

**WRITTEN TESTIMONY OF MIKE JEWELL
NATIONAL PRESIDENT, MARINE ENGINEERS' BENEFICIAL ASSOCIATION
(MEBA)**

HOUSE TRANSPORTATION AND INFRASTRUCTURE COMMITTEE
COAST GUARD AND MARITIME TRANSPORTATION SUBCOMMITTEE
HEARING ON CREATING JOBS AND INCREASING U.S. EXPORTS BY ENHANCING
THE MARINE TRANSPORTATION SYSTEM
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Written Testimony of
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Good afternoon, Chairman LoBiondo, Ranking Member Larsen and members of the Subcommittee. The Marine Engineers' Beneficial Association (MEBA) supports the testimony today of the Seafarers International Union as well as the American Maritime Officers and the International Organization of Masters, Mates & Pilots; I thank you for the opportunity to provide written testimony.

As organizations that represent merchant mariners in both the domestic and international trades, including deep sea, inland and the Great Lakes, we and our fellow maritime organizations have a deep interest in our nation's economic and national security. Our organizations are focused on jobs, increasing the size of our U.S.-flag Merchant Marine and seeking opportunities for workers across America to obtain the good paying, secure jobs that keep our economy moving forward.

President Obama announced his National Export Initiative in the January 2010 State of the Union address and signed Executive Order 13534 in March of 2010. Through this initiative, the President intends to improve conditions that directly affect the private sector's ability to export goods by doubling exports in five years. We in maritime labor have welcomed the President's proposal and continue to support this initiative.

The MEBA offers the following supplemental written testimony:

Policy Discussion on Energy Resources

There is a significant policy discussion taking place in the United States regarding the supply and demand of energy resources—natural gas is at the forefront of the debate. The U.S. maritime sector, specifically U.S. citizens staffing liquefied natural gas (LNG) vessels, must play a role.

Al-Qaida Targets Tanker-ships in United States Waters

Osama bin Laden's personal files that were recovered after the U.S. Navy Seals killed him in Pakistan early this year, reveal that al-Qaida intended to hijack oil tankers and blow them up in U.S. waters in the summer of 2010 -- creating explosions that Osama bin Laden hoped would rattle the world's economy and send oil prices skyrocketing. This newly disclosed plot is evidence that bin Laden believed relatively simple attacks on the ocean going energy industry could create a worldwide panic that would paralyze the economy of the United States.

Indeed, the FBI and Department of Homeland Security issued a confidential warning to police and the energy industry shortly after the personal documents of bin Laden were analyzed. The alert, obtained by *The Associated Press*, said that al-Qaida had sought information on the size and construction of oil tankers, had decided that spring and summer provided the best weather to approach the ships, had determined that blowing them up would be easiest from the inside and believed an explosion would create an "extreme economic crisis." The most efficient way to succeed in such a plot is for al-Qaida friendlies to infiltrate ships. Clearly, al-Qaida and its former leader Osama bin Laden, understood that 97% of all ships entering the United States are foreign flagged and staffed by non-U.S. citizens.

With about half of the world's oil supply moving on the water, it is unequivocal that such an attack would immediately create a massive interruption to global energy markets. That is undoubtedly true if terrorists should carry out an attack in one of the narrow waterways that serves as shipping chokepoints -- nearly every seaport, channel and waterway in the United States serves as a shipping chokepoint.

Changing Times—U.S. Seeking to Become a Natural Gas Export Nation

Several LNG terminal owners have filed applications with the U.S. Department of Energy (DOE) for authorization to export natural gas produced in the United States from their facilities, many of which were built over the past few years with the intent of importing LNG — not exporting — to meet what was perceived at the time as a growing demand for natural gas in the U.S.

Times have changed over the past 36 months, mainly as a result of the tremendous growth of production from shale gas plays across North America. Estimates indicate that total natural gas resources can meet current demand levels in North America for at least 100 years.

On April 27, 2011, the Potential Gas Committee (PGC) released a report stating that the United States possesses an undiscovered natural gas resource potential of 1,898 trillion cubic feet (Tcf), the highest resource evaluation in the PGC's 46 year history. Indeed, new and advanced exploration, well drilling, completion and stimulation technologies are allowing the United States to increasingly expand access to domestic gas resources—especially 'unconventional' gas—which, not all that long ago, was considered impractical or uneconomical to pursue, according to John Curtis, professor of geology and geological engineering at the Colorado School of Mines and Director of the Potential Gas Agency.

