

ORIGINAL



August 16th 2013

Mr. John Anderson  
Office of Fossil Energy (FE-34)  
U.S. Department of Energy  
1000 Independence Avenue, S.W.  
Washington, D.C. 20585

RE: In the Matter of Eos LNG LLC

FE Docket No 13- 115 -LNG  
Application for Long-Term (in excess of two years) Authorization of Export of Liquefied Natural Gas

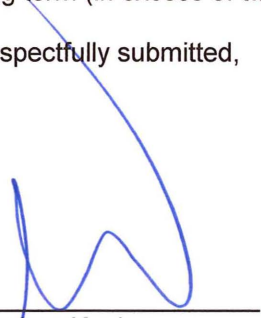
Dear Mr. Anderson:

Enclosed for filing on behalf of Eos LNG LLC ("EOS"), please find an original and three (3) copies of EOS's application for long term (in excess of two years), multi-contract authorization to engage in exports up to the equivalent of 1.6 billion cubic feet per day, or 584 billion cubic feet per year of liquefied natural gas ("LNG") via a terminals at the Port of Brownsville, Brownsville, TX. Authorization is sought for a 25 year period, to commence on the date of first export or 8 years from the date of issuance of the authorization requested by this application, whichever is sooner.

EOS proposes to export LNG from the United States to any country which has or in the future develops the capacity to import LNG via ocean-going tanker, and which has or in the future enters into a non Free Trade Agreement with the U.S. requiring national treatment for trade in natural gas or LNG. This authorization request for 1.6 Bcf/d is non-additive to Eos LNG's existing nonFTA application that is being submitted simultaneously to the DOE/FE.

EOS requests the DOE/FE issue an order pursuant to Section 3(c) of the Natural Gas Act, for long term (in excess of two years), multi-contact authorization to export LNG.

Respectfully submitted,



\_\_\_\_\_  
Stephen Kunian  
Kunian Law Office  
Attorney for  
Eos LNG LLC

UNITED STATES OF AMERICA

BEFORE THE  
DEPARTMENT OF ENERGY  
OFFICE OF FOSSIL ENERGY

In the matter of: Docket No. 13- 115 - LNG

APPLICATION OF  
EOS LNG LLC  
FOR LONG TERM (IN EXCESS OF TWO YEARS) AUTHORIZATION TO EXPORT LIQUEFIED  
NATURAL GAS TO FREE TRADE AGREEMENT COUNTRIES

Communications with respect to this  
Application should be addressed to:

Stephen Kunian, Esq.  
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Boston, MA 02116  
617-266-1194 (t)  
617-437-6495 (f)

August 12th, 2013

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

Eos LNG LLC DOCKET NO. 13- 115 -LNG

APPLICATION OF EOS LNG LLC  
FOR LONG TERM (IN EXCESS OF TWO YEARS) AUTHORIZATION  
TO EXPORT LIQUEFIED NATURAL GAS TO FREE TRADE AGREEMENT COUNTRIES

Eos LNG LLC ("EOS") requests that the Department of Energy ("DOE") Office of Fossil Energy ("FE"), grant a long term (in excess of two years), multi-contract authorization for EOS to export up to 1.6 billion cubic feet per day (Bcf/d), or 584 billion cubic feet per year (Bcf/y) of liquefied natural gas ("LNG"). Authorization is sought for a 25 year period to commence on the date of the first export or 8 years from the date of issuance of the authorization requested by this application, whichever is sooner. EOS proposes to export LNG from a floating natural gas liquefaction facility and LNG export terminal located at the Port of Brownsville in Brownsville Texas. EOS proposes to export LNG to any FTA country which has or in the future develops the capacity to import LNG, and with which trade is not prohibited by U.S. law or policy. This authorization request for 1.6 Bcf/d is non-additive to Eos LNG's existing nonFTA application that is being submitted simultaneously to the DOE/FE.

EOS is aware that the DOE/FE has completed a study to determine the total volume of LNG exports clearly within the public interest. The DOE/FE study supports the issuance of an order finding that EOS's requested export authorization is within the public interest. However, should the DOE/FE conclude that only a portion of EOS's requested authorization quantity or term is in the public interest, EOS requests authorization for that alternative quantity or term.

This application is submitted pursuant to and Section 201 of the Energy Policy Act of 1992, 590 of the Regulation of the DOE, and Section 3 of the Natural Gas Act ("NGA"). In support of this application, applicants respectfully show as follows:

## Contents

1. COMMUNICATIONS AND CORRESPONDENCE .....	5
2. DESCRIPTION OF THE APPLICANT .....	6
3. LNG EXPORT TERMINALS .....	7
4. AUTHORIZATION REQUESTED .....	9
5. SEC 590.202.2 Source and Security .....	10
6. PUBLIC INTEREST .....	12
Balance of Trade .....	15
Benefits to Local, Regional, and National Economy .....	16
Environmental Benefits .....	18
National Security Benefits .....	19
Natural Gas Demand in the U.S. ....	20
Natural Gas Prices Will Be Minimally Impacted by Export Authorization .....	21
U.S. Natural Gas Supplies and Resource Base .....	23
7. ENVIRONMENTAL IMPACT .....	25
8. REPORTING REQUIREMENTS .....	26
9. OTHER CONSIDERATIONS .....	27
10. APPENDICES .....	28
Appendix A: Opinion of Counsel .....	29
Appendix B: Verification and Certification .....	30
Appendix C: Option on Lease Contract Brownsville Navigation District .....	31
Appendix D: Site Plan for the Brownsville Navigation District .....	32
11. CONCLUSION .....	33



## **1. COMMUNICATIONS AND CORRESPONDENCE**

Correspondence and communication regarding this application should be addressed to the following:

Stephen Kunian, Esq.  
Kunian Law Office  
308 Marlborough St.  
Boston, MA 02116  
617-266-1194 (t)  
617-437-6495 (f)

## 2. DESCRIPTION OF THE APPLICANT

The exact legal name of EOS is Eos LNG LLC, a Delaware limited liability company. The principal place of business for Eos LNG is 308 Marlborough St., Boston, MA 02116. 49% of Eos LNG stock is owned by Andrew Kunian, an individual. 25.5% of Eos LNG stock is owned by Kent Strong, an individual. 25.5% of Eos LNG stock is owned by James Gadson, an individual. Due to the 51% equity stakes of Kent Strong and James Gadson, EOS qualifies as a African American minority-owned business ("MWB"). The principal executives of EOS are Kent Strong, Eza Gadson, and Andrew Kunian. Kent Strong and Eza Gadson have been awarded Masters in Business Administration from Columbia University of New York, New York and are graduates, respectively, of Princeton University of Princeton, New Jersey and Brown University of Providence, Rhode Island. Andrew Kunian has been awarded a Masters in Business Administration from the NYU Stern School of Business of New York, New York and is a graduate of Tulane University of New Orleans, Louisiana. EOS has also recruited an LNG team to manage logistics and commercial operations of the venture. This team brings many years of experience in LNG trading and shipping. EOS is strongly positioned to capitalize on the global LNG market with our executive's knowledge, experience, and connections.

### 3. LNG EXPORT TERMINALS

EOS proposes to develop, own, and operate natural gas liquefaction facility and LNG export terminal at the Port of Brownsville in Brownsville, Texas. The site will be based on using a floating liquefaction unit on a barge ("FLNG") and an existing LNG tanker (utilized solely for storage) that are anchored to a dock at the Port of Brownsville in Brownsville Texas. LNG tankers owned by 3rd parties are loaded via ship to ship transfer from EOS's LNG storage tanker and then set sail to the buyers in Europe and Asia. The FLNG is an autonomous floating structure that does not rely on any shore-based utilities to function. It is constructed in a shipyard, then towed to its designated site, where it is integrated with the gas source. Mooring and connection infrastructure requirements are minimal. The FLNG is able to tap directly into a natural gas source at the Port of Brownsville, liquefy the gas and subsequently offload the LNG to a traditional LNG tanker (utilized solely for storage). This avoids complex and costly onshore civil construction works, as well as associated environmental impact, and provides quicker time-to-market at a fraction of the cost. The FLNG unit will be moored to one of the two jetties during its natural gas liquefaction operations. Offloading of LNG into LNG tankers will be performed via the second jetty.

