GLMRI and DSPA Host Meeting to Discuss the Potential for Natural Gas Liquefaction Plant in the Twin Ports

Carol Wolosz, Executive Director, GLMRI

On Tuesday, May 21st the Great Lakes Maritime Research Institute (GLMRI) along with support from the Duluth Seaway Port Authority (DSPA), hosted a meeting at the University of Wisconsin-Superior to bring together members from the natural gas industry, along with current users of natural gas to meet with community and industry leaders to pursue building a liquefaction plant in the Duluth/Superior area.

In May, Interlake Steamship Company's (ISC) announced (Interlake Steamship Company, 2013) that they are working with Shell to supply LNG to support the conversion of its vessels to LNG as the main propulsion fuel with a goal of converting the first vessel by the spring of 2015 provided a compelling backdrop to the GLMRI meeting. Interlake is already working through engineering and design, seeking regulatory approval and securing financing. When converted, the ISC ships are expected to be the first LNG-powered ships on the Great Lakes and among the first in the U.S.

Ms. Carol Wolosz, Executive Director for GLMRI opened the meeting and welcomed the attendees to the meeting. About 100 people gathered from the gas industry, governmental agencies and potential users to participate in the discussions.

Dr. Richard Stewart, Co-Director of GLMRI and the Chair of the Business Department at the University of Wisconsin-Superior, provided a brief overview outlining why this region would be a prime location for a natural gas liquefaction plant. This region is a multi-modal transportation hub servicing Class 1 Rail, shipping, trucking and pipelines. The transportation modes could not only be users of the gas but would provide the distribution network for Liquefied Natural Gas (LNG) to benefit the mining, off-pipeline power units and agricultural industries.

Mr. Troy Geiger and Mr. Kent Watt provided a presentation from Shell. Shell announced in March 2013 that they would be building a plant in Sarnia, Canada that would support shipping

and other industries (Shell.com, 2013). The press release stated that "in the Great Lakes Corridor, Shell plans to install a small-scale liquefaction unit (0.25 million tons per annum) at its Shell Sarnia Manufacturing Centre in Sarnia, Ontario, Canada. Once operational, this project will supply LNG fuel to all five Great Lakes, their bordering U.S. states and Canadian provinces and the St. Lawrence Seaway.

Mr. Kirt Montague, CEO of Plum Energy discussed the options for small scale liquefaction plants and why this region may be a very feasible location. He also provided a provocative case study of the exponential growth of LNG use in Turkey.

Mr. Gary Van Tassel from Argent Marine moderated a panel of speakers that addressed the new suppliers and users of LNG in the Great Lakes Region.

Mr. Don Debelak, the Director of LNG Fuels with Lubrication Technologies, Inc. discussed their company's current operations and future markets that are under development in Minnesota for rail and mining.

Mr. Jerry McDonald, the Technical Director for Natural Gas Products, a division of Hartland/TexPar Energy talked about LNG logistics and marketing approaches.

Mr. Joel Hirschboeck, the Director for Alternative Fuels for Kwik Trip Inc., discussed their commitment to providing natural gas. The Kwik Trip station in La Crosse, Wisconsin, opened service with natural gas in 2012, and the company has an aggressive plan to expand their alternative fuels stations. Kwik Trip currently serves the tri-state markets for Wisconsin, Minnesota and Iowa. Not only is Kwik Trip providing natural gas at their stations, they are also using it in their fleet. (KTBeyondGreen@kwiktrip.com) Mr. Hirschboeck noted in his presentation that in addition to the economic and environmental benefits of using natural gas, there are other side benefits such as reducing the odors associated when working with the petroleum based fuels.

Mr. Kerry Hackney, Marketing Director for GFS Corporation discussed the conversion of mining trucks to LNG and the potential impact it could have on the Iron Range. They have been

working with the mining industry in the Powder River Basin, and talked about the benefits and considerations that the industry is observing from the dual fuel equipment.

An open lunch was part of the meeting to support networking and cross discussions amongst the participants.

After lunch, Mr. Hackney showed a short video on the GFS Corporation's mining trucks that are now in use.

Mr. Adolph Ojard, Executive Director of the Duluth Seaway Port Authority moderated the afternoon panel addressing planning requirements for a liquefaction plant.

Mr. Joe Hoyt from Pivotal LNG/AGL Resources presented the case on why there is such a strong case on converting engines now to natural gas. With the opening of the North American shale gas market, there is currently a great price spread between diesel and natural gas and that spread is expected to continue. But natural gas not only provides an economic benefit to the industry users, but also provides large benefits to the environment with reduced emissions, while using a domestic product.

ALLETE Clean Energy (ACE) commissioned a market study with Pace Global to look at the supply, the demand, and potential consumers for LNG. Ms. Margaret Thickens (ACE) and Ms. Elaine Schildbach (Pace Global) provided a discussion on potential market drivers and enablers along with some of the considerations that will need to be addressed for investment decisions. ACE expressed an interest in investing in a liquefaction plant if the market in the region continues to grow.

Mr. Claus Emmer, the Director of Applications Development for Taylor Wharton LNG Equipment discussed the LNG Value Chain, and detailed the liquefaction process and necessary equipment for a plant along with the tanks and other equipment for storage, transportation, bunkering, spares and other supporting systems. Mr. Emmer included information for everything from the economics of a Liquefaction system to the space and tank farm options and HAZMAT considerations.

Mr. Alex Quintero from Altronic GTI Bi-Fuel Systems provided information on their conversion sets that can be installed on diesel engines to allow the use of natural gas. Mr. Claus Emmer from Taylor-Wharton LNG Equipment talked about the equipment that would be needed along the supply value chain for natural gas liquefaction through distribution and storage to the end user.

After the formal sessions of the meeting, Lubrication Technologies, Incorporated sponsored a networking session to continue the working conversations amongst the participants.

In summary, the Duluth/Superior region would provide a key location for another gas liquefaction facility that could reach out to a 250 mile radius at the western end of the Lakes. The speakers at the meeting supported this concept and discussed several on-gong projects and some of the equipment needs to support a fuel transition to natural gas.

GLMRI is currently being supported through a cooperative agreement with the Department of Transportation, Maritime Administration (MARAD), Office of the Environment, to research and study moving the Great Lakes shipping industry to natural gas. Since the initiation of this effort with MARAD and GLMRI less than two years ago, natural gas in the U.S. shipping industry has moved from concept to engineering design and utilization. It is exciting to witness the progressive movement of developing the supply chain to support the increasing industry demand on gas that can benefit the economy and the environment for the Great Lakes region and the maritime industry.

Presentations from the meeting are available on the GLMRI web page: www.glmri.org/research/

Interlake Steamship Company. (2013, May 6). Retrieved from www.interlake-steamship.com

Shell.com. (2013, March 5). Retrieved from http://www.shell.us/aboutshell/us-media-center/news-and-press-releases/2013/03052013-natural-gas-transport.html