (hereinafter "LESSEE").

WHEREAS, LESSOR and LESSEE desire to enter into a lease agreement on certain terms and conditions as set forth in this Lease.

THEREFORE, LESSOR and LESSEE agree as follows:

* * * * * * * *

KNOW ALL MEN BY THESE PRESENTS: That,

LESSOR for and in consideration of the annual rentals herein specified and other good and valuable consideration, the sufficiency of which is hereby acknowledged, does hereby rent, let, and lease unto LESSEE, all that certain tract or parcel of land containing ______ acres, more or less, being more particularly described as set forth on Exhibit <u>A</u> hereto (hereinafter "Leased <u>Premises</u>"). In connection with the permitted uses of the Leased Premises as provided for in <u>Sections 3</u> and <u>4</u> below or as otherwise provided for herein and only if LESSOR is in full compliance with the terms and conditions provided for herein, LESSEE may also use the bottoms of the Industrial Canal adjacent or near the Leased Premises to the extent such use is allowed by applicable law and in accordance with all the rules and regulations of the State of Louisiana, the United States of America and the general rules and regulations of general applicability of LESSOR, including, but not limited to, Tariff No. 013 of the Lake Charles Harbor and Terminal District, as it may be amended from time to time.

1. **Term.**

(a) <u>Term</u>. The term of this Lease shall be the period commencing on the Lease Commencement Date and expiring thirty (30) years from the Lease Commencement Date (the "<u>Expiration Date</u>"), herein sometimes referred to as the "<u>Initial Term</u>", subject to four (4) options to extend the term of this Lease on the same terms and conditions ("<u>Renewal Options</u>") for additional periods of ten (10) years each ("<u>Renewal Term</u>" or "<u>Renewal Terms</u>").

(b) <u>Exercise of Renewal Options</u>. The Renewal Options shall be exercisable only by LESSEE, in its sole discretion, by delivery of written notice to LESSOR no later than six (6) months prior to the expiration of the Expiration Date or the then current Renewal Term, as applicable, provided that as of the giving of such notice LESSEE is not in default under this

Lease beyond applicable notice and cure periods. The failure of LESEE to exercise any Renewal Option for any Renewal Term in accordance with the terms of this section 1 (b) shall terminate such Renewal Options for such Renewal Terms, unless otherwise agreed in writing by LESSOR and LESSEE, and in such instance, the Lease will expire as of the Expiration Date or at the end of the then current Renewal Term, as applicable <u>Contract Year</u>. <u>The term "Contract Year</u>" under this Lease shall mean any full twelve (12) month period during either the Initial Term or any Renewal Term commencing, for the first such period, on the Lease Commencement Date and, thereafter, on each anniversary of the Lease Commencement Date.

2. **Rent.**

(a) <u>Base Rent</u>. The initial annual base rent for the Leased Premises ("<u>Base Rent</u>") shall be \$306,000.00 per year, with this amount having been paid by LESSEE at or prior to the Lease Commencement Date with respect to the first Contract Year. The amount of Base Rent shall be fixed for the first three (3) Contract Years, and shall be paid annually in advance on or before each anniversary of the Lease Commencement Date during the first three (3) Contract Years. Thereafter, the Base Rent shall be adjusted and paid as set forth in Section 2(b) below.

CPI Adjustment. Commencing with the fourth (4th) Contract Year and continuing (b) during the remainder of the Initial Term and any applicable Renewal Term, the Base Rent shall be adjusted, effective as of the beginning of each Contract Year (each an "Adjustment Date"), by a percentage equal to the CPI Percentage Increase (as defined below), and shall be paid annually in advance for each such Contract Year within thirty (30) calendar days after each Adjustment Date (in order to permit LESSEE to calculate the CPI Percentage Increase, as set forth below). The term "Consumer Price Index" shall mean the unadjusted Consumer Price Index for All Urban Consumers (CPI-U), All Items, U.S. City Average 1982-84=100, calculated and published by the United States Department of Labor, Bureau of Labor Statistics. In the event the Consumer Price Index is discontinued, the parties shall accept comparable statistics on the purchasing power of the consumer dollar as published at the time of said discontinuation by a responsible periodical of recognized authority to be chosen by the parties. The term "CPI Percentage Increase" shall mean, with respect to any Contract Year for which a CPI Percentage Increase is being calculated, the percentage increase calculated by subtracting the average Consumer Price Index for the last month prior to the preceding Contract Year, from the average Consumer Price Index for the last month prior to the Contract Year for which a CPI Percentage Increase is being calculated, and dividing the positive difference, if any, by the average Consumer Price Index for the last month prior to the preceding Contract Year, and multiplying this quotient (rounded to the nearest ten thousandth) by 100. For illustrative purposes only, if the average Consumer Price Index for the last month prior to the Contract Year for which a CPI Percentage Increase is being calculated was 200.0, and the average Consumer Price Index for the last month prior to the preceding Contract Year was 175.0, then the CPI Percentage Increase would be 14.29% (i.e., $200.0 - 175.0 = 25.0 / 175.0 = 0.1429 \times 100 = 14.29\%$). No adjustment to Base Rent shall reduce the amount of Base Rent to an amount that is less than the Base Rent, as adjusted, due for the preceding Contract Year. The CPI Percentage Increase for any Contract Year shall be calculated by LESSEE, and LESSEE shall deliver written notice describing such calculation in reasonable detail ("CPI Notice"), together with adjusted annual Base Rent for such Contract Year, no later than thirty (30) calendar days after the commencement of the applicable Contract Year. If LESSOR disagrees with LESSEE's calculation of the CPI Percentage Increase, then LESSOR shall deliver to LESSEE written notice, describing the basis for such disagreement in reasonable detail ("<u>CPI Disagreement Notice</u>"), not later than thirty (30) calendar after delivery of the CPI Notice. If LESSOR fails to deliver a CPI Disagreement Notice within thirty (30) calendar after delivery of any CPI Notice, then LESSOR shall be conclusively deemed to have agreed with the calculation of the CPI Percentage Increase set forth in such CPI Notice. In the event of delivery of a CPI Disagreement Notice, upon resolution and agreement between the parties, the parties shall make an adjustment to the Base Rent previously paid with respect to such Contract Year.

Additional Rent. LESSEE will pay the LESSOR, in addition to the Base Rent, as (c) adjusted above, additional rent assessed on LNG throughput ("Additional Rent"), which shall be calculated on a per unit basis equal to 18/100th's cent (or \$0.0018) per dekatherm (the "Additional Rent Rate") for natural gas either (i) delivered from LESSEE's LNG regasification terminal into one or more natural gas pipelines ("Delivered Gas") or (ii) loaded from LESSEE's LNG liquefaction terminal into an LNG transport vessel for export (other than for temporary storage purposes or for purposes of providing vessel gasification and cool-down services) ("Delivered LNG"). In no instance will such Additional Rent be less than \$372,600.00 ("Minimum Additional Rent") (e.g.: Minimum Annual Rent on 567,000 dekatherms/day x \$0.0018 per dekatherm times 365 days = \$372,600.00) per Contract Year, regardless of actual throughput volume, but prorated for partial Contract Years. Payment of Additional Rent shall commence upon the earlier of the "Commercial Operations Date" of the Facilities as determined by Federal Energy Regulatory Commission ("FERC"), or December 1, 2017, and shall be paid by LESSEE to LESSOR each Contract Year in twelve equal monthly payments. Beginning on the fourth (4th) anniversary of the Lease Commencement Date, the Minimum Additional Rent will be increased each Contract Year on the anniversary of the Lease Commencement Date by a percentage equal to the CPI Percentage Increase as described in Section 2(b) above; provided, however, that no adjustment to Minimum Additional Rent shall reduce the amount of Minimum Additional Rent to an amount that is less than the Minimum Additional Rent due for the preceding Contract Year, and further provided that in no event shall Minimum Additional Rent exceed \$572,600. The Additional Rent Rate as of the Lease Commencement Date is \$0.0018. Any Additional Rent due over the Minimum Annual Rent will be paid annually, in arrears, based on the actual throughput volumes for the prior Contract Year, within thirty (30) calendar days after the end of such Contract Year. LESSEE acknowledges that vessels calling at the LESSEE's Facilities may also be subject to channel user fees, taxes and/or tariffs should the District impose such fees, taxes or tariffs at a future date in accordance with a general plan authorized by and in accordance with applicable law to be implemented by the District on all commercial vessels subject to the requirement of pilotage. LESSEE, however, shall not be responsible for such fees, taxes or tariffs or for arranging or requiring calling vessel owners or charterers to pay same; the District being solely responsible for dealing directly with such vessel owners and charterers regarding such channel user fees.

(d) <u>Independent Covenants</u>. The obligations to pay Base Rent and Additional Rent are covenants that are independent of all other covenants under this Lease, and no Force Majeure Event (as defined below) will relieve LESSEE of the obligation to pay Base Rent and Additional Rent. Further, the term "<u>Rent</u>" as sometimes used herein shall include Base Rent and Additional Rent.

3. Use of Leased Premises.

Use of Leased Premises by LESSEE. The Leased Premises may be used by (a) LESSEE, its successors and assigns, only for any purpose relating to the loading, unloading, handling, treatment, processing, producing, transporting, distributing, selling, metering and/or storing of (i) natural gas, natural gas liquids, and other natural gas products, derivatives and byproducts and (ii) other petroleum and hydrocarbon liquids, gases, products, derivatives and byproducts, including, but not limited to, (A) the importation, regasification, production, exportation, liquefaction, refinement, enhancement, other treatment and transportation (including by ship, pipeline, truck or rail) of liquefied natural gas ("LNG"), and LNG by-products and additives and (B) the excavation for, development, construction, installation, use, operation, maintenance, repair, expansion, optimization, alteration and/or removal of any improvements, fixtures, facilities, equipment and/or appurtenances (including natural gas pipelines, natural gas liquids extraction, processing and delivery facilities, acid gas removal units, natural gas liquefaction trains, LNG regasification facilities, and other treatment facilities, cryogenic pipelines, LNG storage tanks, petroleum and other hydrocarbon liquids storage facilities, nitrogen storage and processing facilities, power generation and transmission infrastructure, marine, rail and trucking receipt, delivery and servicing facilities (including jetties, terminals, docks and loading and unloading equipment), and other utilities and facilities (including control rooms, offices, warehouses and yards), in each case, necessary, ancillary or desirable in connection with the performance of the foregoing purposes ("Facilities"). LESSEE shall, at its sole cost and at all times, maintain in reasonably good condition the Facilities. LESSEE may, at its sole cost, excavate, develop, construct, install, use, operate, maintain, repair, expand, modify, alter, demolish, remove and reconstruct the Facilities at any time and from time to time as it deems necessary and appropriate for its purposes. Any improvements demolished and removed by LESSEE pursuant to the preceding sentence shall become the property of LESSEE and LESSEE may retain any amounts received for salvage or otherwise. LESSEE shall at all times comply with all laws, rules and regulations applicable to the Facilities or LESSEE's activities on the Leased Premises. LESSEE acknowledges and agrees that it will not utilize its dock on the Leased Premises for lay berth or for vessel operations unrelated to the operation, construction, replacement or maintenance of the Facilities or Leased Premises without the consent of the LESSOR, which consent may be conditioned on a mutually satisfactory revenue sharing arrangement.

(b) <u>Waiver of Surface Rights</u>. To the extent LESSOR holds any rights to oil, gas, sulphur, or other minerals ("<u>Minerals</u>") in the Leased Premises, LESSOR waives any right of LESSOR or its lessees or assignees to use the surface of the Leased Premises to explore for, drill for, access, extract, mine, exploit or otherwise make use of such Minerals, during the term of this Lease, and LESSOR and/or its lessees or assigns shall exercise any rights to such Minerals via directional drilling or other means (<u>"Surface Waiver</u>"). If any third party holds any rights in Minerals, LESSOR shall obtain a Surface Waiver from such third party, for the benefit of LESSEE. Any directional drilling or other subsurface Mineral activities of LESSOR and/or its lessees or assignees or assignees or assignees or assignees are determined or set by the FERC below the surface and shall not adversely affect the lateral or subjacent support of the Facilities or interfere with LESSEE's operations or rights under this Lease in any way.

(c) <u>Entry of LESSOR</u>. LESSOR may request entry into the Leased Premises during normal business hours by delivery of a written request to LESSEE a reasonable time (but in any event not less than twenty-four (24) hours) prior to the requested entry, and LESSEE shall not unreasonably withhold its approval of such request, provided, however, that any entry into the Leased Premises by LESSOR and/or its employees or agents shall be subject to LESSEE's rules and security procedures and all applicable laws, permits and regulations.