Role of the Federal Regulators on the Export of Natural Gas

On May 20, 2011, the United States Department of Energy granted Cheniere Energy Partners subsidiary Sabine Pass Liquefaction LLC permission to export natural gas from its Sabine Pass LNG terminal in Cameron Parish, La., to any country not prohibited by U.S. law – the first such authorization granted in more than 40 years. The approval is subject to the Federal Energy Regulatory Commission (FERC) giving authorization to build the export plant. FERC is currently conducting an environmental assessment of the project.

The first and only U.S. LNG export plant was built in Alaska 40 years ago, but is now in the process of shutting down because of newer suppliers in Asia. A renewed focus on LNG being exported from the United States has emerged with export proposals gaining momentum to ship U.S. produced natural gas to higher-paying markets overseas.

Cheniere is furthest along in the regulatory process of three U.S. export projects in various stages of review, including Southern Union's Lake Charles project in Louisiana (Southern Union-BG joint venture plans to export up to 2 billion cubic feet of LNG per day over 25 years); and the Freeport LNG project in Texas (Freeport LNG is proposing to add liquefaction infrastructure at the existing terminal to provide export capacity of approximately 1.4 billion cubic feet per day (Bcf/d) of pipeline-quality natural gas.

Just last week, Dominion Resources, Inc. announced it is considering installing natural gas liquefaction facilities at its Cove Point LNG import terminal on the Chesapeake Bay in Maryland. The construction of liquefaction infrastructure would give Dominion the ability to export natural gas—most likely natural gas volumes produced from the nearby Marcellus Shale—from its Cove Point facility (Marcellus shale natural gas is currently being produced in the States of Pennsylvania and West Virginia). Dominion currently has a large-diameter natural gas pipeline that delivers natural gas shipped in from overseas suppliers through its Cove Point LNG import terminal. This pipeline could easily be converted to transport natural gas in the opposite direction, from wells drilled in the Marcellus back to the Cove Point facility—and ultimately to export markets worldwide.

Power Sector in U.S. Switching to Natural Gas for Power Generation

In an amazing turn of events, many energy providers have announced over the past 24 months that they will switch from burning coal to natural gas – a source of electrical power generation. Power generation currently accounts for 34% of U.S. natural gas demand. According to power companies, burning natural gas emits much less carbon dioxide than burning coal. By 2015, 40% of U.S. coal-fired power plants will have been in service for more than 50 years. Meanwhile, the estimated all-in cost of electricity from a new coal plant able to capture its own carbon emissions is 62% higher than that from a gas plant able to do the same.

These are facts provided by the private sector:

- In March 2011, Black Hills Energy announced a proposal for a new natural gas-fired power plant that would replace two coal-fired units in southern Colorado.
- In March 2011, Xcel Energy formally asked Minnesota regulators on March 15 for permission to retire the last two coal-burning units at its 59-year-old Black Dog power plant in Burnsville and replace them with modern natural gas turbines. The plan would more than double the electrical output of the plant from 253 megawatts to 700 megawatts.
- In April 2011, North Carolina-based Progress Energy announced it would shut down one of its older coal-fired power plants six years ahead of schedule to provide new electricity generating stations burning cleaner natural gas. Progress announced in 2010, that by 2017 it will close 11 coal-burning generating units that lack pollution scrubbers. Progress Energy stated the lower price of natural gas compared to coal has changed the economics for keeping its coal plant in Lumberton, NC open. The company is opening a new natural gas plant in Richmond County, NC this summer.
- In April 2011, President Barack Obama said that the U.S. should exploit its shale-gas deposits as part of a long-term plan to guarantee energy in the wake of the nuclear emergency in Japan that followed the March 11 earthquake.
- In April 2011, it was reported that about 40,000 tons of coal a day may have been displaced during the first quarter of 2011 in favor of natural gas, while six coal-fired units capable of burning a combined 1 million tons of the fuel per year were retired, according to Boulder, CO -based SNL Energy.
- In April 2011, the Tennessee Valley Authority (TVA), one of the nation's largest coal-burning utilities announced it would close 18 of its coal-fired boilers by the end of 2018. To replace the electric capacity, the federally owned TVA would look to low-emission sources such as natural gas.

- In April 2011, TransAlta, owner of the biggest coal-burning power plant in the Pacific Northwest, will close its Centralia, WA plant and bring a new gas-fired plant online in the next decade.
- In May 2011, We Energies announced initial steps toward converting its Milwaukee, WI-based coal-fired power plant to natural gas. The Milwaukee utility has been under pressure to address air pollution from the power plant located south of downtown in the Menomonee River Valley.