The jetties will include the following facilities:

- Mooring hooks, enabling the FLNG unit to be moored to the jetty by the existing mooring winches on board the LNG tanker used for storage,
- High pressure gas arms or flow lines, for transfer of gas between the jetty and the FLNG unit,
- LNG transfer arms, enabling over-the-jetty transfer of LNG from the FLNG unit to the LNG tanker,
- High voltage power cable connection for the supply of electric power to the FLNG unit's liquefaction process,
- Communication & ESD link cables for connection to the FLNG unit, designed for integration of the communication and emergency response systems.



**FLNG Unit**



EOS has selected the Black and Veatch PRICO® liquefaction technology for its FLNG unit, a process that has proved effective over 50 years of service, having produced LNG in excess of 150,000,000 tonnes. Black & Veatch has developed 27 operating LNG production facilities globally with 22 of those facilities based on the company's PRICO® LNG technology. PRICO® is an innovative process developed by Black & Veatch to liquefy natural gas, making it available for transport via ocean tanker. The process uses a Black & Veatch-patented, single-mixed refrigerant loop for natural gas liquefaction. The process provides several key advantages, including:

A simplified refrigeration system that requires minimal equipment and a compact process makes it ideal for offshore liquefaction

- Low capital and operating expenditure
- Simplified control and maintenance

EOS chose the PRICO® process worldwide because of its flexibility for LNG capacity and in feed gas composition. This flexibility is invaluable because EOS can receive natural gas from multiple sources with varying composition and conditions which is characteristic of the different types of shale gases in the Texas basins. The PRICO system provides reduced equipment count, has a smaller, more compact footprint, and is easier to operate. We wanted the FLNG to embody characteristics that would cover a broad spectrum, making it a viable, yet flexible, floating liquefaction platform.

Excelerate Liquefaction Solutions is planning on utilizing the same Black and Veatch PRICO® liquefaction system for their LNG export project that EOS plans on utilizing. The DOE granted Excelerate Liquefaction Solutions Inc an FTA export authorization on 8/19/12 via Order 3128.

Within 180 days of the DOE/FE's order approving this application, EOS will initiate the process of FERC review for authorization to site, construct and operate the terminals.



## 4. AUTHORIZATION REQUESTED

EOS requests that the DOE/FE grant a long term (in excess of two years), multi-contract authorization to export LNG from export terminals to be constructed in Brownsville Texas to any FTA country which has developed or in the future develops the capacity to import LNG, and with which trade is not prohibited by U.S. law or policy. EOS requests this authorization for up to 1.6 Bcf/d or 584 Bcf/y, of LNG, up to 14.6 Tcf (the "Export Authorization"), over a 25 year term beginning on the date of the first export or 8 years from the date of issuance of the authorization requested by this application, whichever is sooner. In the alternative, EOS requests authorization for the portion of EOS's requested authorization quantity or term that the DOE/FE determines to be in the public interest.

Rather than enter into Liquefaction Tolling Agreements ("LTA"), the business model of EOS will be to buy the natural gas at the domestic price of the Henry Hub futures contract and selling it internationally at the prevailing market rate. However, if the profitability of this model declines, EOS will maintain the option convert the business model to LTA under which individual customers who hold title to the domestic natural gas will have the right to deliver that gas to EOS's terminals at the Port of Brownsville, Brownsville Texas and receive LNG.

EOS requests long term (in excess of two years), multi-contract authorization to engage in exports of LNG on its own behalf or as agent for others. EOS contemplates that the title holder at the point of export may be EOS or one of EOS's customers, or another party that has purchased LNG from an LTA customer pursuant to a long term (in excess of two years) contract. EOS requests authorization to register each LNG title holder for whom EOS seeks to export as agent, and proposes that this registration include a written statement by the title holder acknowledging and agreeing to comply with all applicable requirements included by the DOE/FE in EOS's Export Authorization, and to include those requirements in any subsequent purchase or sale agreement entered into by that title holder. In addition to its registration of any LNG title holder for whom EOS seeks to export as agent, EOS will file under seal with the DOE/FE any relevant long term (in excess of two years) commercial agreements between EOS and such LNG title holder including LTAs, once they have been executed. The DOE/FE has previously found that this commitment conforms to the requirements of 10 C.F.R. § 590.202(b), which calls upon applicants to supply transaction information "to the extent practicable".

EOS is aware of the DOE/FE's desire to ensure that all authorized exports are permitted and lawful under U.S. laws and policies, including the rules, regulations, orders, policies and other determinations of the Office of Foreign Assets Control of the U.S. Department of the Treasury. Each of these goals of the DOE can be efficiently and fully achieved through the arrangements proposed by EOS. Whether EOS acts on its own behalf or as agent for others, all parties involved in LNG Exports under the Export Authorization will have notice of all requirements in the Export Authorization order. As a result, the DOE/FE will have each of the items of information it requires to fulfill its regulatory mandate. This approach is responsive to real world market conditions and is fully compliant with the goals and intent of requirements of the applicable the DOE regulations.

Pursuant to the National Environmental Policy Act ("NEPA"), FERC will be the lead agency for environmental review. EOS requests conditional authorization to export LNG from the Brownsville Texas terminals, pending FERC authorization to site, construct and operate it. Such conditional authorizations are routinely issued by the DOE/FE, which may review an application to determine whether a proposed authorization is in the public interest concurrent with FERC's environmental impact review. EOS therefore requests that the DOE/FE authorize the requested export of LNG produced from domestically sourced natural gas conditioned upon FERC's authorization of the Brownsville Texas terminals pursuant to NEPA.

## 5. SEC 590.202.2 Source and Security

Eos LNG has a signed option agreement with Brownsville Navigation District. Please see Appendix C for the option contract. Please see Appendix D for the site plan.

The natural gas supply underlying the proposed exports will come from the interconnected and highly liquid domestic market for natural gas. While some of the proposed export supply may be secured through long term contracts, large volumes are likely to be acquired on the spot market. Given the size and liquidity of the natural gas market in Gulf Coast region and the exponential growth of unconventional resources in the region, a diverse and reliable source of natural gas will be available to support the requested Export Authorization. Natural gas markets are especially liquid in the Gulf Coast region because several key market centers in the area have ready access to incremental gas supplies from a wide variety of sources and readily available price information. The biggest market hub in North America, the Henry Hub, is located in southern Louisiana, and the Houston Ship Channel and Katy Hub provide flexibility to natural gas shippers in Texas. EOS will be able to source the gas from these locations. Alternatively, EOS will be able to contract directly with exploration and production companies such as Chesapeake Energy, Anadarko, Devon Energy, Encana, Southwest Energy, EOG Resources, and EQT Resources.