Condition of Leased Premises. LESSEE declares that LESSEE has thoroughly (d) inspected the Leased Premises. LESSEE accepts the property, component parts, improvements and conditions of the Leased Premises in an "as is" and "where is" basis, in their condition as of the Lease Commencement Date, and assumes responsibility therefor to the fullest extent allowed by LSA-R.S. 9:3221. Without prejudice to Section 10, LESSEE expressly waives and releases LESSOR from all warranties pertaining to the condition of the Leased Premises, including, but not limited to, any warranty against visible, hidden, or latent defects, and LESSEE does also waive any right LESSEE may or might have relative thereto (i) to rescind or revoke this Lease on the basis of any such warranty, and (ii) except for any damage to the Leased Premises arising from the gross negligence or willful misconduct of LESSOR or its employees, contractors or agents after the Lease Commencement Date, to have LESSOR repair or replace all or any part of the Leased Premises and any component parts, improvements, equipment, fixtures and any other items that might be relative to the Leased Premises. Except for any damage to the Leased Premises arising from the gross negligence or willful misconduct of LESSOR or its employees, contractors or agents after the Lease Commencement Date, LESSOR shall not be required to make any improvements or repairs of any kind or character to the Leased Premises during the term of this Lease, and LESSEE shall assume all responsibility for improvements and repairs necessary or desirable in connection with LESSEE's use of the Leased Premises.

(e) <u>Labor and Material Liens</u>. LESSEE shall keep the Leased Premises free from liens arising from delinquent invoices for work or services performed on the Leased Premises or materials provided to the Leased Premises at LESSEE's request, provided that LESSEE shall have the right to dispute any such invoice so long as LESSEE posts a bond sufficient to remove or release any labor and material lien which may arise from such disputed invoice.

(f) <u>Utility Charges</u>. LESSOR shall not have any obligation to pay any utility charges made or incurred in connection with LESSEE's use of the Leased Premises, and LESSEE shall be solely responsible therefor.

4. **Dredging; Easements; Channel Access.**

(a) <u>Dredging of the Slip and Ship Channel</u>. LESSEE shall have the right to remove soil and spoil from, and to add fill to, the Leased Premises and to dredge the slip and dredge and widen the Calcasieu River Ship Channel or the Industrial Canal, and, without further payment to LESSOR, deposit the dredge spoils on areas owned by LESSOR designated as Areas 12A and 12B (as allowed by applicable law), in each case in connection with the excavation for, development, construction, installation, use, operation, maintenance, repair, expansion, optimization, alteration and/or removal of the Facilities, and for the purpose of constructing, creating, expanding, operating and maintaining a ship berthing and turning basin, provided, however, that LESSEE shall, at its own expense, obtain any required permits and/or approvals

from the United States Army Corps of Engineers, (the "<u>Corps</u>") and/or any other governmental agencies, and LESSEE shall comply with such permits and approvals.

(b) <u>*Easements*</u>. To the extent required land or property interests are currently owned by the LESSOR, LESSOR will grant any reasonable required easements or rights of way that are necessary or useful in constructing, maintaining or operating the Facilities to the extent that such easements or rights of way do not unreasonably interfere with the use or future development of the land or property rights by LESSOR.

(c) <u>Channel Access and Usage</u>. LESSEE and the District agree and acknowledge that nothing in this Lease is intended to, or shall be construed as, granting vessels calling at LESSEE's Facilities any greater or lesser priority with regard to channel access and usage than existing users of the channel, and vessels calling at LESSEE's Facilities are subject to the same vessel traffic controls and management as the District may, in compliance with applicable laws, impose on other vessels using the Calcasieu River Ship Channel.

5. **FERC Application; Wetland Mitigation.**

(a) <u>FERC Application</u>. The District shall reasonably cooperate with LESSEE, at no cost to the District, with respect to any application or other submission by LESSEE to the FERC, Department of Energy or other governmental or regulatory agencies related to the proposed Facilities or LESSEE's other permitted uses of the Leased Premises, including any expansion of such Facilities, and the District shall not oppose any such application or other such submission

(b) <u>Wetlands Mitigation</u>. LESSOR has provided LEESEE with that certain letter dated January 25, 1994 from the Corps, attached hereto as <u>Exhibit B</u>, stating that the Corps has determined that the Leased Premises are not subject to wetland mitigation or regulation. However, should such determination be found not to be valid and enforceable, the LESSOR will use its best efforts to assist LESSEE to minimize any required wetland permitting, regulation or mitigation, and reasonably cooperate to make other lands or property interests owned by the LESSOR available to LESSEE for the purpose of effecting any such required wetlands permitting.

6. Additional Charges Legally Assessable by the District. LESSEE hereby acknowledges that the Base Rent and the Additional Rent constitute all charges applicable for the use, enjoyment and operation of the Leased Premises, but are not intended to include, and will not include, reduce or abate, any charges legally assessable by the District against vessels calling at LESSEE's Facilities or using any other facilities or waterways or otherwise subject to the District's jurisdiction to assess fees and such fees and charges will be separately assessed, charged and paid by the vessel's owners or charterers in accordance with the District's assessments of same, all in accordance with applicable laws and regulations. Nothing in this Lease is intended to relieve obligated to pay the District under applicable laws, provided that all such fees and charges are assessed and applied uniformly and apply to the use of the District's waterways (and not land).

7. **Permits.** LESSOR authorizes LESSEE to secure, at the cost of LESSEE, any permits or authorizations required by any state, local, or federal agency, or other governing or regulating authority, for LESSEE's Facilities or operations, and LESSOR shall cooperate, as landowner, in securing any such permits or authorizations. LESSEE shall assume full responsibility for any obligations and liabilities imposed in securing such permits, contained in such permits, or imposed by law with respect to such permits, and shall hold LESSOR harmless from any liability, penalties, damages, expenses, and judgments, and shall defend any actions arising from the securing or issuance of such permits or the applications therefor; provided, however, that any such any liability, penalties, damages, expenses or judgments arising solely as a result of the negligence or willful misconduct of the District shall be excluded from this indemnity.

Ownership of Facilities; Surrender at End of Lease; Liability. All Facilities 8. constructed or placed upon, in, under, over, or through the Leased Premises by LESSEE, shall remain the property of LESSEE and may be removed by LESSEE at any time during the Initial Term or any Renewal Term, subject and subordinate to Section 17 and the rights of any Leasehold Lender under any Leasehold Mortgage. Subject and subordinate to Section 17 and the rights of any Leasehold Lender under any Leasehold Mortgage, upon the expiration or termination of this Lease, LESSOR may elect, in its sole discretion, by delivery to LESSEE of written notice thereof (a "Surrender Election Notice"), to require LESSEE to either surrender possession of the Facilities that are permanently attached to the ground upon the Leased Premises (collectively, "Permanent Facilities"), at no cost to LESSOR, in which case such Permanent Facilities shall be surrendered to LESSOR in their "as-is, where-is" condition, with all defects) or remove the Permanent Facilities (provided, however, that in no event shall LESSEE be required to remove any docks, berths, wharves, electrical interconnection infrastructure, roadways, rail lines, underground pipelines, fill materials, foundations, or other underground Facilities, all of which may be abandoned in place in accordance with applicable With respect to any scheduled expiration of this Lease, LESSOR shall deliver the laws). Surrender Election Notice to LESSEE not less than twenty-four (24) months prior to scheduled expiration of the Initial Term or Renewal Term, as applicable. With respect to any earlier termination of this Lease, LESSOR shall deliver the Surrender Election Notice to LESSEE as soon as reasonably practicable, but not more than ten (10) calendar days after the effective date of such termination (the "Early Termination Date"). If LESSOR elects to require removal of the Permanent Improvements, then LESSEE shall have an additional period of up to twenty-four (24) months after the scheduled expiration of this Lease or the Early Termination Date, as applicable (the "Removal Period"), to complete such removal in accordance with this paragraph, in which case the terms and conditions of this Lease shall continue to apply during such Removal Period, except that LESSEE shall not be obligated to pay Base Rent or Additional Rent during the Removal Period and LESSEE may not use the Leased Premises for any purpose other than removal of the Permanent Improvements. LESSEE shall continue to have the right to use Henry Pugh Boulevard for ingress, egress and access to, from and between the Leased Premises and Big Lake Road during the Removal Period. With respect to Facilities that are not Permanent Facilities, LESSEE shall remove such Facilities not later than one hundred eighty (180) calendar days after the scheduled expiration of this Lease or the Early Termination Date, as applicable. Subject and subordinate to Section 17 and the rights of any Leasehold Lender under any Leasehold Mortgage, any Facilities that are not removed by the time fixed for such removal in this paragraph shall be irrevocably deemed to be abandoned by LESSEE, and LESSOR may elect, in its sole discretion, to remove such Facilities from the Leased Premises at LESSEE's sole cost (less any salvage value received by LESSOR) and may dispose of such Facilities without notice or liability to LESSEE, provided, however, that title to any such Facilities that LESSOR does not remove from the Leased Premises shall automatically pass to LESSOR. In no event shall LESSEE be required to restore the Leased Premises to their condition prior to construction of the Facilities or to restore any alterations of the Leased Premises, and LESSEE shall surrender the Leased Premises upon the expiration or earlier termination of this Lease (as the same may be extended by the Removal Period) in their "as-is, where-is" condition, with all defects (provided, however, that in no event LESSEE shall be excused from any default of LESSEE's obligations under this Lease). If the LESSEE holds over after the expiration or termination of this Lease, with or without the consent of the LESSOR, such tenancy shall be from month-to-month only. Such month-to-month tenancy, whether with or without the LESSOR's consent, shall be subject to every other term, covenant, and agreement contained herein, and shall not constitute a renewal or extension of the term of this Lease. LESSOR shall not be responsible for any loss or damage occurring to any Facilities owned, leased, or operated by the LESSEE, its agents, or employees, prior to or subsequent to the termination of this Lease, other than, to the extent required by law, for such loss or damage occurring as a result of the negligent conduct or the willful misconduct or gross negligence of the LESSOR, its officers, representatives, agents, contractors or employees or the LESSOR's misrepresentations or its breach of or default under this Lease.

9. Casualty; Condemnation.

(a) <u>*Casualty.*</u> This Lease shall not terminate or be cancelled at any time upon the damage or destruction by fire or other casualty of all, substantially all, or any part of the Leased Premises or the LESSEE's Facilities. LESSEE shall have full use of and the right to apply its insurance proceeds available for rebuilding and restoration of LESSEE's Facilities.

Condemnation or Expropriation. If the whole of the Leased Premises shall be (b)taken under power of eminent domain or expropriation by any public or private authority, then this Lease and the applicable term hereof shall cease and terminate as of the date of such taking. If only a portion of the Leased Premises shall be taken, and such partial taking shall result in the inability of LESSEE to operate its Facilities, or have a material adverse effect upon LESSEE's operation of its Facilities, on the remainder of the Leased Premises, then LESSEE may, at its election, terminate this Lease by giving LESSOR notice of the exercise of LESSEE's election within one hundred twenty (120) calendar days after LESSEE shall receive notice of such taking. In the event of termination under this Section 9(b), and any unearned Base Rent, Additional Rent or other charges, if any, paid in advance, shall be refunded to LESSEE, and this Lease shall cease and terminate as of the date of such taking, subject, however, to the right of LESSEE, at its election, (i) to continue to occupy the Leased Premises, subject to the terms and provisions of this Lease, for all or such part, as LESSEE may determine, of the period between the date of such taking and the date when possession of the Leased Premises shall be taken by the public authority; and (ii) to keep this Lease in full force and effect so as to obtain the highest possible award from the condemning authority, if termination of this Lease would reduce any award for a taking, as set forth herein below in this Section 9(b). In the event of a taking of a portion of the Leased Premises and this Lease is not terminated, then Base Rent shall be reduced pro rata based upon the portion of the Leased Premises taken. The parties reserve any rights each may have under applicable law to seek from the expropriating authority an award for a taking of their

respective interests in, under and to the Leased Premises and this Lease. All compensation awarded for any taking of the Leased Premises shall belong to the party to whom such award was made. If only one award is made as to the Leased Premises, such award shall be allocated between LESSOR and LESSEE in accordance with their respective interests. Notwithstanding the foregoing, any award attributable or applicable to any improvements on the Leased Premises shall belong to LESSEE. LESSOR agrees that, to the extent permitted by law, LESSOR waives and forebears the use of any of its power of expropriation that would impair LESSEE's interest in, under and to this Lease or the performance of this Lease.