U.S. Employment Prospects in the Domestic Natural Gas Market

Natural gas exploration and production in the United States is a jobs producing machine. The *Pittsburgh Tribune Review* news organization out of Pennsylvania reported this month that Marcellus shale natural-gas exploration and production created 48,000 jobs in Pennsylvania during the past 18 months. A report issued by the Pennsylvania Department of Labor and Industry shows that the average wage last year for jobs in the basic gas industry was \$69,995, while the average wage in support industries – such as construction, steel and engineering – was \$63,967. That compares with an average wage for all industries in the state of about \$45,491. Total employment in industries connected to Marcellus shale drilling and production was 141,000 workers as of Sept. 30, 2010.

According to the Congressional Natural Gas Caucus, the effect of the natural gas industry on the U.S. Economy is:

- 622,411 Direct Jobs Created by the U.S. Natural Gas Industry
- 723,102 Indirect Jobs Created by the U.S. Natural Gas Industry
- 1,482,801 Induced Jobs Created by the U.S. Natural Gas Industry (estimate of the jobs "induced" when workers holding direct and indirect natural gas jobs spent income creating demand for goods and services)
- 2,828,320 Total Jobs Created by the U.S. Natural Gas Industry

The Congressional Natural Gas Caucus is a bipartisan group of Congressional leaders advocating the use of clean, plentiful, domestic natural gas. The caucus educates Members of Congress, and the American people about natural gas as a clean-burning domestic fuel.

Shale Basins and Alaska's Natural Gas Reserves

In the late 1990s improved drilling and well stimulation methods were developed for the Barnett Shale of Texas which significantly increased the yield and recovery rate of natural gas from shale formations. These methods are now being applied in many parts of the United States. The result has been nothing less than a boom in natural gas leasing and production activity. The most commonly discussed shale natural gas basins include the following: Barnett in Texas; Eagle Ford in Texas; Haynesville in Louisiana, Texas and Arkansas; Fayetteville in Arkansas; and Marcellus in New York, Pennsylvania, Ohio, Maryland, West Virginia and Virginia.

In April of this year, the U.S. Energy Information Administration (EIA) released the 2011 edition of its Annual Energy Outlook. The report contains the EIA's predictions of future energy supplies, prices, and regulations. This report highlighted the rapid growth of shale natural gas as a viable energy source. Shale natural gas is natural gas which is trapped in large underground shale formations. Extracting the gas historically has been a difficult and highly expensive

process, but recent technological advances such as horizontal drilling, and hydraulic fracturing have lowered costs, making shale natural gas a cost effective energy source.

According to the 2011 annual energy outlook, shale gas production in the United States grew by an average annual rate of 17% from 2000 to 2006 and by an average annual rate of 48% from 2006 to 2011. Shale natural gas is a plentiful resource. Surveys of shale gas deposits have revealed huge worldwide reserves of natural gas. A recent article released by the EIA surveyed shale gas reserves in thirty-three nations. Their findings indicated an estimated 6,622 trillion cubic feet of recoverable shale natural gas within the surveyed nations. The total shale natural gas found in just these thirty three nations, which do not include the fuel rich regions of Russia and the Middle East, is slightly greater than the amount of gas in the world's proven natural gas reserves. The EIA article referred to America's shale natural gas deposits as a "game changer" for the US natural gas market. The United States alone is estimated to contain 862 trillion cubic feet of shale natural gas which contains the equivalent amount of energy as 148.6 billion barrels of oil, and could provide reliable energy for decades into the future.

The North Slope of Alaska holds approximately 35 Tcf of proven natural gas reserves and an estimated 100 to 200 Tcf of potential discoveries. Connecting these vast reserves to market holds the promise of tremendous benefits for Alaska and its residents, as well as to the energy, environmental and economic security of the United States.

Construction of an Alaska natural gas transportation system will be an enormous undertaking. The gas pipeline would be the largest private sector construction project in the history of North America, with tens of thousands of direct, indirect and induced jobs being created over its lifespan. Indeed, at a recent AFL-CIO National Convention in Pittsburgh, Pennsylvania, the Alaska natural gas pipeline was described as an important project to our nation's economic future. The project was endorsed in three resolutions unanimously passed by AFL-CIO convention delegates.

Further development of Alaska's gas and mineral potential will require investments in maritime facilities to bring the resources our economy needs to market. In the near future, American made equipment and personnel required to unlock the great natural resources of Alaska – be they onshore or offshore – will require decent ports and trained mariners to get the job done. Infrastructure development is key, especially when it comes to maritime where our Nation has lagged behind for decades.

Objections Raised to the Export of Domestically Produced Natural Gas

The American Public Gas Association (APGA) and the Industrial Energy Consumers of America are protesting the export of natural gas produced in the United States.