The natural gas basins which will supply the EOS export site are the Permian, Eagle Ford, Barnett, Woodford, and Haynesville - Bossier. These natural gas basins are serviced by the following pipelines that EOS can utilize to transfer the natural gas to the Port of Brownsville:

Arkansas Western Pipeline Co  
Barnett-Texoma Pipeline  
Bossier Pipeline  
Buffalo Wallow System  
CCNG Transmission System  
Channel Industries Gas Pipeline Co  
Crosstex North Texas Pipeline  
Cypress Gas Pipeline Co  
DCP Intrastate Pipeline Co  
ET Fuel System  
ETP Katy Pipeline Co  
Enbridge Pipelines (East Texas)  
Enbridge Pipelines (Louisiana Intrastate) LLC  
Enbridge Pipelines (Palo Duro)  
Energy Transfer - Oasis Pipeline  
Enterprise Texas Pipeline LP  
Evangeline Gas Pipeline Co  
Fort Worth Basin Pipeline  
Fort Worth Basin Pipeline  
Guadalupe Pipeline Co  
Gulf Coast Pipeline System  
Hallmark Laterals System  
Houston Gas Pipeline System  
KM Rancho Pipeline  
KM Tejas Pipeline System  
Kinder Morgan Texas Pipeline Co  
Louisiana System  
MarkWest Intrastate Pipeline Co  
Oklahoma Natural Gas Co  
Red River Pipeline Co  
Southwestern Energy Pipeline Co



Tuscaloosa Pipeline Co  
Vanderbuilt Pipeline System  
Westex Pipeline Co

The Port of Brownsville is serviced by pipeline owned by Texas Gas Services, a subsidiary of ONEOK. Tulsa-based ONEOK, Inc. (NYSE:OKE), a diversified energy company. ONEOK is among the largest natural gas distributors in the United States, serving more than 2 million customers in Oklahoma, Kansas, and Texas. The company's energy services operation focuses primarily on marketing natural gas and related services throughout the U.S. ONEOK is the general partner and owns 43.4 percent of ONEOK Partners, L.P. (NYSE: OKS), one of the largest publicly traded limited partnerships, which is a leader in the gathering, processing, storage and transportation of natural gas in the U.S. and owns one of the nation's premier natural gas liquids (NGL) systems, connecting NGL supply in the Mid-Continent and Rocky Mountain regions with key market centers. ONEOK is a Fortune 500 company.

Texas Gas Service is the third largest natural gas distribution company in Texas, providing clean, reliable natural gas to more than 620,000 customers in 97 communities. Texas Gas Service provides natural gas service to customers in Austin, El Paso and Rio Grande Valley areas as well as Galveston, Port Arthur, Weatherford and several communities in the Permian Basin and the Texas panhandle. Texas Gas Service has 9600 miles of distribution mains, 603,000 customers and 680 employees.

According to the EIA, Texas is the top ranked natural gas consuming State. The EIA as says the intrastate network in Texas has experienced significant growth over the past several years as a result of increased demand for pipeline capacity caused by the rapid development and expansion of natural gas production in the Barnett Shale Formation. The Interstate Natural Gas Association of America (INGAA) projects a range of investment from \$133 to \$210 billion in infrastructure over the next 20 years (between \$6 and \$10 billion per year), primarily to attach increased domestic natural gas production from unconventional shale basins and tight sands to the existing pipeline network.

## **6. PUBLIC INTEREST**

### **A. Applicable Legal Standard**

The DOE/FE has the power to approve or deny application to export natural gas pursuant to specific authorization in Section 3 of the NGA. In this application, EOS requests authorization for export to any country which has or in the future develops the capacity to import LNG and with which is not prohibited by U.S. Law or policy. This includes countries with which the United States has a free trade agreement (FTA) requiring national treatment for trade in LNG. The DOE/FE should find authorization request by EOS to be in the public interest

Pursuant to Section 3(c) of the Natural Gas Act, as amended by Section 201 of the Energy Policy Act of 1992, applications for export to FTA countries are deemed to be in the public interest and can be granted if an environmental impact statement meets the DOE/FE requirements. To the extent this application is for the authorization to export to FTA countries, it is presumptively in the public interest. The long term (in excess of two years) multi contract Export Authorization is also compatible with the principles established by the Policy Guidelines, which promote free and open trade by minimizing federal control and involvement in energy markets, and the DOE Delegation Order No. 0204-111, which requires "consideration of the domestic need for the gas to be exported."

In applying this statute, the DOE/FE has consistently ruled that it creates a rebuttable presumption that proposed exports of natural gas are in the public interest. Unless opponents of an export license make an affirmative showing based on evidence in the record that the export would be inconsistent with the public interest, the DOE/FE must grant the export application.

In determining whether a particular application to export is within the public interest, the principal focus of the DOE/FE's review is an analysis of the domestic need for natural gas proposed to be exported, and any other factors to the extent they are shown to be relevant to a public interest determination. As discussed below, EOS's proposed exportation of domestically produced LNG serves the public interest.



## **B. Public Interest Analysis**

As a result of technological advances, huge reserves of domestic shale gas that were previously uneconomic to develop are now producing natural gas in many regions of the United States. The United States is now estimated to have more natural gas resources than it can use in a century. Large volumes of domestic shale gas reserves and continued low production costs will enable the United States to export LNG while also meeting domestic demand for natural gas for decades.

As U.S. natural gas reserves and production have risen, U.S. natural gas prices have fallen to the point where they are the lowest in the world. Asian LNG prices are indexed to crude oil prices and are generally higher than elsewhere in the world. The lack of international natural gas pipelines in the region means that from a practical standpoint the industrialized countries, including Japan, Korea, and Taiwan, are dependent upon LNG imports for their natural gas supplies. While Europe receives pipeline gas from various sources, the long supply chains and inflexibility of markets have made diversification of supply a high priority. Competitively priced LNG supplies from the U.S. will play a significant role in this diversification. Domestic natural gas prices in the U.S. are projected to remain low relative to European and Asian markets far into the future, making exports of LNG by vessel a viable long term opportunity for the United States.

EOS is positioned to provide the Gulf Coast region, and the United States with significant economic benefits by increasing domestic natural gas production. The exportation of LNG will also create a material improvement in the United States' balance of trade. These benefits will be obtained with only a minimal effect on domestic natural gas prices. At current and forecasted rates of demand, the United States' natural gas reserves will meet demand for 100 years. The requested Export Authorization will allow the U.S. to benefit now from the natural gas resources that may not otherwise be produced for many decades.

The public interest will be served by:

### **1. Supports American Energy Security:**

A. According to Shale Gas and US National Security, a report published in 2011 by the James A. Baker III Institute for Public Policy at Rice University (the "Baker Institute Report"), "full development of commercial shale gas resources in the United States will have multiple beneficial effects for U.S. energy security and national interests." The United States has developed a massive natural gas resource base that is sufficient to supply domestic demand for a century, even with significant exports of LNG. The Export Authorization will not adversely affect U.S. energy security.

B. According to The Future of Natural Gas, a report published in 2011 by the Massachusetts Institute of Technology's Energy Initiative (the "MIT Report"), "[t]he U.S. should sustain North American energy market integration and support development of a global "liquid" natural gas market with diversity of supply. A corollary is that the U.S. should not erect barriers to gas imports or exports.

C. The United States has developed a massive natural gas resource base that is sufficient to supply domestic demand for a century, even with significant exports of LNG. The Export Authorization will not adversely affect U.S. energy security.

### **2. Significant Environmental Benefits:**

A. If the projected 1.6 Bcf/d of LNG request for EOS's Export Authorization, is exported to countries that use it as a substitute for coal and fuel oil, it will significantly reduce global greenhouse emissions over the requested 25 year export term.

B. Natural gas significantly reduces total greenhouse gas emissions when used as a substitute for coal or fuel oil because it is the cleanest burning fuel.

3. Direct and Indirect Job Creation:

A. Construction Jobs: More than 4,500 onsite engineering and construction jobs will be created during the five to six year design and construction period for the Brownsville Texas terminal. Hundreds of offsite jobs will be created to support the design, fabrication and construction of these facilities.

B. Operational Jobs: The ongoing management and operation of the Brownsville Texas terminals will create more than 500 new permanent positions.

C. Indirect Job Creation: Between 9,000 and 12,000 new American jobs will be indirectly created by the increase in drilling for and production of natural gas required to support the Export Authorization.

4. Significant Economic Stimulus:

A. The total economic benefits of the Export Authorization to the American economy are estimated to be between \$5.76 billion and \$8.32 billion per year from 2018 to 2043, or \$72 billion to \$104 billion over the requested 25 year export term.