10. **Warranty of Title.** This Lease is made without warranty of title or possession either expressed or implied, except as expressly set forth in this Lease. This Lease, as it applies to the Leased Premises, is subject to all matters of record in the Official Records as of the Lease Commencement Date with respect to the Leased Premises. LESSOR covenants and warrants that LESSOR is the sole owner of the Leased Premises (subject to matters of record in the Official Records), and LESSEE shall peacefully hold and enjoy all of the rights granted by this Lease for the entire term (including any Renewal Terms) without hindrance or interruption by LESSOR or any person lawfully or equitably claiming by, through or under or superior to LESSOR, subject to the terms and conditions of this Lease; and as long as LESSEE is not in material default of the terms and conditions of this Lease beyond applicable notice and cure periods.

11. **Taxes.**

(a) <u>Taxes on Facilities.</u> LESSEE agrees to pay any and all taxes assessed against LESSEE's Facilities, or assessed against the Leased Premises as a result of Facilities placed on the Leased Premises by LESSEE. LESSEE shall pay all taxes and license fees required for operations LESSEE conducts on the Leased Premises. LESSEE shall have the right to seek abatement of taxes for any portion of the term of this Lease, through one or more programs available in the State of Louisiana with respect to taxes assessed against LESSEE's Facilities and the equipment, trade fixtures and other tangible personal property proposed to be used by Tenant in connection with its use and occupancy of the Facilities. The District agrees to reasonably cooperate with LESSEE in seeking such abatement of taxes, at no cost or expense to the District.

(b) <u>Taxes on Real Property</u>. The District is exempt from the payment of ad valorem property taxes. The District will use its reasonable best efforts to maintain current law that the District is not required to pay taxes. However, if the law providing for such exemption of the District from taxes changes or otherwise taxes are owed by the District, then LESSEE shall pay all taxes assessed with respect to the ownership by the District of the Leased Premises during the term of this Lease so long as the District delivers to LESSEE a copy of the tax assessor's invoice for such taxes not less than thirty (30) calendar days prior to the due date shown in such invoice, in which case LESSEE shall pay the amount due no later than the due date shown in such invoice. The District shall pay (and LESSEE shall not be responsible or liable for) any fines or penalties assesser's invoice to LESSEE not less than thirty (30) calendar days prior to the due date shown in such invoice. The District shall pay (and LESSEE shall not be responsible or liable for) any fines or penalties assessor's invoice to LESSEE not less than thirty (30) calendar days prior to the due date shown in such invoice. Notwithstanding the foregoing, "taxes," as used herein, shall not include, and LESSEE shall not be required to pay, any franchise, transfer, income, capital gains or similar tax

of or on LESSOR unless such tax is imposed, levied or assessed in substitution for ad valorem property tax.

12. **Default by LEESEE or by LESSOR.**

(a) If LESSEE is in default under this Lease, or has failed to comply with any of its obligations hereunder within the time periods set forth herein, LESSOR shall give LESSEE specific written notice of the alleged breach in which event (i) LESSEE shall have ten (10) calendar days from said notice within which to cure any monetary default, and (ii) LESSEE shall have forty-five (45) calendar days from said notice within which to cure any other default, provided, however, after such notice, if LESSEE has commenced in good faith to cure such non-monetary default within said forty-five (45) calendar day period but cannot reasonably cure such non-monetary default without more time, then LESSEE shall have such additional time required to cure such default so long as LESSEE is diligently prosecuting such cure to completion.

(b) If LESSEE fails to cure any default within the time periods set forth in <u>Section</u> <u>12(a)</u> above, then subject to <u>Section 17</u> below, LESSOR shall have the right at LESSOR's option to do any one or more of the following: (i) terminate this Lease effective immediately or as of any date which LESSOR may select, or (ii) proceed one or more times for past due installments of Rent without prejudicing LESSOR's rights to proceed later for remaining installments or to exercise any other remedy, or (iii) require specific performance of LESSEE, or (iv) seek and recover damages from LESSEE, or (v) have recourse to any other remedy to which LESSOR may be entitled to by law. Notwithstanding <u>Section 17</u> below, LESSOR shall also have the right to draw on any Letter of Credit provided by LESSEE in accordance with <u>Section 18</u> below.

(c) If LESSOR is in default under this Lease, or has failed to comply with any of its obligations hereunder within the time periods set forth herein, LESSEE shall give LESSOR specific written notice of the alleged breach in which event (i) LESSOR shall have ten (10) calendar days from said notice within which to cure any monetary default, and (ii) LESSOR shall have forty-five (45) calendar days from said notice within which to cure any other default, provided, however, after such notice, if LESSOR has commenced in good faith to cure such non-monetary default within said forty-five (45) calendar day period but cannot reasonably cure such non-monetary default without more time, then LESSOR shall have such additional time required to cure such default so long as LESSOR is diligently prosecuting such cure to completion.

(d) If LESSOR fails to cure any default within the time periods set forth in <u>Section</u> <u>12(c)</u> above, then LESSEE shall have the right to invoke any remedy allowed by law.

(e) Should it become necessary for LESSOR, because of breach of LESSEE, to place the enforcement of this Lease or any part hereof, or the collection of any Rent due or to become due hereunder, or recovery of the possession of the Leased Premises, in the hands of an attorney, or file suit upon the same, LESSEE also agrees to pay LESSOR's costs and charges pertaining thereto, including reasonable attorney's fees. Should it become necessary for LESSEE, because of breach of LESSOR, to place the enforcement of this Lease or any part hereof, in the hands of an attorney, or file suit upon the same, LESSOR also agrees to pay LESSEE's costs and charges pertaining thereto, including reasonable attorney's fees.

(f) In regard to any claim by LESSOR or LEESEE against the other, LESSOR and LEESEE agree to, reasonably and in good faith, take all available and appropriate steps to mitigate, to the maximum extent reasonable under the circumstances, any loss, damage or claim made by LESSOR or LESSEE against the other.

Assignment. This Lease and the rights granted hereby may only be assigned by LESSEE, 13. its successors and assigns, in whole or in part, with the written consent of LESSOR, which consent shall not be unreasonably withheld, conditioned or delayed by LESSOR provided that LESSEE is not in default beyond applicable notice and cure periods under this Lease. LESSEE shall give LESSOR written notice of any proposed assignment hereof no less than thirty (30) calendar days prior to the proposed effective date of such assignment. Subject to Section 17, any assignee shall assume LESSEE's obligations and liabilities hereunder, including, but not limited to, the obligation to provide replacement credit support in accordance with Section 18. Notwithstanding the foregoing, LESSEE shall have the right, after thirty (30) calendar days prior written notice thereof to LESSOR but without the requirement of consent by LESSOR, to assign LESSEE's rights, title and interest in, to and under this Lease to (a) any Affiliate (as defined below) of LESSEE, (b) any transferee or grantee of all or substantially all of the assets of LESSEE or ownership interests (whether stock, shares or membership interests) in LESSEE, (c) any entity resulting from a merger, non-bankruptcy reorganization or consolidation with LESSEE, (d) to any entity owned by an Affiliate or Affiliates of one or more of the ultimate parent entities that own direct or indirect interests in LESSEE or (e) a Leasehold Mortgagee or any purchaser upon a foreclosure of a Leasehold Mortgage or transferee upon a transfer in lieu of foreclosure (dation en paiement) pursuant to a Leasehold Mortgage; provided, in each case, that such assignment shall not be a subterfuge by LESSEE to avoid its obligations under this Lease, and upon such assignment, LESSEE shall not be released from liability under this Lease without LESSOR's written consent. The term "Affiliate" shall mean (i) LESSEE's parent company or any wholly owned subsidiary of LESSEE's parent company, or (ii) any entity Controlling, under common Control or Controlled by LESSEE or LESSEE's parent company. The term "Control" shall mean (A) with respect to a corporation, the right to exercise, directly or indirectly, more than fifty percent (50%) of the voting rights attributable to the stock or shares of the controlled corporation, and (B) with respect to an individual or entity that is not a corporation, the possession, directly or indirectly, of the power to direct or cause the direction of the management or policies of the controlled individual or entity.

14. Indemnification and Insurance.

(a) <u>LESSEE's General Agreement to Indemnify</u>. The LESSEE releases the District, its officers, representatives, employees, agents, successors and assigns, (individually and collectively, "<u>District Indemnitee</u>") from, assumes any and all liability for, and agrees to indemnify the District Indemnitee against all claims, liabilities, obligations, damages, penalties, litigation, costs, charges, and expenses (including, without limitation, reasonable attorney's fees, engineers' fees, architects' fees, and the costs and expenses of appellate action, if any), imposed on, incurred by or asserted against the District Indemnitee or its interest in real property in the Leased Premises arising out of (i) the use or occupancy of the Leased Premises by the LESSEE, its officers, representatives, agents, and employees, (ii) the construction or operation of the Facilities by the LESSEE, its officers, representatives, agents, and employees, (iii) any claim arising out of the use, occupancy, operation, or construction of the Leased Premises by the LESSEE, its officers, representatives, agents, and employees, (iii) any claim arising out of the use, occupancy, operation, or construction of the Leased Premises by the LESSEE, its officers, representatives, agents, and employees, (iii) any claim arising out of the use, occupancy, operation, or construction of the Leased Premises by the LESSEE, its officers, representatives, agents, and

employees, and (iv) activities on or about the Leased Premises by the LESSEE, its officers, representatives, agents, and employees, of any nature, whether foreseen or unforeseen, ordinary, or extraordinary, in connection with the construction use, occupancy, operation, maintenance, or repair of the Facilities, or the Leased Premises by the LESSEE, its officers, representatives, agents, and employees, except to the extent any such claim, liability, obligation, damage or penalty is attributable to the negligence or willful misconduct of the District Indemnitee. The indemnity provided in this Section shall be to the fullest extent permitted by law, including, but not limited to, La. R. S. 9:322, and shall include within its scope any liability imposed by law on the District on a strict liability theory as landowner for physical defects in the Leased Premises (except for environmental contamination); it being the intention of the parties for LESSEE to assume liability for such defects in the Leased Premises during the term of this Lease. This Section shall include within its scope but not be limited to any and all claims or actions for wrongful death, but any and all claims brought under the authority of or with respect to any local, state, or federal environmental statute or regulation shall be covered by <u>Section 14(b)</u> and not this <u>Section 14(a)</u>.

LESSEE's Environmental Indemnification. The LESSEE agrees that it will comply (b) with all environmental laws and regulations applicable to the LESSEE, including without limitation, those applicable to the use, storage, and handling of hazardous substances in, on, or about the Leased Premises. The LESSEE agrees to indemnify and hold harmless each District Indemnitee against and in respect of, any and all damages, claims, losses, liabilities, and expenses (including, without limitation, reasonable attorneys, accounting, consulting, engineering, and other fees and expenses), which may be imposed upon, incurred by, or assessed against any District Indemnitee by any other party or parties (including, without limitation, a governmental entity), arising out of, in connection with, or relating to the subject matter of: (a) the LESSEE's breach of the covenant set forth above in this Section 14(b), or (b) any environmental condition of contamination on the Leased Premises or any violation of any federal, state, or local environmental law with respect to the Leased Premises first occurring after the Lease Commencement Date and caused by the LEESEE's operations or facilities. For the avoidance of doubt, and notwithstanding anything to the contrary contained in this Lease, LESSEE shall not be responsible for any environmental contamination on the Leased Premises existing prior to the Lease Commencement Date, or liable for any damage or claims attributable to any such pre-existing contamination or with respect to the prior or future actions or activities of the LESSOR or any third party.

(c) <u>Burden of Proof</u>. The LESSEE, at its own cost, shall cause to be conducted a Phase I environmental assessment and, if indicated by such Phase I, a Phase II environmental assessment of the Leased Premises prior to the commencement of construction of the Facilities and a copy of all written reports issued in connection with such assessments shall be given to the District within ten (10) calendar days of completion. If, as a result of such assessments, environmental contamination of the Leased Premises is discovered, such contamination shall be deemed to have existed prior to the Leased Premises after the completion of the environmental assessments (Phase I and Phase II) which is not disclosed in the Phase I or Phase II environmental assessments shall be presumed, for purposes of the LESSEE's agreement to indemnify the District Indemnitee in <u>Section 14(b)</u>, to have been caused by the LESSEE's operations or facilities, unless the LEESEE can demonstrate, by a preponderance of the evidence, that (i) such condition originated off the Leased Premises, or (ii) such condition was not caused by the LESSEE's operations or facilities. The provisions of this <u>Section 14(c)</u> are intended only to allocate the burden of establishing causation between the

LESSEE and the District with respect to environmental contamination discovered before and after the Lease Commencement Date. In no event shall any third party other than the District Indemnitee be entitled to any benefit, reliance, or presumption based on the provisions of causation or liability of either party with respect to any environmental contamination of the Leased Premises.

