Offshore Operators Cozy Up to LNG

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The continued fluctuation in oil prices, combined with the addition of new environmental regulations, have many offshore operators taking a closer look at liquefied natural gas (LNG) or dual-fuel powered engines.

LNG is the fastest growing segment of the gas market and is expected to become the energy source of choice in the coming years.

Selecting the most cost-effective and readily available fuel, while also retaining the ability to utilize natural gas to comply with emission limitations, will be integral to the success of many of these owners and operators of vessels ranging from ocean going container ships, offshore supply vessels and tugs barges.

As vessel operators replace their traditional vessels with cleaner, more efficient LNG-power vessels, the need for safety and technical training of those handling LNG has become even more critical.

In January, New Orleans-based Harvey Gulf International Marine launched the offshore supply vessel Harvey Energy, at the TY Offshore yard in Gulfport, Miss. It's the first U.S. flag vessel designed to operate on natural gas. Harvey Energy is the first of at least six such Wärtsilä 34DF-powered ships.

The U.S. Coast Guard has not yet established regulations governing LNG bunkering. In February 2014, the U.S. Coast Guard published CG-OES 2-14, Guidelines for Liquefied Natural Gas Fuel Transfer Operations and Training of Personnel on Vessels Using Natural Gas as Fuel.

The final policy letter will establish the guidelines for fuel transfer operations and training on personnel working on vessels that use LNG as a fuel and conduct transfer operations in waters subject to jurisdiction.

The draft policies address fuel transfer operations and the training of vessel personnel as well as safety, security and risk assessment measures for bunkering facilities and vessels.

These LNG training courses are being developed using the most recent International Maritime Organization (IMO) information. In February, the IMO developed draft amendments to Chapter V of the Standards of Training Certification and Watchkeeping (STCW) Convention and Code relating to training and certification requirements for seafarers onboard ships using gases or other low flashpoint fuels, as well as interim guidance on training for seafarers serving on ships using gases or other low flashpoint fuels.

The amendments would be adopted and be part of the 2015 amendments to the STCW. However, they will be worded so that they will come into play when the International Code for Ships using gas or other low flash-point fuels (IGF Code) comes into force 2017. The circular will come into effect when MSC approves it as a resolution in May. Its purpose is to provide guidance until the IGF Code and the relevant STCW amendments come into force. It is also expected to replace the training sections in MSC Resolution 285(86) the current draft guidelines in place.

One entity that is looking closely at LNG as a fuel is the U.S. Coast Guard's Chemical Transportation Advisory Committee (CTAC). The group's most recent meeting in early April was held at the new U.S. Coast Guard Sector Houston-Galveston headquarters at Ellington Field.

This working group was asked to identify gaps in current Coast Guard policy and regulation on the design, installation and operation of natural gas fueled systems for propulsion of commercial vessels and the design of novel vessels carrying or processing natural and compressed gas vessels. The working group also has been tasked to develop acceptable design criteria to fill those gaps.

The deepwater sector recently announced commitments to LNG as a marine fuel. Tote Inc., Crowley Maritime Corp., Horizon Marine and Interlake Steamship Co. have all announced plans that involve dual fuel or LNG fuelled engines. Many indications are that the first real implementation of LNG as fuel will be in the offshore and towing sectors.

Because the use of these fuels is relatively new, courses are still being developed to meet that needs of these stakeholders. If the prognosticators are right, LNG carriage by tug and barge is the direction everything is headed.