

Better LNG Tanks



Ponant's new ice-breaking expedition vessel will be outfitted by GTT LNG tanks.

When Ponant's new LNG-fueled, ice-breaking expedition vessel *Le Commandant Charcot* enters service in 2021, she will have a fuel handling system from Wartsila and fuel membrane tanks from GTT.

"GTT's membrane type LNG fuel tanks guarantee a tremendous volume optimization," said Julien Bec, vice president LNG as a fuel division, GTT. "A fully integrated tank solution provides a better fit in the hull and avoids loss of space."

Bec continued: "We can work with owners contemplating LNG solutions for cruise ships from concept design to delivery and commissioning, including

training of crew with a simulator for LNG operations.

"We also propose access to our 24/7 hotline in case of emergencies. These services are already in place for the LNG tanker fleet that is equipped with our systems."

GTT has a close working relationship with Wartsila, together they offer a seamlessly integrated LNG fuel system, tank and powerplant solutions.

With space at a premium aboard cruise ships, Bec said that choosing the right tank technology takes on added importance. For a given amount of energy, LNG volume is almost twice that of HFO. Thus, the challenge becomes to carry suf-

ficient fuel while keeping the impact on commercial space at a minimum.

"The membrane system can be designed in complex shapes," Bec explained, "and literally fit into any hull. It offers a tremendous space advantage compared to other tank types."

Using *Le Commandant Charcot* as an example, he said that within the same space constraints, the membrane tank capacity reaches 4,500 cubic meters of LNG compared to other systems at 2,900 cubic meters. Thus, with 55 percent more LNG onboard, the 30,000-ton, 270-passenger vessel can meet her sailing distances without bunkering during cruises.

The membrane tanks have a long history going back to the 1960s when they were first introduced by GTT. Today, the same technology is used for small and big tanks, up to 58,000 cubic meters.

"For cruise ship designs, we are seeing tanks that start at a few hundred cubic meters for short-distance sailings up to 5,000 cubic meters for expedition vessels and large cruise ships," he said.

Retrofits are also possible, according to Bec, who said the company is working with several owners based on the recently released LNG Brick solution.

"We cannot predict what share of LNG propelled ships the future cruise fleet will have, but nevertheless we anticipate that the penetration rate in this segment will probably be the highest in the shipping industry.

"Cruise ships and LNG are a good match for cleaner emissions." ■