Defense & Settlement. The indemnity obligations of LESSEE under Section 14(a) (d)and Section 14(b) above shall be subject to the applicable District Indemnitee giving LESSEE prompt notice when any District Indemnitee becomes aware of any actual or threatened claim, action or administrative enforcement action which might give rise to a claim for indemnification under these provisions, including a description of the relevant facts and circumstances regarding any such actual or threatened claims or actions. Notice shall be prompt enough to allow LESSEE to respond to same in a timely fashion such that all material defenses, legal or factual, are preserved. LESSEE shall thereafter have sole responsibility and control over the defense and costs of defense, and any settlement, of any such claims or actions and any liability which arises as a result of any interference with LESSEE's right to control such defense, or any failure to cede same, shall not be within the scope of LESSEE's indemnity obligations hereunder; provided, however, to the extent (i) any District Indemnitees are dissatisfied with LESSEE's conduct of the defense any such claims or actions, (ii) LESSEE breaches its obligation to defend, or (iii) any District Indemnitees reasonably determine that the interests of LESSEE and the District Indemnitees are not materially aligned, such District Indemnitees may retain their own separate counsel, at their sole cost and expense (unless LESSEE is shown to be in breach of its obligations hereunder with regard to such claim or action) to protect the respective interests of the District Indemnitees. Similarly, LESSEE shall give LESSOR prompt notice when it becomes aware of any or actual or threatened claim, action or administrative enforcement action which might give rise to a claim for indemnification under these provisions.

(e) <u>Survival of Indemnities</u>. The foregoing indemnities shall survive the expiration or other termination of this Lease and shall be the sole and exclusive remedy of District and the District Indemnitees with regard to any and all damages, claims, losses, liabilities, and expenses (including, without limitation, reasonable attorneys, accounting, consulting, engineering, and other fees and expenses) ("<u>Claims</u>"), which are within the scope of the above stated indemnities.

(f) <u>Insurance</u>.

(i) At all times during the term of this Lease, at its sole expense, LESSEE shall maintain or cause to be maintained for the protection of LESSEE and LESSOR, commercial general liability insurance applying to the use and occupancy of the Leased Premises and the business operated by LESSEE on the Leased Premises, which shall be written to apply to bodily injury (including death), property damage and personal injury losses, and shall be endorsed to include LESSOR as an additional insured. Such insurance shall have a minimum combined single limit of liability of at least \$10,000,000.00 per occurrence and a general aggregate limit of at least \$20,000,000.00, and LESSEE shall provide, in addition, excess liability insurance on a following form basis, with overall limits of at least \$10,000,000.00.

(ii) At all times during the term of this Lease, LESSEE shall maintain in effect policies of insurance covering the Facilities during the term of this Lease in an amount

reasonably determined by LESSEE, providing protection against any peril included within the classification "all risk coverage" or "causes of loss special form" (as such terms are used in the State of Louisiana), including vandalism and malicious mischief. LESSEE shall be entitled to all proceeds of such insurance, and the value of the Facilities shall be determined by LESSEE.

(iii) All insurance required to be carried under this Lease shall be issued by responsible insurance companies. Insurance companies rated A-VII or better by Best's Insurance Reports shall be deemed acceptable. Each insurance policy carried by LESSEE in accordance with this Lease shall include a waiver of the insurer's rights of subrogation to the extent necessary to give effect to the release and shall name the District as an additional named insured. The foregoing waiver shall be effective whether or not a waiving party shall obtain and maintain the insurance which such waiving party is required to obtain and maintain pursuant to this Lease.

15. Severability. If any provision of this Lease or the application thereof to any person, place or circumstance shall be held by a court of competent jurisdiction, in a final and unappealable decision, to be invalid, unenforceable or void, then the remainder of the Lease and such provisions as applied to other persons, places, and circumstances shall remain in full force and effect, unimpaired by the holding, it being the intent of the parties that each and every provision of this Lease shall be enforceable to the fullest extent permitted by law.

16. **Notices.** All notices and correspondence between the parties shall be made or given in writing and shall be personally delivered, or delivered by facsimile or e-mail (provided, however, if any delivery is made by facsimile or e-mail, such delivery shall be deemed delivered only if the party giving such notice obtains a confirmation of receipt and also delivers such notice by means of another permitted method hereunder), or sent by registered or certified United States mail, postage prepaid, return receipt requested, or expedited prepaid delivery service, either commercial (such as UPS or FedEx) or United States Postal Service, to the applicable party or at the addresses set forth below, or such other address as may be furnished by notice in accordance with this Section 16:

If to LESSOR:

Lake Charles Harbor and Terminal District Executive Director 751 Bayou Pines East, Suite P Lake Charles, LA 70601 Email: Fax:

with a copy to:

Lake Charles Harbor and Terminal District General Counsel 751 Bayou Pines East, Suite P Lake Charles, LA 70601 Email: Fax:

If to LESSEE:

Magnolia LNG, LLC

Email: Fax:

with a copy to:

Chad Mills Sutherland, Asbill & Brennan, LLP 1001 Fannin Street, Suite 3700 Houston, TX 77002-6760 Email: <u>chad.mills@sutherland.com</u> Fax: (713) 654-1301

Winfield E. Little, Jr. 616 Broad Street P.O. Box 3759 (70602) Lake Charles, LA 70601 Email: <u>wlittle@littlelawfirm.com</u> Fax: (337) 430-0120

A notice shall be deemed to have been given: in the case of hand delivery, at the time of delivery; in the case of facsimile or e-mail, the time of confirmation of receipt; in the case of registered or certified mail, when delivered (as evidenced by the receipt) or the first attempted delivery on a business day; or in the case of expedited prepaid delivery, upon the first attempted delivery on a business day.

17. **Leasehold Mortgagee Provisions**. The provisions of this <u>Section 17</u> shall supersede any contrary or inconsistent provisions in this Lease and in the event of any inconsistency or conflict between the provisions of this Section and any other provision of this Lease, the provisions of this Section shall govern and control.

(a) <u>LESSEE's Right to Mortgage Leasehold Interest; Recognition of Leasehold</u> <u>Lender as Leasehold Mortgagee</u>. LESSEE shall have the absolute right (but not the obligation), without seeking the consent or approval of LESSOR, to grant one or more leasehold mortgages encumbering LESSEE's interest in the Leased Premises and in this Lease. The term "<u>Leasehold</u> <u>Lender</u>" shall mean, at any point in time, the holder of a Leasehold Mortgage that provides written notice to LESSOR of its status as such. The term "<u>Leasehold Mortgage</u>" shall mean, at any point in time, a leasehold mortgage to secure debt or other equivalent instruments, as the case may be (as the same may be amended from time to time), encumbering LESSEE's interest in the Leased Premises and this Lease. It is acknowledged and agreed that, during the term of this Lease, there may be multiple Leasehold Mortgages and multiple Leasehold Lenders and that each Leasehold Lender may, from time to time, assign its right, title and interest in and to the Leasehold Mortgage and this Lease.

(b) <u>*Right to Perform for LESSEE; Right to Cure.</u>*</u>

In addition to the rights provided in Section 17(a), LESSOR acknowledges (i) and agrees that Leasehold Lender shall have the right to perform any term, covenant, condition or agreement to be performed by LESSEE under this Lease, and LESSOR shall accept such performance by Leasehold Lender with the same force and effect as if furnished by LESSEE. In the event of a default by LESSEE under this Lease and prior to any termination of this Lease by LESSOR, LESSOR acknowledges and agrees that LESSOR shall provide Leasehold Lender with notice of the same and Leasehold Lender shall have the right (but not the obligation) to commence to cure such default within the same period of time as LESSEE has under this Lease, plus an additional sixty (60) LESSOR agrees that LESSOR shall not terminate this Lease in calendar days. connection with any such default so long as Leasehold Lender has cured or commenced to cure and continues diligently to cure in accordance with the foregoing (A) any such non-payment default and (B) any such default in the payment of any portion of Base Rent or Additional Rent.

(ii) If any default in the performance of an obligation of LESSEE under this Lease is not susceptible to being cured by Leasehold Lender, LESSOR shall have no right to terminate this Lease with respect to such default and such default shall be deemed waived for the benefit of Leasehold Lender only, provided that:

(1) Leasehold Lender shall have commenced to cure (i) any other nonpayment default of LESSEE that is susceptible to being cured by Leasehold Lender and (ii) any default in the payment of any portion of Base Rent or Additional Rent, in each case, within the time periods prescribed under <u>Section</u> 17(b)(i), above;

(2) Leasehold Lender (or its designee) shall have commenced to acquire LESSEE's interest in this Lease and the Leased Premises or to commence foreclosure or other appropriate proceedings under the Leasehold Mortgage within the time periods prescribed under <u>Section 17(b)(i)</u>;

(3) if Leasehold Lender (or its designee) shall acquire LESSEE's interest in this Lease and/or the Leased Premises, Leasehold Lender (or its designee) shall, without prejudice to Section 17(e), (A) commence to cure and continue diligently to cure all non-payment defaults that are susceptible to being cured by Leasehold Lender with commercially reasonable diligence, (B) cure any payment default in respect of any portion of Base Rent or Additional Rent and (C) perform and observe all other agreements, covenants and conditions which are to be performed or observed by LESSEE under this Lease after the date of such acquisition; and

(4) if any third party shall, by foreclosure or *dation en paiement* under the Leasehold Mortgage or by assignment or other transfer from Leasehold Lender, acquire LESSEE's interest in and to the Leased Premises under this Lease, such third party shall, without prejudice to <u>Section 17(e)</u>, (A) commence to cure and continue diligently to cure all non-payment defaults that are susceptible to being cured by a third party with commercially reasonable diligence, (B) cure any payment default in respect of any portion of Base Rent or Additional Rent and (C) perform and observe all other agreements, covenants and conditions which are to be performed or observed by LESSEE under this Lease after the date of such acquisition.

However, if LESSEE is in default beyond applicable notice and cure periods under this Lease and Leasehold Lender fails to act under <u>Section 17(b)</u> above within the applicable time periods set forth in <u>Section 17(b)(i)</u>, then notwithstanding any provision in this <u>Section 17</u> to the contrary, LESSOR may exercise any right to terminate this Lease that LESSOR may have under <u>Section 12</u> above.

(c) <u>No Modification Without Leasehold Lender's Consent</u>. Neither LESSOR nor LESSEE will amend, modify, cancel or surrender this Lease without Leasehold Lender's prior written consent, and any such action taken without Leasehold Lender's consent shall not be binding on LESSEE or Leasehold Lender or their respective successors and assigns (and this Lease shall be interpreted as if such action was not taken), provided, however, that if LESSEE is in default beyond applicable notice and cure periods under this Lease and Leasehold Lender fails to act under <u>Section 17(b)</u> above within the applicable time periods set forth in <u>Section 17(b)</u>, then Leasehold Lender's prior written consent shall not be required for LESSOR to exercise any right to terminate this Lease that LESSOR may have under <u>Section 12</u> above.

Delivery of Notices. LESSOR shall simultaneously deliver to Leasehold Lender (d) copies of all notices, statements, information and communications delivered or required to be delivered to LESSEE pursuant to this Lease, including, without limitation, any notice of any default by LESSEE. In addition, LESSOR shall promptly notify Leasehold Lender in writing of any failure by LESSEE to perform any of LESSEE's obligations under this Lease. No notice, statement, information or communication given by LESSOR to LESSEE shall be binding or affect LESSEE or Leasehold Lender or their respective successors and assigns unless a copy of the same shall have simultaneously been delivered to Leasehold Lender in accordance with this Section 17(d). All notices to Leasehold Lender shall be addressed to any Leasehold Lender at any address that such Leasehold Lender shall provide in writing to LESSOR and LESSEE, and shall be delivered in a manner permitted under (and shall be deemed delivered in accordance with) Section 16. Notwithstanding anything to the contrary in this Lease, LESSOR shall not exercise any remedies related to LESSEE's default hereunder until (x) LESSOR has delivered notice of such default to Leasehold Lender pursuant to this Section 17(d) and (y) all applicable cure commencement periods following the delivery of such notice have expired.