5. Material Improvement in the U.S. Balance of Trade:

A. Assuming an average value of \$5 per MMBtu, exporting 1.6 Bcf/d of LNG will improve the United States balance of payments by approximately \$2.99 billion per year, or \$74.75 billion over the requested 25 year export term.



## Balance of Trade

The Export Authorization, once approved, will increase LNG exports by \$6.4 billion per year, equivalent to 2% of the 2010 U.S. trade deficit for petroleum goods which represents a significant beneficial impact on the United States' overall balance of trade.

Increasing exports to address the United States' trade imbalance is a critical element of the U.S. Government's concerted effort to speed up the economic recovery, and granting EOS's application to export LNG is consistent with this goal. On March 11, 2010, the President created the National Export Initiative (the "NEI") by Executive Order. The purpose of the NEI is to "enhance and coordinate Federal efforts to facilitate the creation of jobs in the United States through the promotion of exports." Underpinning this policy is the fact 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." Exports, the NEI explains, "create good high paying jobs."

The Export Authorization will meaningfully impact the trade imbalance in area where trade is heavily skewed towards imports, the petroleum products sector. According to the U.S. Department of Commerce, the total U.S. trade deficit was \$500 billion in 2010. Although the United States exported a total of \$1.84 trillion in goods and services last year, it imported over \$2.34 trillion during that same period. The United States imported over \$336 billion in petroleum products in 2009, but exported a mere \$71 billion, resulting in a net trade deficit of \$265 billion for petroleum products alone. Petroleum products represent over half of America's negative balance of trade. Approval of the Export Authorization will be the most significant export and export related job creation catalysts.

As demonstrated by the NEI and other public positions taken by the U.S. Government, it is the policy of the federal government to reduce barriers to trade and to better balance trade and capital flows. Accordingly, in a prior Order authorizing a company called "FLNG Development" to re-export imported LNG, the DOE/FE expressly found that such exports would result in "mitigation of balance of payment issues to the benefit of the United States interests."

## Benefits to Local, Regional, and National Economy

The Export Authorization allows the United States to realize the economic benefits of natural gas resources that would not otherwise be realized. The Export Authorization will stimulate the local, regional, and national economies by creating jobs, growing the tax base, and increasing overall economic activity. The economic impact of the Export Authorization may phase in as the market develops for total potential LNG production. It is estimated that the Export Authorization will result in the creation of between 14,000 and 18,000 new jobs and provide a total incremental economic benefit of between \$3.5 and \$7 billion per year.

The design, engineering, and construction of the three potential export terminals will provide an immediate boost to the local and regional economies. Between 2014 and 2016, EOS estimates that over \$200 million will be spent on professional services such as engineering and legal consultants. After construction begins, which is projected to occur in 2015, total direct expenditures will exceed \$3 billion, directly creating over 4,500 onsite design and construction jobs. Hundreds of additional offsite U.S. jobs will be created indirectly by the need to support the design, fabrication, and construction of the three potential export terminals. The liquefaction facilities are expected to be phased into operation from 2015 to 2016, which will require EOS to hire a permanent staff of over 500 employees.

EOS's staffing will be dwarfed by the total number of new jobs created by the increased production of natural gas required for the Export Authorization. Producing the 1.6 Bcf/d of natural gas required for the Export Authorization will require direct expenditures of approximately \$1.0 Billion per year for exploration, drilling, and production. Assuming that 6 to 8 jobs are created for every \$1 million spent, the Export Authorization is expected to generate between 6,000 and 8,000 jobs.

Job creation will start several years before the initial production of the Export Authorization volumes in 2016, and it is reasonable to expect significant economic benefits to be realized as soon as 2014. The economic development spurred by the Export Authorization will provide substantial tax revenue to Brownsville Texas which has one of the highest unemployment rates in Texas. This will originate not only from taxes on natural gas itself but also increased economic activity related to exploration, production, and infrastructure construction. Such increased economic activity can be expected to spill over into other areas of the economy, resulting in employment and income impacts on business such as restaurants, retailers, hotels, and other services—providers, as well as providing additional resources for community services, such as health care, education, and charities. Various studies of the economic impacts of producing natural gas suggest that investment associated with the Export Authorization may enjoy multiplier effect ranging from 1.34 to 1.90.

For every dollar of direct natural gas expenditure, one can reasonably expect between \$1.34 and \$1.90 of gross economic benefit. Applying these multipliers to the estimated \$10.8 billion of annual direct expenditures required to produce the source gas, the Export Authorization is expected to generate an annual economic benefit of between \$14.4 and \$20.8 billion. By creating new demand for incremental production of natural gas, the Export Authorization will play an essential role in spurring investment and technological development throughout the exploration and production supply chain. The indirect benefits associated with the Export Authorization include high wage jobs created by the natural gas industry, royalty, and lease payments paid to landowners, an expansion of the United States' natural gas production infrastructure, and substantial additional revenue to the federal and state treasuries via increased tax revenue. This multiplier effect will create improvements across the entire domestic economy.



The economic multiplier effect is borne out in numerous studies analyzing the economic benefits of shale gas development. A study analyzing the economic impact of the Eagle Ford shale by The University of Texas at San Antonio found that since 2008, when the Eagle Ford was first discovered, Eagle Ford shale activity has accounted for roughly 6% of the gross regional product for the play's 24 county area. The UTSA Study determined that in 2009, the Eagle Ford supported 12,601 jobs and added \$2.9 billion in total economic output. To put the rapid growth of this shale gas play in perspective, only 19 Bcf of natural gas was produced in the Eagle Ford in 2009. Since then, natural gas production in the Eagle Ford has continued to rise, amounting to 108 Bcf in 2010 and 139 Bcf between January and August 2011. Through October 2011, 3,477 drilling permits were issued in the Eagle Ford, an increase of 3,357 since 2009.

A Pennsylvania State University study analyzing the economic impact of the Marcellus shale gas industry in Pennsylvania estimated that the Marcellus gas industry provided a direct economic stimulus of \$2.18 billion dollars to the local economy and a total economic benefit of more than \$4.2 billion. Other natural gas studies have used economic multipliers as high as 1.94. A National Energy Technology Laboratory study analyzing the economic impact of Marcellus shale gas development found that in 2009, Marcellus shale gas drilling activity in West Virginia contributed almost 5,000 jobs and \$989 million in gross economic output. A study analyzing the economic impact of Barnett shale found that the total effects of Barnett shale activity included \$11 billion in annual output and 111,131 jobs. The Export Authorization can be expected to have a significant economic impact, yielding numerous benefits for local and regional economies, as well as the U.S. economy at large. Given that Brownsville Texas, as compared to other metropolitan areas in the US, shows some of the higher than average poverty rates, higher than average unemployment rates, and lower than average standard of living U.S., it is imperative that the Export Authorizations be granted to support the this economy.

## Environmental Benefits

Natural gas offers a number of environmental benefits compared to oil and coal because it is the cleanest burning fossil fuel. The combustion of natural gas results in less pollution than the combustion of other fuels. Compared to the average air emissions from coal fired generation, power plants that burn natural gas produce half as much carbon dioxide, less than a third of the nitrogen oxides, and one percent of the sulfur oxides. Unlike petroleum products and coal, natural gas is not a significant contributor to either acid rain or smog formation.

The U.S. Energy Information Administration has also noted that new natural gas fired plants are much cheaper to build than new renewable or nuclear plants. As more nations look for alternative sources of power generation beyond coal or oil and move to regulate or tax greenhouse gases, demand for LNG will continue to grow worldwide. Opening new overseas markets for natural gas will require plants that are equipped to liquefy large amounts of the gas in a safe and environmentally friendly manner. The LNG industry has a proven environmental safety record with 40 years of shipping LNG over the Atlantic, Pacific, and Indian Oceans with no major incidents involving LNG tankers or their cargo. Moreover, LNG tankers are less polluting than other shipping vessels because they burn natural gas for propulsion. The Export Authorization will offer environmental benefits by supplying cleaner energy to help meet increased global demand.