In a March 4, 2011 protest filed with the United States DOE, APGA emphasized that if the U.S. "makes wise policy choices now, this domestically available and low carbon emission fuel will be available to satisfy U.S. energy needs and to end our nation's dangerous reliance on imported petroleum products—today we import approximately 50% of our petroleum needs. Exportation of substantial quantities of natural gas may have significant adverse implications for domestic consumers of natural gas, for U.S. energy supply, and national security." Therefore, APGA

argues that requests for authority to export domestically produced LNG is inconsistent with the public interest and should be denied by the DOE.

The Industrial Energy Consumers of America believes that exporting newfound natural gas will cost American manufacturing jobs by hiking the price of gas as a feedstock/power generation source for America's manufacturing base.

U.S. Merchant Mariners Fully Vetted

The United States Merchant Marine must play a role in the import and export of natural gas resources. U.S. Merchant Mariners are fully vetted for safety and security purposes in the United States. Consider the following:

- U.S. Merchant Mariners receive their credentials to work from the U.S. Coast Guard;
- U.S. Merchant Mariners undergo extensive background checks performed by the Federal Bureau of Investigation;
- U.S. Merchant Mariners are background checked through a National Driver (vehicle) Record database;
- U.S. Merchant Mariners are subject to the jurisdiction of the Transportation Security Administration (TSA) where they are vetted through a criminal and terrorist watch database in order to receive a Transportation Worker Identification Card (TWIC);
- U.S. Merchant Mariners are citizens of the United States or those lawfully admitted for permanent residence.

While foreign mariners may be required to comply with their government's regulations as well as international standards, the validity of some of the credentials is suspect. A few years ago, International Transport Workers Federation General Secretary, David Cockroft, purchased an authentic Panamanian first officer's certificate and sea book despite no practical maritime experience. The Seafarers' International Research Centre at the University of Wales investigated the issue of fraudulent qualifications. Its findings revealed 12,653 cases of forgery in 2001.

Federal and state government, local municipalities and the communities surrounding LNG terminals in the United States can be assured, that with American mariners, the LNG vessels are staffed by professional seafarers who have the integrity and the training necessary for the safe transportation of LNG.

Superior Domestic Maritime Resources: Calhoon MEBA Engineering School

The MEBA was proud to take a leading role in the development of the transportation of LNG by tank vessels in the 1970s. Since then, MEBA has been providing LNG officers to Excelerate Energy LNG tankers operated by EXMAR, NV.

The Marine Engineers' Beneficial Association operates a world renowned training facility, the Calhoon MEBA Engineering School (CMES), in Easton, Maryland. The school is fully accredited and certified by the U.S. Coast Guard and Det Norske Veritas (DNV). The MEBA School provides LNG and other maritime training to agencies and organizations such as the U.S. Coast Guard, U.S. Navy, Military Sealift Command, National Transportation Safety Board and Transportation Safety Board of Canada & Transport Canada.

The MEBA training facility trains both deck and engineering officers and has recently installed a cutting-edge Bridge Simulation System designed and built by TRANSAS USA. The simulator is one of the newest and most sophisticated systems in the world. The interactive program allows students to simultaneously control simulated ships utilizing any of 56 different types of vessels in over 20 different ports. In addition to the ten ships that can be controlled within one scenario, instructors can further intensify the simulation by implanting multiple computer-controlled ships into the scenario. Unlike many existing bridge simulators, each station, operating a different type of vessel (including LNG vessels), can interact with every other station simultaneously. The LNG cargo simulation program allows students to dock, load and discharge LNG vessels. Moreover, the computerized system even encompasses the terminal-side operations of an LNG facility. It accommodates upgrades to adapt to ever-evolving Coast Guard and International Maritime Organization training and testing requirements.

Conclusion

MEBA supports President Obama's Export Initiative. In doing so, MEBA underscores the real national security concerns of waterborne transportation of energy supplies. Statistics bear out that enough natural gas could be produced in the United States to satisfy *current* demand levels. Indeed, energy providers are switching from coal to natural gas as a source of power generation. Thus, demand for natural gas in the United States will surge; and the price of natural gas may increase as well—a claim raised by interests that object to the export of natural gas. MEBA believes that shale gas is important to the economic security of the United States—jobs and energy. Likewise, a massive natural gas transportation system delivering gas for Alaska's North Slope to the lower-48 states is an essential component to the nation's supply equation—especially if natural gas from the shale basins is allowed to be exported. Finally, if natural gas is to be exported, the U.S. maritime sector, specifically U.S. citizens staffing liquefied natural gas (LNG) vessels, *must* play a role.

Should you have any questions, please do not hesitate to contact my Chief of Staff, William P. Doyle at wdoyle@meba.us.

Respectfully Submitted,

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