(e) <u>Leasehold Lender Not Obligated Under Lease; Permitted Transfers</u>. The granting of the Leasehold Mortgage shall not be deemed to constitute an assignment or transfer of this Lease or the Leased Premises to Leasehold Lender, nor shall Leasehold Lender, in its capacity as the holder of the Leasehold Mortgage, be deemed to be an assignee or transferee of

this Lease or of LESSEE's interests in the Leased Premises thereby created so as to require Leasehold Lender, as such, to assume the performance of any of the terms, covenants or conditions on the part of LESSEE to be performed thereunder. In no event shall any act or omission of Leasehold Lender (including, without limitation, the acquisition of LESSEE's interest in this Lease and the Leased Premises created thereby in a transaction described in this Section 17 or the taking of possession of the Lease Premises or improvements thereon through a receiver or other means) require Leasehold Lender to assume, or cause Leasehold Lender to be deemed to have assumed, any obligation or liability of LESSEE under this Lease, and Leasehold Lender shall have no personal liability to LESSOR for LESSEE's failure to so perform and observe any agreement, covenant or condition of LESSEE under this Lease, it being expressly understood and agreed that, in the event of any such failure of LESSEE to perform, LESSOR's sole and exclusive remedy with respect to Leasehold Lender shall be to terminate this Lease without any recourse or claim for damages against Leasehold Lender, provided that this Section 17(e) shall not relieve Leasehold Lender of the requirements under Section 17(b)(ii)(3) in the event that Leasehold Lender has elected to acquire LESSEE's interests in this Lease and/or the Leased Premises.

Permitted Transfers. Notwithstanding the provisions of Section 17(e), but for the (f)avoidance of doubt while reserving LESSOR's right to terminate this Lease pursuant to Section 17(b), the purchaser at any sale of this Lease and the interests in and to the Leased Premises thereby created in any proceedings for the foreclosure of the Leasehold Mortgage (including, without limitation, power of sale), or the assignee or transferee of this Lease and the interests in and to the Leased Premises thereby created under any instrument of assignment or transfer in lieu of the foreclosure (whether to Leasehold Lender or any third party) shall be deemed to be a permitted assignee or transferee under this Lease without the need to obtain LESSOR's consent under Section 13 of this Lease and LESSOR shall recognize such assignee or transferee as the successor-in-interest to LESSEE for all purposes under this Lease, and such purchaser, assignee or transferee shall be deemed to have agreed to perform all of the terms, covenants and conditions on the part of LESSEE to be performed under this Lease from and after the date of such purchase and/or assignment, but only for so long as such purchaser or assignee is the owner of the LESSEE's interest in, to and under this Lease and the LESSEE's interests in and to the Leased Premises thereby created.

(g) <u>No Termination for Casualty</u>. So long as the indebtedness, or any part of the indebtedness, secured by the Leasehold Mortgage remains outstanding and unpaid, and the Leasehold Mortgage remains of record, LESSOR and LESSEE agree that the provisions of <u>Section 9(a)</u> shall not be amended, and shall control in the event of any by fire or other casualty of all, substantially all, or any part of the Leased Premises or the LESSEE's Facilities.

(h) <u>Expropriation and Expropriation Proceeds</u>. So long as the indebtedness, or any part of the indebtedness, secured by the Leasehold Mortgage remains outstanding and unpaid, and the Leasehold Mortgage remains of record, LESSOR and LESSEE agree that the provisions of <u>Section 9(b)</u> shall not be amended, and shall control in the event of a taking or expropriation pursuant to an eminent domain proceeding of all, substantially all, or any part of the Leased Premises, and further agree that: (1) any and all awards for any taking or expropriation of the Facilities and/or LESSEE's interest in, under and to this Lease which otherwise belong to LESSEE shall be payable to Leasehold Lender, to be disbursed as follows: (A) first, to

Leasehold Lender for the value of the interests in and to the Leased Premises created by this Lease and the value of the leasehold improvements located on the Leased Premises, up to an amount equaling the outstanding principal balance of any loan secured by the Leasehold Mortgage, and any interest accrued thereon, and (B) second, to LESSOR and LESSEE in accordance with this Lease; and (2) Leasehold Lender shall have the right to apply the expropriation proceeds payable to Leasehold Lender hereunder in accordance with the terms of the Leasehold Mortgage (or other applicable loan documents) and shall be entitled at Leasehold Lender's option to participate in any compromise, settlement or adjustment with respect to the claim for damages paid by the expropriating authority for the taking or expropriation of the Facilities and/or LESSEE's interest in, under and to this Lease; provided that this <u>Section 17(h)</u> does not derogate LESSOR's right to terminate this Lease pursuant to <u>Section 17(b)</u>.

(i) <u>New Direct Lease</u>.

If this Lease is canceled or terminated for any reason (except in (i) connection with a Bankruptcy Proceeding, for which the provisions of Section 17(j) below are hereby agreed upon by LESSOR and LESSEE), and provided that Leasehold Lender has (A) commenced to cure and continues diligently to cure all non-payment defaults that are susceptible to being cured by Leasehold Lender with commercially reasonable diligence, and (B) cured any payment default in respect of any portion of Base Rent or Additional Rent, LESSOR hereby agrees that LESSOR shall, upon Leasehold Lender's written election within one hundred twenty (120) calendar days of such cancellation or termination, promptly enter in a new, direct lease with Leasehold Lender (or its nominee or any other party which Leasehold Lender may designate, including without limitation, LESSEE) with respect to the Leased Premises on the same terms and conditions as this Lease (a "New Lease"), it being the intention of the parties to preserve this Lease and the interests in and to the Leased Premises created by this Lease for the benefit of Leasehold Lender without interruption. Said New Lease shall be superior to all rights, liens and interests intervening between the date of this Lease and the granting of the New Lease and shall be free of any and all rights of LESSEE under this Lease.

(ii) LESSEE and LESSOR acknowledge and agree that Leasehold Lender shall have the right to encumber such direct New Lease and the estate created thereby with a deed of trust or a mortgage (as the case may be) on the same terms and with the same lien priority as the Leasehold Mortgage, it being the intention of the parties to preserve the priority of the Leasehold Mortgage, this Lease and the interests in and to the Leased Premises created by this Lease for the benefit of Leasehold Lender without interruption. If this Lease is rejected, cancelled or terminated for any reason and Leasehold Lender, its nominee or a designee of Leasehold Lender enters into a direct New Lease with LESSOR with respect to the Leased Premises, LESSOR hereby agrees that it will execute such documents as Leasehold Lender may require in order to ensure that the new direct lease provides for customary leasehold mortgagee protections, including without limitation, protections similar to those contained herein.

(j) <u>Bankruptcy</u>. In the event of a proceeding under the United States Bankruptcy Code (Title 11 U.S.C.) as now or hereafter in effect (a "<u>Bankruptcy Proceeding</u>"): (i) If this Lease is rejected in connection with a Bankruptcy Proceeding by LESSEE or a trustee in bankruptcy (or other party to such proceeding) for LESSEE, such rejection shall be deemed an assignment by LESSEE to the Leasehold Lender of the Lease Premises and all of LESSEE's interest under this Lease, and this Lease shall not terminate and the Leasehold Lender shall have all rights and obligations of the LESSEE as if such Bankruptcy Proceeding had not occurred, unless Leasehold Lender shall reject such deemed assignment by notice in writing to LESSEE's trustee in bankruptcy. If any court of competent jurisdiction shall determine that this Lease shall have been terminated notwithstanding the terms of the preceding sentence as a result of rejection by LESSEE or the trustee in connection with any such proceeding, the rights of Leasehold Lender to a New Lease from LESSOR pursuant to Section 17(i) hereof shall not be affected thereby.

(ii) In the event of a Bankruptcy Proceeding against LESSOR:

(1) If the bankruptcy trustee, LESSOR (as debtor-in-possession) or any party to such Bankruptcy Proceeding seeks to reject this Lease pursuant to United States Bankruptcy Code §365(h)(1), LESSEE shall not have the right to treat this Lease as terminated except with the prior written consent of Leasehold Lender and the right to treat this Lease as terminated in such event shall be deemed assigned to Leasehold Lender, whether or not specifically set forth in the Leasehold Mortgage, so that the concurrence in writing of LESSEE and the Leasehold Lender shall be required as a condition to treating this Lease as terminated in connection with such Bankruptcy Proceeding.

(2) Unless this Lease is treated as terminated in accordance with <u>Section 17(j)(ii)(1)</u> above, then this Lease shall continue in effect upon all the terms and conditions set forth herein, including Rent, but excluding requirements that are not then applicable or pertinent to the remainder of the term of this Lease. Thereafter, LESSEE or its successors and assigns shall be entitled to any offsets against Rent payable hereunder for any damages arising from such bankruptcy, to the extent LESSEE's operation of business has been materially interfered with, and any such offset properly made shall not be deemed a default under this Lease. The lien of the Leasehold Mortgage shall extend to the continuing possessory rights of LESSEE following such rejection with the same priority as it would have enjoyed had such rejection not taken place.

(k) *Estoppel Certificates*.

(i) Upon Leasehold Lender's or LESSEE's written request, LESSOR shall provide Leasehold Lender or LESSEE with an estoppel certificate which shall certify to such requesting Leasehold Lender or LESSEE (1) as to the amount and status of all Rent payments and security deposits, if any, under this Lease, (2) as to the non-satisfaction or non-compliance by LESSEE of any other conditions under this Lease, or alternatively, as to the full satisfaction and compliance by LESSEE of any other conditions required under this Lease, (3) as to any existing default of LESSEE under the Lease, or alternatively that LESSEE is not in default in the payment, performance or observance of any other

condition or covenant to be performed or observed by LESSEE thereunder, (4) setting forth any offsets or counterclaims on the part of LESSOR or alternatively that there are no offsets or counterclaims on the part of LESSOR, and (5) as to such other matters related to this Lease as Leasehold Lender may reasonably determine from time to time.

(ii) Upon Leasehold Lender's or LESSOR's written request, LESSEE shall provide Leasehold Lender with an estoppel certificate which shall certify to such requesting Leasehold Lender (1) as to the amount and status of all Rent payments and security deposits under this Lease, (2) as to the non-satisfaction or non-compliance by LESSOR of any other conditions under this Lease, or alternatively, as to the full satisfaction and compliance by LESSOR of any other conditions required under this Lease, (3) as to any existing default of LESSOR under the Lease, or alternatively that LESSOR is not in default in the payment, performance or observance of any other condition or covenant to be performed or observed by LESSOR thereunder, (4) setting forth any offsets or counterclaims on the part of LESSEE, and (5) as to such other matters related to this Lease as such Leasehold Lender may reasonably determine from time to time.

(1) <u>No Merger</u>. There shall be no merger of this Lease or any interest in this Lease or of the interests in and to the Leased Premises created thereby with the fee estate in the Leased Premises, by reason of the fact that this Lease or such interest therein, may be directly or indirectly held by or for the account of any person who shall hold any interest in the fee estate in the Leased Premises, nor shall there be such a merger by reason of the fact that all or any part of the interests in and to the Leased Premises created by this Lease may be conveyed or mortgaged in a leasehold mortgage, deed of trust, deed to secure debt or other equivalent instrument (as the case may be) to a mortgagee or beneficiary who shall hold any interest in the fee estate in the Leased Premises or any interest of LESSOR under this Lease.

(m) <u>LESSOR's Recognition of LESSEE</u>. LESSOR hereby recognizes LESSEE as the current tenant party to this Lease and acknowledges and agrees that LESSEE acquired its interest in this Lease and in and to the Leased Premises in accordance with the terms of this Lease.

(n) <u>Agreement to Amend</u>. LESSOR recognizes the importance of LESSEE's ability to obtain Leasehold Mortgages, and that the provisions of this Lease may be subject to the approval of a Leasehold Lender. If any Leasehold Lender should require, as a condition to such financing, any reasonable modifications of this Lease, whether for purposes of clarifying the provisions of this Lease or to include provisions then customary for leasehold financing transactions, LESSOR agrees to execute the appropriate amendments to this Lease; provided, however, that no such modification shall, to the detriment of LESSOR, impair any of LESSOR's rights, as reasonably determined by LESSOR or increase any of LESSOR's obligations, as reasonably determined by LESSOR, under this Lease.