## National Security Benefits

Even with significant exports of LNG, the United States has developed massive natural gas reserves that are sufficient to meet all domestic demand for decades. The LNG exports associated with the Export Authorization will not degrade U.S. energy security. By promoting a market for natural gas, the United States will increase economic trade and ties with foreign nations by providing them with access to a reliable supply of alternative clean fuel.

The United States is recognized as a stable and reliable trading partner. The U.S. participation in creating a global market for natural gas would promote the security interests of all nations involved. The European Union imports almost half of its natural gas is conveyed via pipeline from Russia and North Africa, and its dependence on long supply chains through politically volatile areas creates security concerns for America's allies.

According to the Baker Institute Report, "full development of commercial shale gas resources in the United States will have multiple beneficial effects for U.S. energy security and national interests." Full and timely development of U.S. natural gas resources will create greater competition among suppliers in global markets, and keep U.S. and international prices for natural gas from rising substantially. Increased competition among world natural gas suppliers "reduces the threat that a Gas OPEC can be formed", and "will trim the petro power of energy production countries such as Russia, Iran, and Venezuela to assert themselves using an "energy" weapon or "energy diplomacy" to counter U.S. interests abroad." The Baker Institute Report concludes that United States will need to adopt policies that ensure natural gas exploration can proceed steadily and predictably, and that ensure that natural gas can play a significant role in the U.S. and global energy mix, thereby contributing to greater diversification of global energy supplies and to the long term national interests of the United States. The Export Authorization is directly supportive of those policy objectives.

The MIT Report makes the following conclusions regarding the impact of U.S. exports on domestic and global security interests:

1. "...even though the U.S. is not significantly dependent on imports, American security interests can be strongly affected by the energy supply concerns of its allies."
2. "Overall, a global 'liquid' natural gas market is beneficial to U.S. and global economic interests and, at the same time, advances security interests through diversity of supply and resilience to disruptions."
3. "U.S. freedom of action in foreign policy is tied to global energy supply." Developing a large and flexible export capability will increase the United States' foreign policy options. By promoting a global, liquid, and robust market for natural gas, the United States will increase economic trade and ties with foreign nations. The Export Authorization offers a potential security advantage for the United States by selling into the international market with market based pricing structures that will offset those that may seek to monopolize the natural gas industry.



## Natural Gas Demand in the U.S.

The nature of the natural gas market has changed dramatically in recent years. A decade ago, conventional wisdom held that the United States' per capita energy consumption would continue to rise, and that domestic gas supplies were in decline and inadequate to meet near term future demand. FERC and the DOE/FE processed LNG import authorization requests for projects designed to meet a perceived need for foreign LNG supplies. However, developments since 2008 have proven those assumptions incorrect. The EIA's most recently calculated reference case projects that the energy intensity of the U.S. economy, measured as primary energy use (in Btu) per dollar of GDP (in 2005 dollars), declines 1.9% year over year between 2009 and 2035.

The continued growth of energy efficiency measures has effectively dampened the per person demand curve for energy and reduced the pressure on natural gas demand. Utility regulatory commissions across the country have succeeded with various programs encouraging consumers to adopt energy efficiency measures. Some states have achieved a near flat per capita energy demand during the last decade. The federal government, which is the largest consumer of energy in the United States, has also begun to aggressively reduce its own energy consumption by employing energy efficiency measures and encouraging the development of alternative energy resources.

The United States consumed 24 Tcf of natural gas in 2010, but the EIA projects this number will rise to only 27 Tcf in 2035. Assuming that the United States has 2,500 Tcf of recoverable reserves as projected by the EIA, its supply is sufficient to meet all domestic demand at current rates for over 100 years. The Export Authorization is projected to require about 21.9 Tcf of natural gas over its 25 year term. This equals .86% (86 basis points), which represents less than 1%, of the EIA's total estimated U.S. recoverable reserves. And these estimates of which have been consistently growing over the last five years. As a result, it is reasonable to expect that the 21.9 Tcf of gas required to supply the Export Authorization over the next 25 years will not be needed in the United States and would not be otherwise produced.



## Natural Gas Prices Will Be Minimally Impacted by Export Authorization

Deloitte Marketpoint LLC recently published an independent assessment of the potential economic impacts of LNG exports from the United States (the "Deloitte Report"). Based on its assumption that 6 Bcf/d of LNG exports would be realized from the three Gulf Coast terminals that have applied to the DOE/FE for authorization to export LNG, the Deloitte Report concludes that "the magnitude of domestic price increase that results from export of natural gas in the form of LNG will probably be small." As pointed out in the Deloitte Report, the North American natural gas market is highly integrated and all segments will work together to mitigate price impacts of demand changes from LNG exports like the Export Authorization.

The United States has natural gas resources available to meet domestic needs, as well as supply natural gas for the Export Authorization, without increasing prices over the entire 25 year period for which EOS has requested authorization. LNG exports under EOS's requested Export Authorization are expected to begin in 2015, when total domestic demand for LNG is projected to be 26 Tcf/year. The requested Export Authorization of 584 Bcf/year represents only a 3.37% increase in the projected 26 Tcf demand in 2018 when exports are anticipated to commence. The results of the analysis in the Deloitte Report demonstrate that the magnitude of LNG exports, while substantial on their own, are not significant relative to the entire U.S. resource base or total U.S. demand.

The DOE/FE has recently determined that granting authorization to export LNG is not inconsistent with the public interest. EOS is aware that the DOE/FE is in the process of evaluating various matters related to long term LNG exports and has commissioned two studies related to domestic natural gas reserves and production. EOS is confident that the results of those studies will further substantiate the projections cited herein and affirm that the Export Authorization sought by Gulf Coast is in the public interest and should be approved.

Recently, the domestic natural gas market has been characterized by increased production and relatively flat demand. Total domestic dry production increased by 2.3 Tcf between 2007 and 2010, while total domestic consumption increased only 1.0 Tcf during the same period. Coupled with the dramatic increase in economically recoverable supplies, the domestic price of natural gas has decreased significantly. The average annual Henry Hub spot price for natural gas has dropped from \$8.24 per MMBtu in February 2007 to \$3.34 in November 2011. As of August 21st 2013, the NYMEX futures "strip" over the next 141 months (i.e., through August 2023) reflect Henry Hub futures prices trading between \$3.470 and \$5.763. The EA's most recently calculated reference case projects that the annual average Lower 48 wellhead price for natural gas will remain under \$5.00 per MMBtu through at least 2018, rising to only \$9.99 by 2035.

The U.S. natural gas market is liquid and dynamic. Unlike short term markets, in which supply and demand are largely fixed, both supply and demand in the U.S. natural gas market are elastic. Over the long term, market participants can adapt to known or announced changes in demand by changing incremental production to meet it. Demand created by the Export Authorization will be fully anticipated by the market, because construction of the Brownsville Texas terminals will be a multi-year process. Due to the long lead time required to build export facilities, and given the public application process for the Export Authorization, there is plenty of time for natural gas producers to increase production, for infrastructure players to build interstate transmission lines, and for consumers to modify their behavior in response to price changes. There will be ample notice and time in advance of the exports to make supplies available. Any price impact will be determined by the marginal cost of the supply required to meet the additional demand created by the Export Authorization.

