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Introduction

Thank you Chairman Murkowski, Ranking Member Cantwell, and Members of the Committee. I appreciate the opportunity to be here today, and it is my pleasure to appear before you to discuss the opportunities for U.S. liquefied natural gas (LNG) exports to Europe.

Increasing U.S. LNG exports to the world is critical to achieving the administration's goal of American energy dominance. U.S. LNG exports not only give our allies across the world a safe and reliable source of energy but they bring many great economic benefits to the U.S. economy. A recent study commissioned by the Department of Energy (DOE) and prepared by NERA Economic Consulting, shows that increasing U.S. LNG exports will provide benefits to the American economy and the American worker. Additionally, the increased use of natural gas throughout our nation's economy, has lowered carbon emissions to levels not seen in 25 years. Expanding U.S. LNG exports is a win-win scenario for our nation and our allies.

Department of Energy's Statutory Authority

The Department of Energy's (DOE) authority to regulate the export of natural gas arises under section 3 of the Natural Gas Act (NGA), 15 U.S.C. § 717b. This authority is vested in the Secretary of Energy and has been delegated to the Assistant Secretary for Fossil Energy.

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

> [N]o person shall export any natural gas from the United States to a foreign country or import any natural gas from a foreign country without first having secured an order of the [Secretary of Energy] authorizing it to do so. The

> [Secretary] shall issue such order upon application, unless after opportunity for hearing, [he] finds that the proposed exportation or importation will not be consistent with the public interest. The [Secretary] may by [the Secretary's] order grant such application, in whole or part, with such modification and upon such terms and conditions as the [Secretary] may find necessary or appropriate.

The Department has consistently interpreted section 3(a) as creating a rebuttable presumption that a proposed export of natural gas is in the public interest. Under this provision, DOE performs a thorough public interest analysis before acting on applications to export natural gas to non-free trade agreement countries. In addition, DOE must give appropriate consideration to the environmental effects of its proposed decisions under the National Environmental Policy Act (NEPA). Typically for LNG facilities planning to export to non-FTA countries, including European countries, DOE acts as a cooperating agency to the Federal Energy Regulatory Commission who leads the preparation of environmental impact statements or environmental assessments for proposed LNG export facilities under NEPA.

In the Energy Policy Act of 1992, Congress enacted section 3(c) to the NGA. Section 3(c) created a different standard of review for applications to export natural gas to those countries with which the United States has in effect a free trade agreement requiring national treatment for trade in natural gas. Section 3(c) requires such applications to be deemed consistent with the public interest and granted without modification or delay.

The Federal Energy Regulatory Commission (FERC) has jurisdiction under the Natural Gas Act over the siting, construction, and operation of onshore LNG export terminals. For offshore LNG export terminals, this authority resides with the Maritime Administration (MARAD) in the U.S. Department of Transportation (DOT).

DOE Authorizations to Export Natural Gas

Since January 2017, DOE has granted authority to export natural gas to several projects including two large-scale liquefied natural gas (LNG) projects – Golden Pass Products in Texas and Delfin LNG, which is proposed for offshore Louisiana; Eagle LNG's small-scale project in Maxville, Florida and additional capacity at the proposed Lake Charles LNG project in Louisiana.

Since DOE began authorizing exports of LNG from the lower 48 states, 21.35 billion cubic feet per day of natural gas has been authorized under section 3(a) of

the Natural Gas Act for export to anywhere in the world not prohibited by U.S. law or policy. These non-free trade agreement authorizations are primarily spread across 10 large scale export projects, six of which are in various states of construction and operation in Texas, Louisiana, Georgia, and Maryland. One facility in the lower 48 states, Cheniere Energy's Sabine Pass facility in Louisiana, has been exporting LNG since February 2016. A second large-scale facility, Dominion Energy's Cove Point facility in Maryland, began exports in March 2018. Four additional export projects are expected to come online over the next two years. After the construction of these facilities is completed, US LNG export capacity is expected to reach approximately 11 billion cubic feet per day.