(o) <u>*Third-Party Beneficiary*</u>. Notwithstanding anything to the contrary in this Lease, each Leasehold Lender shall be a third-party beneficiary solely and exclusively with respect to the provisions of this <u>Section 17</u>. There are no other third-party beneficiaries to this Lease.

(p) <u>Subordination of LESSOR's Lien.</u> LESSOR hereby subordinates any lien or privilege it may have on any movables found from time to time in or upon the Leased Premises, including without limitation, LESSOR's privileges pursuant to La. Civil Code Articles 2707, *et seq.*, to any Leasehold Lender's rights under this <u>Section 17</u> and the lien of any Leasehold Mortgage.

(q) <u>Letter of Credit</u>. LESSOR's right to draw on the Letter of Credit in accordance with <u>Section 18</u> below if LESSEE is in default under this Lease beyond applicable notice and cure periods shall not be limited by anything in this <u>Section 17</u>, even if the Leasehold Lender issues the Letter of Credit.

(r) <u>No Waiver</u>. Neither acceptance of Rent by LESSOR nor failure by LESSOR to complain of any action, non-action or default of LESSEE, whether singular or repetitive, shall constitute a waiver of any of LESSOR's rights hereunder. Waiver by LESSOR of any right pertaining to any default of LESSEE shall not constitute a waiver of any right for either a subsequent default of the same obligation or any other default. No act or thing done by LESSOR or LESSOR's agents shall be deemed to be acceptance of surrender of the Leased Premises and no agreement to accept a surrender of the Leased Premises shall be valid unless it is in writing and signed by LESSOR.

Parent Company Guaranty or Credit Support. Liquefied Natural Gas, Limited has 18. executed this Lease below to guaranty, in full, all the obligations of LESSOR in favor of LESSOR in respect of LESSEE's obligations under this Lease. However, LESSEE shall be entitled, at any time on or after the Lease Commencement Date, to deliver to LESSOR (i) an irrevocable stand-by letter of credit in the form of Exhibit C, naming LESSOR as beneficiary, in an amount equal to the Required Amount as of such time, and issued by a Creditworthy Bank (a "Letter of Credit") or (ii) one or more replacement guarantees from Affiliates of LESSEE acceptable to LESSOR. If LESSEE delivers a Letter of Credit to LESSOR or such replacement guarantee, LESSOR shall execute a written termination and release of all of the obligations of Liquefied Natural Gas, Limited under its guaranty as soon as practicable (but, in any event within ten (10) calendar days) after LESSOR's receipt of the Letter of Credit or such replacement guarantee. LESSOR shall have the right to draw down on or collect against the Letter of Credit upon LESSOR's demand in the event that LESSEE has breached any of its obligations under this Lease and such breach has not been cured within the applicable cure period set forth in Section 12(a) in an amount not exceeding the LESSOR's damages for such breach. LESSOR shall not draw an amount on the Letter of Credit that is greater than the then outstanding unpaid amount that is the subject of such breach, and all amounts drawn under the Letter of Credit shall be deemed applied to such outstanding unpaid amount. If at any time, the amount available for drawing under a Letter of Credit exceeds the Required Amount at such time, then provided that LESSEE is not then in default beyond applicable notice and cure periods, LESSEE shall be entitled to reduce the available amount of the Letter of Credit to an amount at least equal to the Required Amount by submitting to the issuing bank a certificate in the applicable form attached to the Letter of Credit jointly signed by LESSEE and LESSOR, and LESSOR shall promptly execute such a certificate tendered by LESSEE if the foregoing condition to such reduction has been satisfied. If Lessee delivers a Letter of Credit and such Letter of Credit has a term that expires prior to the Expiration Date, then LESSEE shall, not less than forty five (45) calendar days prior to the expiring Letter of Credit's expiration date, deliver

a replacement Letter of Credit that is in an amount equal to the Required Amount or one or more guarantees from Affiliates of LESSEE acceptable to LESSOR and which, in each case, is effective on or before the expiration date of the expiring Letter of Credit. If LESSEE fails to deliver a replacement Letter of Credit not less than thirst (30) calendar days prior to the Expiration Date of the expiring Letter of Credit, then LESSOR may draw the entire balance of the expiring Letter of Credit and hold those funds as security to set off against any and all amounts owed or to be owed by LESSEE to LESSOR under this Lease, and LESSOR shall return any such funds not applied to amounts owed by LESSEE in the event that LESSEE provides a replacement Letter of Credit or replacement guarantee in accordance with the foregoing. In this Lease, "Creditworthy Bank" means a commercial bank having at the applicable time a senior unsecured and un-credit-enhanced long term debt rating of: (a) A- or better from Standard & Poor's Corporation (or any successor rating agency thereof); or (b) A3 or better from Moody's Investor Services, Inc. (or any successor rating agency thereof). In this Lease, "Required Amount" means, as of any date in any Contract Year, the amount opposite such Contract Year in Exhibit D. Any assignee of LESSEE shall be obligated to provide replacement credit support in accordance with this Section 18.

19. **Subleasing**. LESSEE shall have the right to sublease any or all of the Leased Premises, subject to the written consent of LESSOR, which consent shall not be unreasonably withheld, conditioned or delayed by LESSOR, provided that LESSEE is not in default beyond applicable notice and cure periods under this Lease. Unless specifically agreed and consented to by LESSOR, no such subleasing shall relieve LESSEE of LESSEE's obligations hereunder. In the event that LESSEE enters into any such sublease, at the request of the sublessee, LESSOR shall enter into a direct agreement with such sublessee, (a) providing that if this Lease is cancelled or terminated, LESSOR shall enter into a direct New Lease with such sublessee for the balance of the term of this Lease and otherwise on substantially the same terms and conditions as this Lease, and (b) containing lender provisions substantially similar to those set forth in <u>Section 17</u>.

20. **Memorandum**. At LESSEE's option, LESSOR and LESSEE shall each execute and have acknowledged a memorandum of this Lease as of the Lease Commencement Date, and LESSEE shall cause the executed and acknowledged memorandum to be recorded in the Official Records.

21. Authority. Each party to this Lease represents and warrants to each other party to this Lease that (a) the representing party has the unrestricted right, power and authority to execute, deliver and perform this Lease and to enter into this Lease as contemplated hereunder, (b) the person signing this Lease on behalf of the representing party is authorized to do so, (c) the representing party has taken all governmental (in the case of any party that is a public entity) or company (in the case of any party that is a private entity) actions necessary to authorize the execution, delivery and performance of this Lease, (d) the performance by the representing party of its duties, obligations and responsibilities under this Lease will not violate or constitute a default under the terms and provisions of its charter, articles of organization or operation agreement, any applicable law, or any material agreement, document or instrument to which it is a party or by which it or the Leased Premises are bound or affected, (e) no further consent of any performance of this Lease, (f) when signed by the representing party's execution, delivery or performance of this Lease, is against such party in accordance with its terms (except
as such enforcement may be limited by the effect of bankruptcy, insolvency, reorganization, receivership, conservatorship, moratorium or other applicable laws relating to the rights of creditors generally, or the rules governing the availability of specific performance, injunctive relief or other equitable remedies and general principles of equity, regardless of whether considered a proceeding in equity or at law). The District further represents and warrants to LESSEE that it is not immune from suit or judgment resulting from any claim or action brought against it by the LESSEE pursuant to the express terms of this Lease.

22. **Governing Law and Venue**. This Lease shall be governed by and interpreted in accordance with the laws of the State of Louisiana, excluding conflicts of laws principles. If the parties are unable to resolve amicably any dispute arising out of or in connection with this Lease, they agree that, if permitted under applicable laws, such dispute shall be resolved in the state or federal courts located in Lake Charles, Louisiana

23. Alternative Dispute Resolution.

(a) <u>Executive Officers Meetings</u>. As a condition precedent to instituting any lawsuit relating to any claim, controversy or dispute arising under this Lease (a "<u>Dispute</u>"), the parties each agree to appoint an executive officer as its representative to resolve such dispute, and that such representatives must personally meet at a mutually acceptable date, time and location within fifteen (15) calendar days following the request of either party, in a good faith effort to resolve the dispute or disagreement. If such executive officer representatives cannot resolve the dispute, then each party agrees that the parties' chief executive officers shall similarly meet personally at a mutually acceptable date, time and location within fifteen (15) calendar days following the request of either party of representatives, in a good faith effort to resolve the dispute or disagreement. Failure of either party to timely attend such meeting shall constitute a breach of this Lease and, in such event, the condition precedent to initiating any litigation shall be deemed satisfied or waived.

24. Entire Lease. This Lease constitutes the entire agreement between LESSOR and LESSEE respecting the subject matter of this Lease. Any agreement, understanding or representation respecting the Leased Premises, this Lease, or any other matter referenced herein not expressly set forth in this Lease or a subsequent writing signed by both parties is null and void. This Lease shall not be modified or amended except in a writing signed by both parties. No purported modifications or amendments, including without limitation any oral agreement (even if supported by new consideration), course of conduct or absence of a response to a unilateral communication, shall be binding on either party.

25. **Counterpart Signatures**. This Agreement may be executed with counterpart signature pages and in duplicate originals, each of which shall be deemed an original, and all of which together shall constitute a single instrument.

26. **26.** Force Majeure. In the event that LESSEE shall be delayed or hindered in or prevented from the performance of any act required hereunder (other than payment of Base Rent or Additional Rent) by reason of any event that is outside the reasonable control of LESSEE, including, but not limited to, strikes, lock-outs, labor troubles, inability to procure materials, failure of power, restrictive governmental laws or regulations, changes in governmental laws or

regulations, delay in obtaining permits beyond the time periods for obtaining permits that existed as of the Lease Commencement Date (provided that such delay did not result from failure of LESSEE to comply with the clear requirements of the permitting office), riots, insurrection, civil unrest, war, terrorist act, act of a public enemy, sabotage, blockade, embargo, hurricane, fire, flood, tornado, earthquake, storm, lightning, washout, explosion, or other reason of a like nature not the fault of the party delayed in performing work or doing acts required under the terms of this Lease ("Force Majeure Event"), then performance of such act shall be excused temporarily but shall accrue during the period of the delay and the period for the performance of any such act shall be extended for a period equivalent to the period of such delay. The provisions of this Section 26 shall not relieve LESSEE of any of its other obligations hereunder nor operate to excuse LESSEE from prompt payment of all Base Rent or Additional Rent. Notwithstanding anything to the contrary contained in this Lease, in the event of a Force Majeure Event, the prolonged effects of which prevent the commercially reasonable use of the Leased Premises or the Facilities (or the construction or reconstruction of the Facilities following a casualty or Force Majeure Event), for more than twelve (12) consecutive months, then LESSEE shall have the right to terminate this Lease by giving notice to LESSOR. Relationship of Parties. Nothing contained in this Lease and no course of dealing between the parties shall be construed so as to constitute a joint venture or partnership between LESSOR and LESSEE.

27. **Successors.** The covenants, agreements, terms, provisions and conditions contained in this Lease shall apply to and inure to the benefit of and be binding upon the LESSOR and the LESSEE and their respective successors and assigns, and shall be construed as covenants running the respective interests of the parties hereto.

28. Severability. If any term or provision of this Lease is found to be invalid, illegal or unenforceable, the remaining terms and provisions hereof will not be affected thereby; and each term and provision hereof will be valid and enforceable to the fullest extent permitted by law.

29. **Headings.** The captions, section numbers and paragraph numbers appearing in this Lease are inserted only as a matter of convenience and in no way define, amplify, limit, construe or describe the scope or interest of any section of this Lease.

30. Intentionally omitted.

31. **No Waiver.** The failure of either party to exercise any power given to it hereunder, or to insist upon strict performance of any one or more of the obligations under this Lease, or to exercise any election contained in this Lease, shall not be construed as a waiver or relinquishment of the right to demand strict compliance with the terms hereof for the future performance of the terms and conditions of this Lease or of the right to exercise such election.

[Signatures on following pages]

, 2013.
LAKE CHARLES HARBOR AND TERMINAL District
By:
MAGNOLIA LNG, LLC By: Name:
Title:
Liquefied Natural Gas, Limited By: Name:

Title:

STATE OF LOUISIANA

PARISH OF _____ :

On this ______day of ______, 2013, before me appeared William J. Rase, III, to me personally known, who, being by me duly sworn, did say that he is the Executive Director for LAKE CHARLES HARBOR AND TERMINAL District, and that the foregoing instrument was signed in behalf of said entity by authority of its Board of Commissioners, and said appearer acknowledged said instrument to be the free act and deed of said entity.