The projected price impact of the incremental demand created by the Export Authorization is small. The Deloitte Report, which assumed 6 Bcf/d of LNG exports, projects a weighted average price impact of \$0.12 per MMBtu on U.S. prices from 2016 to 2035, representing a 1.7% increase in the projected average U.S. city gas price of \$7.09/MMBtu over that time period. Due to their proximity to the

prospective export terminals in the U.S. Gulf Coast, the projected increases in Henry Hub and Houston Ship Channel gas prices are \$0.22/MMBtu and \$0.20/MMBtu, respectively, during this period. The projected impacts at downstream markets, such as Illinois, New York, and California, are generally only \$0.10/MMBtu or less. Even taking into account an additional 2.8 Bcf/d export authorization, the price effect would remain insignificant. To put these price impacts in perspective, consider that between 2007 and 2010, the spot market price for one MMBtu of natural gas moved by a daily average of \$0.16 at the Henry Hub, Houston Ship Channel, and Katy Hub. The price impact of the Export Authorization is so small because the United States' total domestic natural gas reserves are very large and the interstate natural gas pipeline system is highly effective in supporting market liquidity. Total U.S. recoverable reserves are currently estimated to be sufficient to meet domestic demand for the next 100 years.



## U.S. Natural Gas Supplies and Resource Base

The growth in domestic natural gas production has been made possible by technical advances in horizontal drilling and hydraulic fracturing that allow economical recovery of previously inaccessible reserves. These advances have also prompted a reevaluation of shale gas plays in the Appalachian basin, the Mid-Continent, the Gulf Coast and Rocky Mountain areas plays make the United States "the Saudi Arabia of natural gas." Despite the maturity of the United States gas supply, estimates of remaining reserves have continued to grow over time, and have accelerated in recent years. According to the Annual Energy Outlook 2011 written by the U.S. Energy Information Administration ("EIA"), the United States has 2,543 Tcf of total domestic recoverable natural gas reserves. This is more than 105 years of total domestic supply at 2010's rate of consumption of 24.1 Tcf and more than 95 years of supply at the EIA's 2035 projected rate of consumption of 26.6 Tcf. Even after assuming total exports of 10 Bcf/d in addition to the EIA's projection of 2035 consumption, the resulting total demand of 30.3 Tcf per year would take 84 years to consume.

Based on the MIT Report, estimates of remaining recoverable gas resources in the U.S. currently range between 1,500 and almost 2,850 Tcf. IHS CERA Inc. has reported that "North American discovered natural gas resources have increased by more than 1,800 Tcf over the past three years, bringing the natural gas resource base to more than 3,000 Tcf a level that could supply current consumption for well over 100 years." The Potential Gas Committee's most recent biennial assessment of the nation's natural gas resources concluded that the United States possesses a total resource base of 2,170 Tcf. This was the highest resource valuation in the Committee's 46 year history. Of the seven geographic areas analyzed in the Committee report, "the Gulf Coast, including the Gulf of Mexico continental shelf, slope and deepwater, remains the country's richest resource area." Most of the increase in recoverable resources has come from shale gas in the Utica, Barnett, Haynesville, Eagle Ford, and Marcellus basins.

The United States produces substantial quantities of natural gas from multiple sources. Production from unconventional natural gas resources, specifically shale gas, has increased to 3.1 Tcf in 2009 from 1.3 Tcf in 2007. The EIA forecasts shale gas production to increase to 7.2 Tcf by 2015 and 12.25 Tcf by 2035, representing a fourfold increase from 2009 to 2035. Domestic gas production is projected to increase to approximately 27 Tcf in 2035, an average annual growth rate of 0.9%. Numerous other public and private forecasts of U.S. natural gas production project similar increases. The MIT Report forecasts that total domestic gas production may grow by up to 45% through 2050 with shale gas expected to provide the biggest increase in production.

When the technology of horizontal drilling and hydraulic fracturing was brought to bear in the Barnett Shale in 2005, annual domestic natural gas production was 18.9 Tcf. In 2010, total domestic natural gas production was 22.6 Tcf, the second highest annual production in U.S. history, trailing the highest production year on record (1973) by only 0.7 Tcf. The Barnett shale field in Texas has produced more than 8 Tcf, and continues to produce more than 5 Bcf/d. Production at the top five U.S. shale plays Marcellus, Haynesville, Woodford, Fayetteville, and Barnett is expected to grow rapidly over the next decade. The Eagle Ford shale, discovered in 2008, contains an estimated 20.8 Tcf of technically recoverable gas and is an active play.

Because the domestic natural gas market is large, well integrated, and liquid, economic dispatch pressure will raise production in other states to meet demand that otherwise would have been satisfied by flows out of Texas. For example, a reduction of natural gas flows from Texas to the Midwest will prompt increased production out of the Midcontinent basin. In fact, according to the Deloitte Report, production



increases in Northeastern U.S. gas markets will result in displacement of flows out of the Gulf Coast region. Combined with the growing shale gas production out of Haynesville and Eagle Ford, Texas and the Gulf Coast region is projected to continue to have plentiful production and remain one of the lowest cost regions in North America. Texas is well positioned to absorb the increased demand from the Export Authorization without materially affecting the gas supply available within Texas, the Gulf Coast region, or elsewhere in the United States.

## **7. ENVIRONMENTAL IMPACT**

EOS intended LNG exports will required the siting, construction, and operation of the potential Brownsville Texas terminals, subject to environmental review and authorization by FERC. EOS will use a FLNG unit which will minimized the environmental impact as opposed to the increased footprint of using land based liquefaction facilities. EOS therefore requests that the DOE/FE authorize the requested export of LNG produced from domestically sourced natural gas conditioned upon environmental review and authorization of the Brownsville Texas terminals by FERC.

## **8. REPORTING REQUIREMENTS**

For all exports made pursuant to the authorization requested herein, EOS will undertake to file reports with the DOE/FE in the month following the close of each calendar quarter indicating by month whether exports have occurred and if so, the details of each transaction, including the total of exports in million cubic feet and the average price for exports per MMBtu at the international border. The reports shall include the name of the seller, the name of the purchaser, the estimated or actual duration of the agreements, the name of the U.S. transporter(s), the point of exit, whether the sales are made on an interruptible or firm basis, and, if applicable, the per unit (MMBtu) demand/commodity/reservation charge breakdown of the contract price. EOS will notify the DOE/FE in writing of the date of the first delivery of natural gas exported under the requested within two weeks of such delivery.



## 9. OTHER CONSIDERATIONS

African-American minority representation in the oil and gas industries is almost nonexistent. Previously a similar situation existed in the telecommunications industry. The Federal Communications Committee ("FCC") remedied this absence of minority representation by granting radio and TV licenses to minority owned businesses. According to the New York Times on 6/23/1994 with regards to *Metro Broadcasting v. FCC* - 497 U.S. 547 (1990), "In 1990, the United States Supreme Court upheld the F.C.C.'s policy of granting preferences to minority-owned businesses applying for radio and television broadcasting licenses. The court ruled that Congress had specifically instructed the agency to help groups that had suffered discrimination, and that the Government had a compelling state interest in promoting diversity." EOS would request that the DOE/FE to consider the FCC example.

EOS would ask that the DOE/FE also consider President Kennedy's Executive Order 10925 and President Nixon's Executive Order 11625 when considering this FTA application.

President Kennedy's Executive Order states that "discrimination because of race, creed, color, or national origin is contrary to the Constitutional principles and policies of the United States"; that "it is the plain and positive obligation of the United States Government to promote and ensure equal opportunity for all qualified persons, without regard to race, creed, color, or national origin, employed or seeking employment with the Federal Government and on government contracts"; that "it is the policy of the executive branch of the Government to encourage by positive measures equal opportunity for all qualified persons within the Government"; and that "it is in the general interest and welfare of the United States to promote its economy, security, and national defense through the most efficient and effective utilization of all available manpower".

President Nixon's Executive Order states "The opportunity for full participation in our free enterprise system by socially and economically disadvantaged persons is essential if we are to obtain social and economic justice for such persons and improve the functioning of our national economy." That "In order to take full advantage of resources and opportunities in the minority enterprise field, we now must build on this foundation." It goes to mention " One important way of improving our efforts is .....(d) to coordinate the participation of all Federal departments and agencies in an increased minority enterprise effort." Stated in "Sec. 3. Responsibilities of Other Federal Departments and Agencies... (e) Each Federal department or agency shall, within constraints of law and appropriations therefore, continue all current efforts to foster and promote minority business enterprises".

