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LCE Helps NAVSSES Upgrade Control Systems Aboard Arleigh Burke Class Guided Missile Destroyers

The Naval Surface Warfare Center Carderock Division (NSWC) is the U.S. Navy’s center of excellence for ships and ship systems. Its Ship Systems Engineering Station (SSES) division site in Philadelphia is recognized as the center for naval machinery and considered the Navy’s resident mechanical and electrical systems and equipment expert. Located in the Philadelphia Navy Yard, SSES employs more than 1,300 engineers and technicians. Their facilities include some of the Navy’s most impressive land-based test sites.

The Situation

The Arleigh Burke Class Guided Missile Destroyers (DDGs) are equipped with the Navy’s Aegis Combat System, the world’s foremost integrated naval weapon system. The program began with the commissioning of the USS Arleigh Burke (DDG51) in 1991 and was slated to end with the current acquisition of the USS Michael Murphy (DDG112). A DDG Modernization Back-fit program (DDG M) is underway for in-service ships, with the DDG-51 and DDG-53 currently in availability. DDG M will provide a comprehensive mid-life upgrade that will ensure the DDG 51 class will maintain mission relevance. The goal of the DDG M effort is to reduce workload requirements and increase war fighting capabilities while reducing total ownership cost to the Navy.

The Challenge

With the DDG M ship availability schedule quickly approaching, the Navy sponsor selected SSES to be responsible for the Machinery Control System (MCS) and the Fuel Control System (FCS) requirements design, and testing of the systems.

The Solution

In conjunction with SSES engineers, the LCE engineering team on the project took the MCS and FCS software code and redesigned and tested the system. The result was a final product which met the requirements, was on time, while reducing cost to the Navy.

About LCE

Life Cycle Engineering (LCE) is a leading provider of reliability consulting, engineering services, and applied technology solutions that help both government and private enterprises achieve sustainable success. Widely recognized as the premier provider of innovative and successfully executed reliability and maintenance solutions worldwide, areas of focus for LCE include: design and engineering, logistics support, information technology applications, program management, change management, education, and holistic implementations of Reliability Excellence (Rx). Founded in 1976, LCE is headquartered in Charleston, South Carolina with offices across North America.