2

PUBLIC

STATE OF	3

COUNTY OF _____:

On ______, Notary Public, personally appeared ______, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal,

Signature _____

(Seal)

NOTARY	PUBLIC
Printed Name:	
Bar Roll/Notary No.:	
Commission Expires:	

Exhibit A

Legal Description of Leased Premises

Exhibit B

Corps letter - Dated January 25, 1994



DEPARTMENT OF THE ARMY

NEW ORLEANS DISTRICT CORPS OF ENGINEERS P.O. BOX 60267 NEW ORLEANS. LOUISIANA 70160-0267 January 25, 1994

REPLY TO ATTENTION OF:

Operations and Readiness Division Surveillance and Enforcement Section

Mr. Ulysses J. de St. Germain, Jr. Lake Charles Harbor & Terminal District Post Office Box AAA Lake Charles, Louisiana 70620-0AAA

Dear Mr. de St. Germain:

This is with reference to your letter of December 30, 1993, raising several questions regarding the Industrial Canal South Shore, (Devil's Elbow) area in Calcasieu Parish, Louisiana, as indicated on the attached map.

In response to the various points you raised, we have the following comments:

1. Is the site currently a designated Corps spoil disposal area with easements in effect? While it is true that the Corps did utilize this area for spoil disposal previously, we now have no need for further deposition there. We are currently making use of other sites for spoil disposal. The Corps has no spoil disposal easements on this site.

2. Do official jurisdictional determinations exist for the site other than for the extreme western end which is presently leased to the Marine Spill Response Corporation (MSRC)? Our letter of October 6, 1993, authorizing the installation of additional culverts, the excavation and improvement of existing drainage ditches, and the grading of surface undulations for tractor access without a permit under either Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act of 1899 is in effect a determination that jurisdictional wetlands do not occur on the site except for the extreme western end which is presently leased to the MSRC, and for which a permit has been issued.

3. Do permits exist for work at the site other than that obtained by the MSRC? A search of our files reveals that the only permit that has been issued for this site is the one to the MSRC.

Should you have any questions regarding this matter, please contact Thom Davidson at the above address or by phone at (504) 862-2270.

Sincerely Ronald J. Ventol

Chief, Regulatory Functions Branch





Enclosure



December 30, 1993

U.S. Army Corps of Engineers Permits Section P.O. Box 60267 New Orleans, LA 70160

ATTN: Mr. Ronald Ventola

RE: Industrial Canal South Shore (Devil's Elbow)

Dear Mr. Ventola,

This letter is to acknowledge your letter of October 6, 1993 (copy attached) which indicated a permit was not required for various improvements at the above subject site. Since receiving your letter, several issues have surfaced which the District feels require clarification.

The Industrial Canal was dredged a number of years ago and has been maintained by the Corps. The District's files contain limited information about the project in general and particularly as it relates to the site in question. The site has been used in the past as a spoil disposal area and the eastern end was to be a Navy home port prior to the Base Closure and Realignment Act of 1988. However, it is not clear if the site is currently a designated disposal area or if any easements for this use are still in effect.

The majority of the site has been filled 20 to 30 feet with spoil material above its original elevation of +10 MSL. However, our records do not indicate if a wetland delineation has been made to determine if the site and/or any portions thereof are jurisdictional wetlands with the exception of the extreme western end which was recently leased to the Marine Spill Response Corporation (MSRC). This portion of the site was at or near its original average elevation of +10 MSL and was considered a jurisdictional wetland.

The District is in the process of reviewing its long term development options for various properties. Major considerations include past uses, present permitted uses, proposed uses and regulatory constraints that would be associated with developing the properties. Based thereon, any historical file information you could furnish on this site which would clarify the above concerns would be most helpful.



Lake Charles Harbor & Terminal District

Post Office Box AAA lake Charles, LA 70602 Phone 318-439-3661 facsimile 318-493-3523

Ulysses J. de St. Germain, Jr. Executive Director U. S. Army Corps of Engineers Page 2 December 30, 1993

Please advise if the site, as shown on the attached drawing, has any areas other than the MSRC area which would be considered jurisdictional wetlands under Section 404 of the Clean Water Act. Additionally, please advise whether or not the site is a dedicated spoil area and if so, whether the Corps would consider releasing the dedication.

Please advise if you have any questions or require any additional information.

Sincerely,

Ulysses J. de St. Germain, Jr.

USG:lsm

Attachment







NEW ORLEANS DISTRICT, CORPS OF ENGINEERS P.O. BOX 60267 NEW ORLEANS, LOUISIANA 70160-0267

REPLY TO ATTENTION OF

October 6, 1993

Operations & Readiness Division Surveillance & Enforcement Section

Mr. John Polansky Lake Charles Harbon & Terminal Post Office Box AAA Lake Charles, Louisiana 70602-0AAA

Dear Mr. Polansky:

This is in regard to your letter of July 14, 1993, requesting a jurisdictional determination for your project to install additional culverts, excavate and improve existing ditches and grade undulations for tractor access in the spoil disposal area indicated on the attached map of the Industrial Canal, South Shore of the Lake Charles Harbor and Terminal District in Calcasieu Parish, Louisiana.

We have reviewed the information you have provided regarding this project, and have determined that no permit from the U.S. Army Corps of Engineers under either Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act of 1899 is required for this work.

This determination is only applicable to the permit program administered by the Corps of Engineers. It does not eliminate the need to obtain other Federal, state or local approvals before beginning the work.

Should you have any questions regarding this matter, please contact Thom Davidson at (504) 862-2270.

Sincerely. Ronald J.

Ronald J. Ventol

Enclosure







July 14, 1993

U. S. Army Corps of Engineers Permits Section P. O. Box 60267 New Orleans, LA 70160

Attn: Mr. Ronald Ventola

RE: Maintenance of Dredged Material Disposal Area

Dear Mr. Ventola:

This letter is to provide you with the planned scope of maintenance of the dredged material disposal area on the south shore of the Industrial Canal (Devil's Elbow) and to request guidance relative to permit requirements for the planned activity.

As shown on the attached drawing, the site was used for disposal of dredged material from the Industrial Canal with an average elevation of +30 MSL. It was to be one of the Navy's home port facilities prior to the Base Closure and Realignment Act of 1988. The subsequent closure of the facility has resulted in the maintenance of the area resting with the District.

The District has previously received approval from your office to construct and maintain access roads around the perimeter of the site. These roads were constructed on top of the perimeter levee which was constructed at an elevation approximately two (2) feet higher than the surface of the dredged material. Due to this elevation differential, the site held water and, according to Parish officials, added significantly to the mosquito population. The construction of the roads and the associated drainage improvements have significantly reduced the amount of standing water which has eliminated most large breeding areas. Regular mowing of accessible areas has aided the growth of ground cover which has reduced surface cracking and eliminated additional breeding areas.



Lake Charles Harbor & Terminal District

Post Office Box AAA Lake Charles, LA 70602 Phone 318-439-3661 Telex 502449 Portlkchas Facsimile 318-493-3523 Mr. Ronald Ventola U. S. Army Corps of Engineers Page 2 July 14, 1993

In addition to the above, the underlying dredged material has a high moisture content and in some areas is unstable. Based upon this condition, the District is concerned about the integrity of sections of the perimeter levee. Regular mowing of the levee slopes has aided the growth of ground cover which has reduced sloped erosion. However, slope erosion has been experienced at several drainage outfalls. To eliminate the erosion, additional drainage culverts through the levee and interconnecting drainage ditches are necessary to reduce the volume of water flowing through any one culvert. This work, along with some minor grading, will improve the site so that it can be mowed and properly drained.

Based upon the foregoing and as discussed with Mr. Serio, the following specific items of work are planned.

- 1. Install additional culverts through the perimeter levee.
- 2. Excavate new ditches and improve existing ditches to interconnect the culverts and balance flow rates.
- 3. Grade undulations at localized impassable areas to the extent necessary to enable access for tractor mounted mowers.

Please advise at your earliest convenience if any permits will be necessary for this work or of any other limitations.

Sincerply, Jøhn Polansky Director of Maintenance

JP:1sm

Attachment CC: Mr. Ulysses J. de St. Germain, Jr. Executive Director

> Mr. Michael K. Dees General Counsel







DEPARTMENT OF THE ARMY

NEW ORLEANS DISTRICT, CORPS OF ENGINEERS P.O. BOX 60267 NEW ORLEANS, LOUISIANA 70160-0267 APR I 0 1992

REPLY TO ATTENTION OF:

March 31, 1992

Operations & Readiness Division Surveillance & Enforcement Section

Mr. Charles W. Stutes Meyer and Associates "Post Office Box 2149 Sulphur, Louisiana 70664-2149

Dear Mr. Stutes:

This is in regard to your letter of March 13, 1992, concerning the proposed project of your client, the Lake Charles Harbor and Terminal District, to make roadway improvements to existing access roads located along the south property line of the site. We understand that Phase I improvements will generally consist of earthwork necessary to provide a suitable alignment and grade within acceptable design standards, placement of geotextile fabric, a stone base course and PCC pavement. Phase II improvements will generally consist of a minimal grading and leveling, placement of geotextile fabric, and placement of a limestone surface course.

Based on a review of the information you have provided, we have determined that no permit is required from the US Army Corps of Engineers for the work your client proposes.

This determination is only applicable to the permit program administered by the Corps of Engineers. It does not eliminate the need to obtain other Federal, state or local approvals before beginning the work.

Should you have any questions regarding this matter, please contact Dr. Thom Davidson at (504) 862-2270.

Sindaralv

Chief, Regulatory Functions Branch Operations and Readiness Division

Meyer and Associates, Inc. Engineers • Planners



Vernon F. Meyer, P.E. President Richard T. Meyer, P.E. Vice-President

March 13, 1992

U. S. Army Corps of Engineers Post Office Box 60267 New Orleans, LA 70160-0267

ATTENTION: MR. RONALD J. VENTOLA, CHIEF REGULATORY FUNCTIONS BRANCH OPERATIONS READINESS DIVISION

Re: Lake Charles Harbor and Terminal District Access Roadway at Industrial Canal South Shore, Phase I and II PLC No. 91-CIP-37 and 38 MA Project No. 4-10113, 4-10123

Gentlemen:

This letter is to advise you of additional planned improvements at the Industrial Canal South Shore and request review and approval of the work described herein. On January 21, 1992, Mr. John Polansky, Director of Maintenance at the Lake Charles Harbor and Terminal District, forwarded a letter to your office advising you of work proposed at the site. On January 27, 1992, your office provided written confirmation that no Corps permit was necessary for the required work. As consulting engineers for the Lake Charles Harbor and Terminal District, Meyer and Associates, Inc. have prepared plans for additional roadway improvements to the existing access roads located along the south property line of the site. Provided herewith is a site plan and typical sections of the proposed roadway improvements.

Roadway improvements will consist of two phases.

Phase I improvements (parallel to existing Navy limestone access road) will generally consist of earthwork necessary to provide a suitable alignment and grade within acceptable design standards, placement of geotextile fabric, stone base course and PCC pavement. Ditches and culverts along the roadway will be constructed to provide required roadway drainage.

Phase II improvements (parallel to existing unsurfaced access road) will generally consist of a minimal grading and leveling, placement of geotextile fabric, and placement of limestone surface course. Ditches and culverts will be constructed to provide required roadway drainage.

March 13, 1992 4-10113/4-10123 (#63) Meyer and Associates, Inc.

U. S. Army, Corps of Engineers March 13, 1992 Page Two

.....

Any excess materials will be deposited and spread along the existing perimeter levee slopes.

Please advise our office of you determination at your earliest opportunity. If you have any questions, please advise.

Yours very truly,

MEYER AND ASSOCIATES, INC.

Charles W. Stutes, P. E.

CWS:tb cc: Mr. John Polansky, Jr.



March 13, 1992 4-10113/4-10123 (#63) Meyer and Associates, Inc.









DEPARTMENT OF THE ARMY

NEW ORLEANS DISTRICT, CORPS OF ENGINEERS P.O. BOX 60267 NEW ORLEANS, LOUISIANA 70160-0267

REPLY TO ATTENTION OF:

January 27, 1991

Operations & Readiness Division Surveillance & Enforcement Section

Mr. John Polansky, Jr. Lake Charles Harbor & Terminal District Post Office Box AAA Lake Charles, Louisiana 70602-0AAA

Ea

Dear Mr. Polansky:

This is in regard to your letter of January 21, 1992, concerning your proposed project for access improvements at the Industrial Canal South Shore which you identify as Project No. 91-011. We understand the project to involve minor grading of the existing containment levees to remove ruts and other surface irregularities, the placement of geotextile fabric, and the placement and compaction of crushed limestone. Culverts will be placed to provide adequate drainage a various locations.

