Makin Island (LHD 8) Successfully Completes Second Round of Builder’s Trials

WASHINGTON -- Amphibious assault ship Makin Island (LHD 8) successfully completed its second round of Builder’s Trials Feb. 7 after spending four days at sea. The trials took place off the coast of Northrop Grumman Shipbuilding’s Pascagoula, Miss., facilities in the Gulf of Mexico.

“The trials went extremely well,” said Capt. Jeff Riedel, amphibious ships program manager in the Navy’s Program Executive Office (PEO) Ships. “The ship’s major new systems – the machinery control system, gas turbines and Auxiliary Propulsion System – all worked very well, and the ship is very complete and clean.”

Acceptance Trials for Makin Island are scheduled for next month. Makin Island is projected to join the fleet in October 2009.

Makin Island participated in a second round of Builder’s Trials primarily to test the ship’s propulsion system, which includes gas turbines and an innovative hybrid electric drive. LHD 8 is the first U.S. Navy amphibious assault ship to replace steam boilers with gas turbines, and the first Navy surface ship to be equipped with both gas turbines and an Auxiliary Propulsion System (APS).

This unique auxiliary propulsion system is designed with fuel efficiency in mind. The APS uses two induction-type Auxiliary Propulsion Motors (APM) powered from the ship’s electrical grid instead of using main propulsion engines to power the ship’s shaft. Instead of using its gas turbines which are less efficient at lower speeds, the ship will be able to use its APS for roughly 75 percent of the time the ship is underway.

The entire propulsion and electric system is controlled by a comprehensive machinery control system that also controls and monitors damage control, ballasting and de-ballasting, fuel fill and auxiliary machinery. The machinery control system allows the ship to switch from gas turbine to electric propulsion on the fly. It is fully distributed, accessible from multiple locations, and every console provides full system control and monitoring capabilities of the entire engineering plant.

The APS is expected to save more than $500,000 a year in fuel costs, based on a projected 325,550 gallons of fuel used at the price of $1.71 per gallon. Over the course of Makin Island’s lifecycle, the Navy expects to see a savings of more than $21 million. Because the gas turbines will be used infrequently, the Navy will also save on maintenance and lifecycle costs.
The propulsion plant and electrical distribution and auxiliary systems designed and built for Makin Island will also be used aboard the future USS America (LHA 6), the first ship in the LHA Replacement program.

Second only to aircraft carriers in size, Wasp-class amphibious assault ships are the largest amphibious ships in the world. These ships are specifically designed to remain off shore near troubled areas of the world, ready to send forces ashore quickly by helicopters, tilt rotor aircraft and Landing Craft Air Cushion (LCAC) hovercraft. As the centerpiece of a Navy Expeditionary Strike Group, LHDs are fully capable of conducting and supporting amphibious assaults, advance force and special purpose operations, non-combatant evacuation, and other humanitarian missions. LHDs, along with the other ships of an Amphibious Ready Group, embark, transport, deploy, command and fully support a Marine Expeditionary Unit of 2,000 Marines with their gear.

PEO Ships is responsible for the development and acquisition of U.S. Navy surface ships, and is currently managing the design and construction of 11 major ship classes and a wide range of small boats and craft. These platforms range from major warships such as frontline surface combatants and amphibious assault ships to air-cushioned landing craft, oceanographic research ships and special warfare craft. Since its creation in November 2002, PEO Ships has delivered 27 major warships and hundreds of small boats and craft from more than 20 shipyards and boat builders across the United States.

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