## **10. APPENDICES**

Appendix A: Opinion of Counsel

Appendix B: Verification and Certification

Appendix C: Option on Lease Contract Navigation District of Brownsville

Appendix D: Site Plan for the Brownsville Navigation District

## Appendix A: Opinion of Counsel

August 16th 2013

Mr. John Anderson  
Office of Fossil Energy (FE-34)  
U.S. Department of Energy  
1000 Independence Avenue, S.W.  
Washington, D.C. 20585


RE: In the Matter of Eos LNG LLC

FE Docket No 13-\_\_\_\_\_-LNG  
Application for Long-Term (in excess of two years) Authorization of Export of Liquefied Natural Gas

Dear Mr. Anderson:

This opinion is submitted pursuant to Section 590.202(c) of the U.S. Department of Energy's regulations. I have examined the Certificate of Formation of Eos LNG, LLC ("EOS") and other authorities as necessary, and have concluded that the proposed exportation of liquefied natural gas from the United States, as described in the application for long-term (in excess of two years) authorization to export LNG to which this Opinion of Counsel is attached as Appendix A, is within the corporate powers of EOS.

Respectfully submitted,



---

Stephen Kunian  
Kunian Law Office  
Attorney for  
Eos LNG LLC



## **Appendix B: Verification and Certification**

VERIFICATION  
and  
CERTIFIED STATEMENT

County of Suffolk

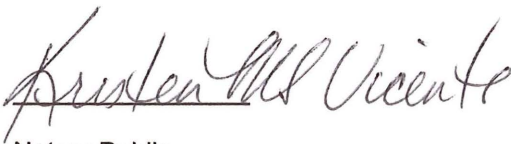
State of Massachusetts

I, Stephen Kunian, being duly sworn on his oath, do hereby affirm that I am a duly authorized representative of Eos LNG LLC that I am familiar with the contents of this application; and that the matters set forth therein are true and correct to the best of my knowledge, information and belief.



Stephen Kunian

Sworn to and subscribed before me, a Notary Public, in and for the State of Massachusetts, this 9th day of August, 2013.



Notary Public



**KRISTEN MS VICENTE**  
Notary Public  
Commonwealth of Massachusetts  
My Commission Expires June 12, 2020



## **Appendix C: Option on Lease Contract Brownsville Navigation District**

**OPTION TO LEASE**

THIS OPTION TO LEASE ("**Option Agreement**") dated as of August 7, 2013 ("**Effective Date**"), is entered into between the Brownsville Navigation District of Cameron County, Texas, a political subdivision of the State of Texas ("**Optionor**") and EOS LNG, LLC, a Delaware limited liability company ("**Optionee**"). Optionor and Optionee may be referred to herein, collectively as "**Parties**" and individually as a "**Party**".

**RECITALS**

A. Optionor is the owner of 15 acres of land, more or less, situated in Cameron County, Texas, which 15 acres are depicted as Tract A in the attached Exhibit A and incorporated herein by reference ("**Premises**").

B. Optionee desires to acquire from Optionor the option to lease the Premises, and Optionor desires to grant such option to Optionee on the terms and conditions set forth herein.

**AGREEMENT**

NOW THEREFORE, for good and valuable consideration, the receipt and adequacy of which are acknowledged, the parties agree as follows:

1. **OPTION TO LEASE.** Subject to the terms and conditions more particularly described in this Option Agreement, Optionor grants to Optionee the exclusive right and option to lease a 15 acre tract of land generally conforming to the Premises, subject to final surveying, during the Term (the "**Option**").

2. **CONSIDERATION.** Optionee shall pay to Optionor as consideration for the Term of the Option an option fee equal to \$8,766.00 ("**Option Fee**"), payable upon execution of this Option Agreement; provided, however, that within thirty (30) days after execution of this Option Agreement by all Parties, Optionee, in its sole discretion, may terminate this Option Agreement by written notice to Optionor. In the case of such termination, Optionee shall receive an immediate refund of the Option Fee less a cancellation fee of 10% of the Option Fee, which cancellation fee shall equal \$876.60. The Option Fee shall be payable at the following address: Brownsville Navigation District, 1000 Foust Road, Brownsville, Texas 78521.

3. **TERM.** The term of this Option Agreement shall be for a period of one (1) year commencing on the Effective Date, unless earlier terminated as provided herein (the "**Term**").

4. **EARLY TERMINATION.** This Option Agreement may be terminated by Optionee, in its sole discretion, for any reason, during the Term, by giving thirty (30) days' prior written notice to Optionor. Except as provided in Paragraph 2, however, no such early termination shall entitle Optionee to a refund of any portion of any Option Fee previously paid.

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Initials of Optionee

STL  
Initials of Optionor



5. EXERCISE OF OPTION. Optionee may exercise the Option by delivering to Optionor, at any time prior to the expiration of the Term, a written notice stating that Optionee exercises the Option. Optionee may exercise the Option only with respect to all of the Premises in their entirety.

6. COORDINATION WITH SEPARATE AGREEMENT. Optionor and Optionee are entering into this Agreement simultaneously with a similar agreement between Optionor and "Barca LNG LLC" an affiliate of Optionee, for a tract of land adjacent to the Premises. Optionor considers the Premises covered by this Agreement and the Premises covered by the Barca agreement to be a single tract of land. It is solely at Optionee's request, for Optionee's internal business purposes, that the transaction is divided into two agreements. Therefore:

(a) Optionee may not exercise the Option granted herein unless Barca LNG LLC simultaneously exercises the option created by the similar agreement;

(b) Optionee may not exercise its right to cancel this Agreement under Paragraph 2 above unless Barca LNG LLC simultaneously cancels its Agreement;

(c) Any lease resulting from this Agreement shall provide that a default under the lease with Barca LNG LLC shall also constitute a default under the lease between Optionor and Optionee.

7. FORM OF LEASE. In the event Optionee exercises the Option, the Parties shall enter into a lease for the Premises on Optionor's standard lease form and at Optionor's standard lease rates, with commercially reasonable modifications appropriate to the development of a natural gas liquefaction export facility as agreed to by the Parties (the "Lease"), within sixty (60) days after the date of such exercise. The purpose of the Lease shall be for Optionee to construct and operate a natural gas liquefaction export facility. The Parties agree to use good faith efforts to agree upon the form of the Lease on or before the expiration of the Term. Notwithstanding anything else in the Agreement, Optionor shall have no obligation to execute a Lease with Optionee unless Optionee is able to provide satisfactory evidence that Optionee has secured the necessary financing and capital to construct the facility. The sufficiency of that evidence shall be determined by Optionor in its sole discretion.

8. APPROVALS; ENCUMBRANCES.

(a) Optionee shall have the right during the Term to apply for all permits and approvals from governmental authorities and public utility companies necessary or desirable for Tenant's intended development, construction, use and operation of the Premises. Optionor agrees to reasonably cooperate with Optionee in regard to all such applications. Optionor further agrees to consent to, and to promptly execute when required as owner of the Premises, such plans, applications, and other requests for governmental approval, and amendments thereto, which may be prepared by or at the direction of the Optionee, incident to the planning, permitting and development of the Premises.

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Initials of Optionee

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Initials of Optionor

(b) From the Effective Date until the date of expiration or earlier termination of this Option Agreement, Optionor shall not cause or permit any mortgage, deed of trust, lien, encumbrance, covenant, condition, restriction, assessment, easement, right-of-way, obligation, encroachment or liability whatsoever to be placed of record or to affect the leasehold interest to be given Optionee pursuant to this Option Agreement or to otherwise exist, without Optionee's prior written consent, which Optionee may withhold in its sole and absolute discretion.