Based on a review of the information you have provided, we have determined that this work does not involve depositing fill in a wetland as you have designed it, therefore, it will not require a permit from the U.S. Army Corps of Engineers.

This determination is only applicable to the permit program administered by the Corps of Engineers. It does not eliminate the need to obtain other Federal, state or local approvals before beginning the work.

Should you have any questions regarding this matter, please contact Dr. Thom Davidson at (504) 862-2270.

Sincerely,

Ronald J. Ventola Chief, Regulatory Functions Branch Operations and Readiness Division



January 21, 1992

U. S. Army Corps of Engineers P. O. Box 60267 New Orleans, LA 70160-0267

Attention: Mr. Ronald J. Ventola Chief, Regulatory Functions Branch Operations & Readiness Division

> Re: Access Improvements at the Industrial Canal South Shore Project No. 91-011 Perimeter Access Boad - ICSS

Gentlemen:

This letter is to advise you of planned access improvements at the ICSS and to request approval of the work described herein and on the attached drawing. The work includes minor grading of the existing containment levees to remove ruts and other surface irregularities; placement of geotextile fabric; and placement and compaction of crushed limestone. Culverts will also be placed to provide drainage at various locations.

Earth work will be confined to the perimeter of the site and does not include placement of any fill material other than surfacing aggregate. Any excavated materials will be deposited and spread along the existing levee slopes.

Please advise this office of your determination at your earliest opportunity.

Sincerely John Polansky, Jr P.E. John Polansky, Jr. P.E. Director of Maintenance

JP:hd

Attachment

.ake Charles Iarbor & Terminal District

ost Office Box AAA oke Charles, LA 70602 hane 318-439-3661 elex 502449 Portikchas acsimile 318-493-3523



Exhibit C

Form of Letter of Credit

Date: [INSERT DATE]

IRREVOCABLE STANDBY LETTER OF CREDIT NUMBER: [INSERT LETTER OF CREDIT NUMBER]

BENEFICIARY	APPLICANT
[LAKE CHARLES HARBOR AND	[CAMMERON LNG, LLC]
TERMINAL District]	[ADDRESS]
_	
[ADDRESS]	
	AMOUNT
USD \$[AMOUNT IN NUMBERS]	
	[AMOUNT IN WORDS] US Dollars
	EXPIRATION DATE:
	[INSERT DATE] at our counter

We, [NAME OF ISSUING BANK], hereby establish our Irrevocable Standby Letter of Credit No. [INSERT LETTER OF CREDIT NUMBER] (this "Letter of Credit") for account of [NAME OF APPLICANT] in favor of LAKE CHARLES HARBOR AND TERMINAL District (the "Beneficiary") for an aggregate amount of USD [AMOUNT IN NUMBER AND WORDS] (THE "L/C Amount").

The L/C Amount is available for one or more drawings under this Letter of Credit by presentation by the Beneficiary to us of a demand for a payment under this Letter of Credit in the form of the Schedule I to this Letter of Credit (a "Demand").

Each Demand under this Letter of Credit is presentable at our office at:



Subject to the terms of this Letter of Credit, we unconditionally and irrevocably undertake to the Beneficiary that, within ten (10) calendar days of receipt by us of a Demand, we shall pay to the Beneficiary the amount demanded in that Demand, provided that we shall not be obliged to make a payment under this Letter of Credit if as a result the aggregate of all payments made by us under this Letter of Credit would exceed the L/C Amount. Payment of a Demand under this Letter of Credit will be made by wire transfer of immediately federal funds to such account as Beneficiary may designate in the Demand. As used in this Letter of Credit the term "Business Day" means a day other than a Saturday, Sunday or any other day on which banking institutions in the state of [New York] are authorized or required by law to close.

Upon our receipt of a reduction notice (a "Reduction Notice") in the form of Schedule II to this Letter of Credit, the L/C Amount shall be permanently reduced by the amount stated in such Reduction Notice.

All bank charges, including, but not limited to, fees or commissions shall be for the account of Applicant.

We hereby undertake that we will not modify, revoke or terminate this Letter of Credit without the Beneficiary's written consent.

We will be released from our obligations under this Letter of Credit on the date (if any) notified by the Beneficiary to us as the date upon which our obligations under this Letter of Credit are released. Unless previously released under the immediately preceding sentence, on [INSERT DATE] [a.m/p.m.] [INSERT TIME ZONE] on [INSERT EXPIRATION DATE], our obligations under this Letter of Credit will cease with no further liability on our part except for any Demand validly presented under the Letter of Credit that remains unpaid; provided, however, that this Letter of Credit shall be deemed to have been automatically extended without amendment for an additional twelve (12) month period from such expiration date, and, thereafter, annually, from the then current expiration date unless we have notified the Beneficiary in writing at least sixty (60) calendar days prior to the then current expiration date that this Letter of Credit will not be extended; provided further that, in the event of an act of God, riot, civil commotion, insurrection, war or any other causes beyond our control that interrupts our business (collectively a "Force Majeure Event") and causes the place for presentation of Demands under this Letter of Credit to be closed for business on the then current expiration date of this Letter of Credit, then such expiration date of this Letter of Credit will be automatically extended without amendment to the thirtieth calendar day after the date on which the place for presentation reopens for business.

This Letter of Credit shall be surrendered to us promptly after its expiration.

This Letter of Credit shall be governed by, and construed in accordance with, the terms of the Uniform Customs and Practice for Documentary Credits (2007 Revision), International Chamber of Commerce Publication No. 600 (the "Uniform Customs"), except to the extent that the terms hereof are inconsistent with the Uniform Customs. As to matters not governed by the Uniform Customs, this Letter of Credit shall be governed by and construed in accordance with the laws of the State of New York, including, without limitation, the Uniform Commercial Code as in effect in the State of New York. This Letter of Credit sets forth in full the terms of our undertaking, and such undertaking shall not be modified, annulled or amplified by reference to any other document, instrument or agreement referred to herein or to which the Letter of Credit relates, and such reference shall not be deemed to incorporate herein by reference any document, instrument or agreement, except for the Uniform Customs.

Communications with respect to this Letter of Credit shall be in writing and shall be addressed to us at [ADDRESS], specifically referring to the number of this Letter of Credit.

Authorized Signature

Authorized Signature

SCHEDULE I (FORM OF L/C DEMAND) TO LETTER OF CREDIT

To: [ISSUING BANK]

Date: [Date]

Dear Sirs,

We refer to your IRREVOCABLE STANDBY LETTER OF CREDIT NUMBER [INSERT LETTER OF CREDIT NUMBER] (the "Letter of Credit"). Terms used in herein have the meaning as defined in the Letter of Credit. This is a Demand under the Letter of Credit.

1. Pursuant to the Letter of Credit, demand is hereby made for payment of the sum of [INSERT IN WORDS] ([INSERT IN NUMBERS]).

2. Payment should be made to the following account:

[INSERT ACCOUNT INFORMATION]

3. The date of this Demand is not later than the expiration date of the Letter of Credit.

Yours faithfully,

[]

(Authorized Signatory)

For

[BENEFICIARY]

SCHEDULE II (FORM OF REDUCTION NOTICE) TO LETTER OF CREDIT

To: [ISSUING BANK]

Date: [Date]

Dear Sirs,

We refer to your IRREVOCABLE STANDBY LETTER OF CREDIT NUMBER [INSERT LETTER OF CREDIT NUMBER] (the "Letter of Credit"). Terms used in herein have the meaning as defined in the Letter of Credit. This is a Reduction Notice under the Letter of Credit.

With effect from the date of this Reduction Notice, the L/C Amount is reduced by [INSERT WORDS] ([INSERT NUMBERS]).

Yours faithfully,

[]

(Authorized Signatory)

For

[BENEFICIARY]

[]

(Authorized Signatory)

For

[APPLICANT]

Exhibit D

Required Amount

Contract Year	Required Amount
Any Contract Year ending on or before May 31, 2019	\$22,500,000
Any Contract Year commencing on or after June 1, 2019 and ending on or before May 31, 2024	\$18,750,000
Any Contract Year commencing on or after June 1, 2024 and ending on or before May 31, 2029	\$15,000,000
Any Contract Year commencing on or after June 1, 2029	\$11,250,000

EXHIBIT 1

Legal Description of Project Site

PROJECT SITE DESCRIPTION

(Morrison Survey is verifying total acres. District is fine with leasing maximum available acres. The east property line of area leased to BG and DII needs to be determined, verified and checked. This may be causing the difference between 90 acres and over 100 acres.)



EXHIBIT 2

Form of [Option Notice] or [Exercise of Right to Extend Option]

[Date]

Lake Charles Harbor & Terminal District 751 Bayou Pines East, Suite P Lake Charles, LA 70601 Attention: President

Re: [Exercise of Option] [Extension of Option]

Dear Ladies and Gentlemen:

Reference is made to that certain Real Estate Lease Option Agreement dated as of ______, 2013 (the "<u>Option Agreement</u>") by and between Magnolia LNG, LLC, a Delaware limited liability company ("<u>PROJECT COMPANY</u>"), and the Lake Charles Harbor & Terminal District, a political subdivision of the State of Louisiana, (the "<u>DISTRICT</u>"). All capitalized terms used in this letter shall have the meanings ascribed thereto in the Option Agreement.

This letter shall serve as written notice by PROJECT COMPANY to the DISTRICT under the Option Agreement of PROJECT COMPANY's intention to [exercise its Option under the Option Agreement to enter into the Ground Lease for the Project Site] [extend the Option Agreement for the ______ Extended Option Period].

No further action is required by the DISTRICT in order for PROJECT COMPANY's [exercise of its Option] [extend the Option Agreement for the ______ Extended Option Period] to be effective and upon delivery of this letter to the DISTRICT, PROJECT COMPANY shall be deemed to have [exercised its Option under the Option Agreement] [extended the Option Agreement for the ______ Extended Option Period].

Very truly yours, Magnolia LNG, LLC

By:____

Its duly authorized signatory

cc: Executive Director
 Lake Charles Harbor & Terminal District
 751 Bayou Pines East, Suite P
 Lake Charles, LA 70601

Michael K. Dees Lake Charles Harbor & Terminal District 751 Bayou Pines East, Suite P Lake Charles, LA 70601

Exhibit 2 – Page 1

EXHIBIT C VERIFICATION

Ernie Megginson, being first duly sworn on his oath deposes and says: that he is Vice President of Magnolia LNG, LLC; that he is duly authorized to make this Verification; that he has read the foregoing application and is familiar with the contents therein; 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 this application with the United States Department of Energy.

hegginR

Ernie Megginson Vice President

EXHIBIT D OPINION OF COUNSEL

(See attached)


K&L GATES LLP 1601 K STREET, N.W. WASHINGTON, DC 20006-1600 T 202.778.9000 F 202.778.9100

> David L. Wochner D 202.778.9014 F 202.778.9100 david.wochner@klgates.com

October 11, 2013

Via Email and Courier

Mr. John Anderson Office of Fuels Program, Fossil Energy U.S. Department of Energy Docket Room 3F-056, FE-50 Forrestal Building 1000 Independence Avenue, S.W. Washington, D.C. 20585

Re: Magnolia LNG, LLC FE Docket No. 13 -____-LNG Application for Long-Term Multi-Contract Authorization to Export Liquefied Natural Gas to non-Free Trade Agreement Countries

Dear Mr. Anderson:

This opinion is furnished to you pursuant to Section 590.202(c) of the Department of Energy's Regulations, 10 C.F.R. § 590.202(c) and in connection with the application of Magnolia LNG, LLC for long-term multi-contract authorization to export liquefied natural gas to non-Free Trade Agreement nations. I am counsel for Magnolia LNG, LLC, a limited liability company organized under the laws of the State of Delaware. I have reviewed and relied upon the limited liability company formation documents of Magnolia LNG, LLC and information provided to me by Magnolia LNG, LLC. Based on the foregoing, and for the purposes of the application to the Office of Fossil Energy, I am of the opinion that the proposed exports as described in the application are within the limited liability company powers of Magnolia LNG, LLC.

Respectfully submitted,

David L. Wochner, Partner Counsel for Magnolia LNG, LLC