At present, there are a dozen large-scale export projects, with over 20 billion cubic feet per day of additional export capacity, under review at both FERC and DOE. On August 31, 2018, FERC released review schedules for these export projects. DOE remains committed to taking prompt final action on LNG export applications once FERC completes its review.

Recent Developments in DOE's Natural Gas Regulatory Program

To support DOE's public interest review for applications to export LNG to non-free trade agreement countries, DOE has commissioned five macroeconomic studies to date. These studies have examined the economic impacts of LNG exports at different levels. Most recently, on June 12, 2018, DOE provided notice of the latest study – the 2018 LNG Export Study conducted by NERA Economic Consulting. DOE invited public comment on the 2018 Study and the comment period closed on July 27, 2018.

The 2018 study entitled *Macroeconomic Outcomes of Market Determined Levels of U.S. LNG Exports* examines the macroeconomic effects of varying LNG export levels resulting from 54 combinations of domestic and international supply and demand. The study found that U.S. economic growth resulting from rising levels of LNG exports results in increased well-being of U.S. consumers and higher levels of natural gas exports are met by increases in domestic production over diversion from domestic uses. DOE is currently reviewing public comments received on the study.

Additionally, on August 24, 2018, DOE's rule to provide for faster approval of certain small-scale exports of natural gas came into effect. The "small scale rule" provides a streamlined approval for applicants to export up to 51.75 billion cubic feet per year from U.S. export facilities that do not require an Environmental

Assessment or Environmental Impact Statement under the National Environmental Policy Act. To date, one U.S. company, American LNG, has exported 160 shipments of small-scale LNG from its facility in Florida to both Barbados and the Bahamas over the past two and one-half years.

This final rule is a concrete example of DOE's actions to support both American businesses and the development of the small-scale natural gas market by reducing the regulatory burden for new small-scale export projects.

U.S. LNG Exports to Europe

No free trade agreement requiring national treatment for trade in natural gas is in effect between the U.S. and any European country. Therefore, exports of LNG from the U.S. to Europe are regulated under section 3(a) of the Natural Gas Act, as explained earlier. However, the large-scale facilities operating and under construction in the U.S. already have long-term authority to export LNG anywhere in the world, including Europe, except where otherwise prohibited by law (e.g., sanctions).

Since LNG exports from the lower 48 began in February 2016, U.S. LNG cargos have landed in Europe, Asia, Africa, the Middle East, South America, North America, and the Caribbean – 30 different countries in all. Nine European countries have received a total of 43 shipments of U.S. LNG through June 2018, totaling 136 billion cubic feet of natural gas.[1] The receiving countries are Turkey, Spain, Portugal, Italy, the United Kingdom, Lithuania, the Netherlands, Poland, and Malta. The combined volume of LNG exports to Europe equals about 10 percent of total U.S. LNG exports to date.

Role of U.S. LNG in Europe

The United States is strongly committed to providing Europe with access to strategic, diverse, and reliable energy supplies. According to the European Commission[2], in the fourth quarter of 2017, European Union (EU) natural gas imports increased by 6% compared to a year earlier. For the same period, Russia

[1] U.S. Dep't of Energy, Office of Oil & Natural Gas, *LNG Monthly* (YTD – through June 2018), *available at*: https://www.energy.gov/sites/prod/files/2018/08/f54/LNG%20Monthly%202018_0.pdf.

[2] European Commission, Quarterly Report on European Gas Markets (fourth quarter 2017), *available at*: https://ec.europa.eu/energy/sites/ener/files/documents/quarterly_report_on_european_gas_markets_q4_2017_final_20180323.pdf.

remained the EU's top supplier of natural gas, accounting for 43% of natural gas imports; LNG accounted for 12% of imports." LNG, including U.S. LNG, provides an important option for Europe as it pursues diversification of energy supply. Particularly as EU Member States decrease their reliance on generation from coal to comply with EU emission goals, European countries are becoming more dependent on gas overall. As a consequence, due to lack of supply routes and insufficient pipeline buildout, Europe is also becoming more, not less, dependent on Russian gas. Exports of U.S. LNG can be part of Europe's solution to diversifying its energy supply. U.S. LNG exports not only serve to increase the volumes of LNG available globally, but helps to diversify fuel types, fuel sources, and delivery routes of natural gas supplies in Europe and elsewhere.

