GE Celebrates LM2500 Gas Turbine Composite Module for DDG

The new composite module design for the LM2500 marine gas turbine. GE Marine

EVENDALE, OHIO (October 26, 2020) – GE Marine recently hosted a virtual meeting that drew more than 60 attendees from the United States Navy, Bath Iron Works, Huntington Ingalls and other strategic partners, to celebrate the teams involved in the Module Modernization Program (MMP). The event also lauded those individuals who participated in the manufacturing and assembly of this first new module for the Arleigh Burke destroyer USS Ted Stevens (DDG 128).

This four-year collaborative U.S. Navy program resulted in the design, development, qualification and manufacture of a new lightweight composite module design for GE's LM2500 marine gas turbine. GE currently has orders for 52 new composite enclosures for U.S. and international navy applications.

"This new module design provides significant weight reduction, improved sensors, along with reduced noise transmission and thermal heat rejection," said Lee Fuglestad, U.S. Navy Technical Director of the AEGIS Destroyer Program Office (PEO Ships PMS 400). Fuglestad was the sponsor and leader of the MMP. "The lightweight enclosure is especially important since the U.S. Navy has more than 370 GE LM2500 engines in service as the backbone of the DDG fleet, logging over 6 million operating hours."

"The MMP team is an excellent model of how the U.S. Navy and industry can partner on state-of-the-art fleet improvements. With delivery of DDG Flight III destroyers planned through 2028, GE's LM2500 gas turbines will power these U.S Navy

surface combatants until the 2070s," Fuglestad concluded.

In addition to representatives from GE Marine, attendees included the U.S. Navy; Bath Iron Works, Bath, Maine, the lead design services shipyard; Huntington Ingalls, Pascagoula, Mississippi, construction lead on DDG 128; RL Industries, Fairfield, Ohio, composite fiber enclosure development and production; and Leonardo DRS Power Technology, Fitchburg, Massachusetts, gas turbine package integration.

According to Tony Mathis, Vice President, GE Military Systems, "GE appreciates the U.S. Navy's leadership that brought the MMP team together. During this time of COVID, we are especially grateful for the opportunity to say thank you to our employees and our great partners that developed and produced this game-changing product."

The virtual meeting included a summation by the U.S. Navy and GE team members of the improvements to the LM2500 including the composite module and components that yielded a 6,000-pound weight savings. In fact, GE recently delivered the first lightweight LM2500 composite module to Austal USA, Mobile, Alabama, for the future USS Santa Barbara (LCS 32). The future USS Ted Stevens (DDG 128), expected to be delivered in 2024, is under construction at Huntington Ingalls Industries shipyard.

MMP improvements include fewer shock mounts for weight reduction all while leveraging the experience and loadings from previous LM2500 shock tests with running units. The lightweight composite module wall temperatures are 25 F to 50 F degrees cooler so there is less heat rejected into the engine room.