9. NOTICES. All notices, demands, requests and exercises under this Option Agreement by either Party shall be in writing and shall be deemed to have been given by such Party to the other Party or Parties (a) on the date of personal delivery, (b) on the date delivered by a nationally recognized overnight courier service, or (c) three (3) Business Days after being placed in the United States Mail, registered or certified, postage prepaid, addressed to the other Party as follows:

To Optionor:           Brownsville Navigation District  
                              1000 Foust Road  
                              Brownsville Texas 78521  
                              Attn: Port Director/Chief Executive Officer  
                              Phone: (956) 831-4592

With Copy to:         The Rentfro Law Firm  
                              Post Office Box 6355  
                              (2200 Boca Chica Boulevard, Suite 120)  
                              Brownsville, Texas 78523  
                              Attn: Daniel L. Rentfro Jr.  
                              Phone: (956) 542-4329

To Optionee:           EOS LNG LLC  
                              308 Marlborough  
                              Boston, MA 02116  
                              Attn: Andrew Kunian  
                              Phone: (617) 910-7797

The addresses above may be changed by written notice to the other Party delivered pursuant to this Section; provided, however, that no notice of a change of address shall be effective until actual receipt of such notice.

10. ASSIGNMENT. Optionee shall not assign this Option Agreement or any of Optionee's rights without first obtaining the prior written consent of Optionor, which consent shall not be unreasonably withheld, conditioned or delayed. Notwithstanding the foregoing, Optionee may, without the prior written consent of Optionor, assign this Option Agreement (a) to an Affiliate of Optionee, (b) in connection with the merger or consolidation of Optionee with

  
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Initials of Optionee

  
\_\_\_\_\_  
Initials of Optionor



another entity, or (c) in connection with the sale, pledge or other transfer of less than fifty percent (50%) of the ownership interests of Optionee.

11. LITIGATION COSTS. In any legal action brought by either party to enforce the terms of this Option Agreement, the Prevailing Party shall receive reasonable attorney fees and other costs incurred in that action or proceeding, in addition to any other relief to which it may be entitled. "Prevailing Party" shall mean the party determined to be the prevailing party by a court of law.

12. BROKERS. Each Party represents and warrants that it has not dealt with any other real estate broker or agent in connection with this Option Agreement. Each Party shall indemnify the other and hold it harmless from any cost, expense, or liability (including costs of suit and reasonable attorneys' fees) for any compensation, commission or fees claimed by any other real estate broker or agent in connection with this Option Agreement or its negotiation by reason of any act or statement of the indemnifying party.

13. SUCCESSORS. This Option Agreement and the covenants and conditions herein contained shall bind and inure to the benefit of the respective heirs, personal representatives, executors, successors, and assigns of each Party.

14. WAIVERS. No waiver of any breach of a provision in this Option Agreement shall be deemed a waiver of any other provision. No waiver shall be valid unless in writing and executed by the waiving Party.

15. FURTHER ASSURANCES. Whenever requested to do so by a Party, the other Party shall execute, acknowledge, and deliver any such other instruments as reasonably necessary in order to carry out the intent and purpose of this Option Agreement.

16. NO THIRD-PARTY RIGHTS. Nothing in this Option Agreement, express or implied, is intended to confer upon any person, other than the Parties and their respective successors and assigns, any rights or remedies under or by reason of this Option Agreement.

17. INTEGRATION. This Option Agreement contains the entire agreement between the Parties respecting the matter set forth, and expressly supersedes all previous or contemporaneous agreements, understandings, representations, or statements between the Parties respecting these matters.

18. COUNTERPARTS. This Option Agreement may be executed in one (1) or more counterparts, each of which shall be deemed an original and all of which taken together shall constitute one instrument. Executed copies hereof may be delivered by facsimile or email of a PDF document, and, upon receipt, shall be deemed originals and binding upon the parties hereto.

19. AMENDMENT. This Option Agreement may not be amended or altered except by an instrument in writing executed by the Parties.

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Initials of Optionee

STL  
Initials of Optionor



20. PARTIAL INVALIDITY. Any provision of this Option Agreement that is held to be invalid, unenforceable or invalid or the inclusion of which would adversely affect the validity, legality, or enforcement of this Option Agreement shall be of no further force or effect, but all the remaining provisions of this Option Agreement shall remain in full effect and this Option Agreement shall be construed as if such invalid, unenforceable or illegal provisions had not been contained herein.

21. AUTHORITY OF PARTIES. Each Party represents and warrants that (a) it has full power, capacity, authority and legal right to execute and deliver this Option Agreement and to perform all of its obligations hereunder and (b) this Option Agreement is a legal, valid and binding obligation of each Party, enforceable in accordance with its terms. Each person executing this Option Agreement on behalf of a Party represents and warrants that he or she has the full right and authority to execute this Option Agreement on behalf of that Party.

22. GOVERNING LAW. This Option Agreement shall be governed by and construed in accordance with the laws of the State of Texas, without regard to choice of law principles. Exclusive venue over any action concerning this Option Agreement shall lie in Cameron County, Texas.

23. WAIVER OF JURY TRIAL. The Parties waive trial by jury in any action or proceeding brought in connection with this Option Agreement.

24. DEFINITIONS. Capitalized terms used herein and not otherwise defined herein shall have the meanings set forth in this Section 24:

(a) **"Affiliate"** shall mean with respect to a specified Person, any other Person who or which is (i) directly or indirectly Controlling, Controlled by or under Common Control with the specified Person, or (ii) any member, stockholder, director, officer, manager, or comparable principal of, or relative or spouse of, the specified Person.

(b) **"Business Day"** shall mean any day other than a Saturday, Sunday, or legal holiday on which national banks are authorized by federal law to close.

(c) **"Control"** (including the correlative meanings of the terms "Controlling," "Controlled by" and "under Common Control with") as used with respect to any Person, means the possession, directly or indirectly, of the power to direct or cause the direction of the management policies of such Person, whether through the ownership of voting securities, by contract or otherwise.

(d) **"Person"** shall mean an individual, corporation, limited liability company, partnership, association, trust, unincorporated organization and any other entity.

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Initials of Optionee

STL  
Initials of Optionor

IN WITNESS WHEREOF, the parties have executed this Option Agreement as of the day and year first written above.

OPTIONOR:

Brownsville Navigation District  
Of Cameron County, Texas

By:   
Sergio Tito Lopez, Chairman

OPTIONEE:

EOS LNG, LLC

By:   
Name: Andrew Kuman  
Its: President

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Initials of Optionee

STL  
Initials of Optionor

## **Appendix D: Site Plan for the Brownsville Navigation District**



# EXHIBIT A





## 11. CONCLUSION

EOS requests long term (in excess of two years), multi-contract authorization to export up to 1.6 Bcf/d, or 584 Bcf/y of LNG, up to a total of 14.6 Tcf over the requested 25 year term, which is requested to commence on the date of first export or 8 years from the date of issuance of the authorization requested by this application, whichever is sooner. Should the DOE/FE conclude only a portion of EOS's requested authorization quantity or term is in the public interest, EOS requests authorization for that alternative quantity or term. EOS seeks to export LNG to any FTA country which has or in the future develops the capacity to import LNG via ocean-going tanker, and with which trade is not prohibited by U.S. law or policy. This authorization request for 1.6 Bcf/d is non-additive to Eos LNG's existing FTA application that is being submitted simultaneously to the DOE/FE. EOS requests authorization to export LNG on its own behalf or as agent for others, and EOS requests that it be authorized to register each LNG title holder for whom EOS seeks to export as agent.

Based on the reasoning provided in the application, EOS respectfully requests that the DOE/FE determines that EOS's request for long term (in excess of two years), multi-contract authorization to export natural gas is not inconsistent with public interest. According, EOS requests that the DOE/FE issue an order pursuant to Section 3 of the Natural Gas Act for authorization to export LNG.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read 'Stephen Kunian', is written over a horizontal line.

Stephen Kunian  
Kunian Law Office  
Attorney for  
Eos LNG LLC