Natural Gas Infrastructure Challenges in Europe

Despite the availability of LNG from the U.S., and other sources, for import into Europe, there are constraints affecting the amount of LNG imported there. The European Union's LNG import capacity is approximately 20 billion cubic feet per day with a modest utilization rate of approximately 20 percent. The vast majority of LNG supplies to the EU are delivered to five Member States (Spain, the United Kingdom, France, Portugal, and Belgium). Spain and Portugal rely on LNG for close to half of their gas supply. LNG accounts for a fifth to a quarter of the gas supply to the United Kingdom.

Most EU Member States in Central and South-Eastern Europe do not have LNG regasification terminals and can rarely access LNG supplies through the EU's collective natural gas distribution network. This inadequate gas interconnection infrastructure between European Union Member States represents a major obstacle preventing LNG from diversifying supply across the EU. Specifically the ability for U.S. LNG to compete with other pipeline gas alternatives in the EU has been slowed by two factors (1) pipeline permitting and (2) resistance to investment/build-out of critical infrastructure from regasification facilities. Storage capacity in the EU is also lacking. A more robust storage capacity would help expand the natural gas market and could also expand the areas where natural gas is currently not a viable option.

DOE is working with the EU and member governments to identify infrastructure and storage issues and to support identification of projects of common interest that

the EU supports to help address the infrastructure issues that are impeding energy supply diversification and security in Europe.

Projections for Future U.S. LNG Exports

The U.S. Energy Information Administration (EIA) is the statistical and analytical agency within DOE. EIA collects, analyzes, and disseminates independent and impartial energy information to promote sound policymaking, efficient markets, and public understanding of energy and its interaction with the economy and the environment.

EIA publishes outlooks that provide projections for domestic natural gas production and prices, as well as projected natural gas imports and exports. In the *Short-Term Energy Outlook* released on September 11, 2018, EIA forecasts record levels of dry natural gas production in 2018 and 2019, averaging 81.0 and 84.7 billion cubic feet per day, respectively.[3] The U.S. benchmark natural gas price, Henry Hub, was just under $3 per million British thermal units in August 2018.[4]

The *Short-Term Energy Outlook* also shows average U.S. LNG net exports will be 5.0 billion cubic feet per day in 2019. Looking long-term, EIA's Annual Energy Outlook 2018 projects that U.S. LNG net exports will reach an average of 14.4 billion cubic feet per day by 2029, when natural gas production is projected to reach 103 billion cubic feet per day. EIA's long-term projections show continued increases in natural gas production, reaching 110 billion cubic feet per day in 2040 while U.S. LNG net exports will remain at approximately 14 billion cubic feet per day through 2040. [5]

Conclusion

Increasing exports of U.S. LNG to our allies in Europe creates great opportunities for our nation to advance this administration's goal of strengthening our allies' energy security. Further, these exports to Europe will benefit our domestic

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[3] U.S. Energy Info. Admin., *Short-Term Energy Outlook* (Sept. 11, 2018), *available at*: https://www.eia.gov/outlooks/steo/.

[4] U.S. Energy Info. Admin., Natural Gas Data: Natural Gas Spot and Futures Prices (NYMEX) (Sept. 6, 2018), *available at*: https://www.eia.gov/dnav/ng/ng_pri_fut_s1_d.htm.

[5] U.S. Energy Info. Admin., *Annual Energy Outlook 2018* (Feb. 6, 2018), *available at*: https://www.eia.gov/outlooks/aeo/.

economy. There is no doubt that this administration has made this issue a top priority. With U.S. LNG exports on the rise, U.S LNG will increase the liquidity of global LNG trade and enhance supply security for Europe. DOE supports the EU's goal to create an interconnected European energy market, including Europe's efforts to develop LNG infrastructure that will make the region's energy markets more resilient and enhance Europe's energy security.

Thank you again for the opportunity to be here today, and I look forward to your questions.