

## **Argent Marine Rolls Out Bunker Solutions for Alternate Fuels**

No added Infrastructure Investment

No Added Permitting or Environmental Approval

Adaptable to all Alternate Liquid Fuels

Replicates Existing Bunker Infrastructure

Argent Marine Management, Inc. unveiled a new LNG bunker vessel design, compliant with applicable IGC Code provisions and capable of both bunkering LNG fuel as well as being modified to bunker alternate liquid fuels for marine use including ammonia, methanol and liquified hydrogen, in both inland and ocean ports. This ability to bunker LNG initially and be modified for other liquid fuels minimizes the risk of investment as marine fuel options evolve and change based on technical and economic developments. Notably, once an IBV is located in a port with container handling equipment, the needed commercial infrastructure is in place to facilitate bunkering liquid marine fuel from LNG to liquified hydrogen.

The design is based upon Argent Marine's proprietary intermodal system which was originally designed for servicing small scale LNG projects and which has been redesigned to use as in-port bunkering infrastructure. The system utilizes standard low cost barge deck structures available in many shipyards, ISO/DOT certified tanktainers and a patented manifold, that facilitates both loading and off loading liquid marine fuels in bulk quantities. The Intermodal Bunker Vessel (IBV) design combines with existing or future land-based production facilities and container terminals to create a supply chain requiring no new infrastructure investment for LNG (or other liquid fuels) startup. The IBV facilitates commercial bunkering at any port where loaded tanktainers can be delivered by truck, to be replaced with in-port fuel sourcing when demand is adequate. Once loaded with filled ISO containers, the IBV can be used for bunkering alongside a vessel during cargo operations (as is currently done) or the IBV can serve as a stationary fueling depot with smaller vessels mooring to the IBV for fueling. The system is intended to immediately expand the in-port availability of currently available low carbon fuels such as LNG and to be converted to other liquid fuels as vessels and production allow, thereby eliminating the longer term risk of choosing equipment for the wrong fuel.

The innovative design also significantly reduces the capital and operating cost vs. current designs of LNG bunker vessels, minimizes regulatory timing and costs for establishing commercial bunkering operations to replace oil based bunkers and requires no in-port infrastructure investment, resulting in rapid startup of bunkering operations and commercial delivery costs comparable to conventional marine bunkering operations.

The intermodal technology has met applicable regulatory requirements for transport and transfer of LNG and is currently operating in a commercial capacity. Both the vessel design and bunkering operations are scalable, allowing expanded capacity by adding tanktainers to the vessel manifold; and, as fuel volumes grow and support production and storage in port, the IBV converts to port sourced supply operations, loading on-board tanktainers in bulk from local tanks. As trucking and container handling are eliminated, bunkering costs are further reduced.

The components of the IBV are also re-locatable and can be reused in other bunker operations should market conditions dictate, eliminating the special purpose restrictions common for dedicated LNG assets.

Argent Marine intends to select specific ports where high permitting and/or startup costs are slowing the introduction of LNG or alternate fuels and to align with current LNG suppliers to offer low cost, early LNG bunker availability and a direct conversion path as alternate fuels become commercial for marine use. Argent Marine will also license the IBV design and intermodal technology for use by other bunker operators, ports or marine companies.

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