

New Winch Will Enable Less Expensive Maintenance of RMS Component

Status: Implemented

PROBLEM / OBJECTIVE

The Navy's Remote Minehunting System (RMS) consists of a Remote Multi-Mission Vehicle (RMMV) towing an AN/AQS-20 Volume Depth Sonar. Currently there is no winch that meets Navy requirements for conducting shipboard periodic maintenance on the RMS tow cable. The winch that most closely met the requirements was more expensive and required extensive non-recurring engineering and integration. A Navy Metalworking Center (NMC) project team developed and tested a winch and ruggedized container that meets all functional, dimensional, and environmental requirements and costs less to construct. The winch and container were intended for implementation by the RMS Program Office (PMS 403) and In-Service Engineering Agent (ISEA) to support RMS operations and deployment.

ACCOMPLISHMENTS / PAYOFF

Process Improvement:

The team searched for commercial off-the-shelf winches that would meet the requirements, but found none. They then developed a winch, leveraging the knowledge and experiences of Appleton Marine, Inc., to achieve winch requirements. Midway through the program, additional requirements were levied to make the system I-Flyaway capable. The team addressed these additional requirements by developing an integral container around the winch to minimize weight while maintaining structural integrity. The Office of Naval Research (ONR) awarded the team the 2016 Technology Transition Achievement Award for its successful and timely acquisition and transition of the TCMW into the RMS program. The award recognizes the exceptional effort required for rapid transition of new technology into a program of record for improving system performance or decreasing operations or support costs.

Implementation and Technology Transfer:

The winch successfully passed acceptance testing in March 2016, after which NAVSEA and NMC transferred the winch to NSWC Panama City Division (NSWCPCD) for shore-based maintenance of the RMS. NSWCPCD will also evaluate the winch for use with the Unmanned Influence Sweep System. Additional winches will be procured when the Unmanned Maritime Systems Program Office (PMS 406) determines a suitable path forward on the Mine Countermeasures Mission Package.



The TCMW is designed to provide a means for shipboard maintenance of the cable between the RMMV and the towed minehunting sonar system. (NMC photo).

Expected Benefits and Warfighter Impact:

- Achieved a unit purchase price of < \$200K
- Adjustable cable speed and tension
- Reduced labor required for cable maintenance
- Improved operational safety

TIME LINE / MILESTONE

Start Date: February 2014
End Date: July 2016

FUNDING

Navy ManTech Investment: \$0.0M
Cost Share: \$1.5M
(Technology Insertion Program for Savings)

PARTICIPANTS

PMS 403
PMS 420
NSWCPCD
Lockheed Martin Mission Systems and Training
NMC
Appleton Marine, Inc.
ONR Navy ManTech

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