Nation's First Littoral Combat Ship Lights Off Gas Turbine Engines In Preparation For Sea Trials

Freedom (LCS 1) Turbines The Largest Ever Installed On A U.S. Navy Ship

The nation's first Littoral Combat Ship, Freedom (LCS 1), has successfully completed another testing milestone with the "light off" of the new warship's twin gas turbine propulsion engines as it undergoes final preparation for sea trials. The first ship in its class, the agile, 378-foot Freedom was designed and built by a Lockheed Martin -led industry team to assist the U.S. Navy in future littoral -- or close-to-shore -- operations.

Freedom is powered by an innovative combined diesel and gas turbine propulsion plant, with steerable water jet propulsion. The two Rolls-Royce MT30 gas turbines are the largest and most powerful ever installed on a Navy ship -- rated at 36 megawatts or 48,000 horsepower each. They will allow LCS 1 to sustain sprint speeds over 40 knots. Over the next few weeks, dock-side testing of the ship's engines and other systems will continue at Marinette Marine prior to open water trials later this spring. Freedom will be delivered to the U.S. Navy in 2008 and will be homeported in San Diego.

"The light off of the gas turbines is a significant milestone for both Lockheed Martin and the Navy in the life of Freedom and the LCS program," said Dan Schultz, vice president and general manager of Lockheed Martin's Maritime Security & Ship Systems business. "This milestone brings the team another step closer to delivering this much needed capability to the Navy and the warfighter."

With construction on Freedom essentially complete, the dock-side final tests of the ship's systems continue. In February, LCS 1's four 750-kilowatt Fincantieri Isotta Fraschini diesel generators were "lit off" and its three-megawatt electrical power plant was successfully tested, loading each generator to its full-power capacity. Further testing included synchronizing -- or "paralleling" in shipbuilding terms -- the generators to attain the power levels required to support Freedom's operations at sea. In addition, the power quality was closely evaluated to ensure all ship systems and sensors requiring electrical power could operate effectively marking a significant milestone for Freedom as her electric plant is completely functional and able to support all tests, evaluations and operations at sea.

The Lockheed Martin team's design for LCS is a survivable, semi-planing steel monohull that provides outstanding maneuverability with proven sea-keeping characteristics to support launch and recovery operations, mission execution and optimum crew comfort. Team members also include naval architect Gibbs & Cox, ship builders Marinette Marine, a subsidiary of The Manitowoc Company, Inc. , and Bollinger Shipyards, as well as best-of-industry domestic and international teammates to provide a flexible, low-risk war fighting solution.

Headquartered in Bethesda, MD, Lockheed Martin employs about 140,000 people worldwide and is principally engaged in the research, design, development, manufacture, integration and sustainment of advanced technology systems, products and services. The Corporation reported 2007 sales of $41.9 billion.

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