

Global Command and Control System – Maritime (GCCS-M)

Executive Summary

- The Navy’s Commander, Operational Test and Evaluation Force (COTF) conducted operational tests on the Global Command and Control System – Maritime (GCCS-M) Release v4.0.3, v4.0.3.1, and v4.1 in FY10. Testing was adequate and conducted in accordance with DOT&E-approved test plans.
- DOT&E determined that GCCS-M v4.0.3 and v4.0.3.1 were effective and suitable for Group Level and Force Level ship configurations, respectively. Results of the GCCS-M v4.1 operational tests are pending.

System

- GCCS-M is a command, control, communications, computers, and intelligence system consisting of software, procedures, standards, and interfaces that provide an integrated near real-time picture of the battlespace used to conduct joint and multi-national maritime operations. The Navy’s Networks, Information Assurance, and Enterprise Services Program Office, PMW 160, provides hardware and hosting services for the GCCS-M software system, to include either the Integrated Ship Network System (ISNS) infrastructure or the Common Computing Environment (CCE) / Consolidated Afloat Networks Enterprise Services (CANES) infrastructure.
- GCCS-M Increment 2 is being operationally tested at the Force, Group, and Unit Levels. Force Level includes aircraft carrier (CVN), amphibious assault (LHA and/or LHD), and command ships. Group Level includes guided missile cruisers (CG) and destroyers. Unit Level includes guided missile frigates, dock landing ships, amphibious transport docks, and patrol coastal crafts.
- GCCS-M Increment 2 consists of two distinct types of software:
 - A solution for the aircraft carrier, amphibious command ship (LCC), and amphibious assault ship providing capability based on the GCCS-Joint software baseline.
 - A solution for the guided missile cruiser and below providing capability based on the eXtensible Common Operational Picture (XCOP) software baseline.



- The Navy intends to release the Group and Unit Level solution in a three configuration phased approach, starting with the solution for the patrol coastal ships, then the full Unit Level ships, and finally the Group Level ships.

Mission

- U.S. maritime commanders utilize GCCS-M to exercise command and control over forces in support of maritime operations.
- Commanders at all echelons use GCCS-M to:
 - Provide a single, integrated, scalable command and control, communications, computers, and intelligence system.
 - Support the decision-making process.
 - Process, correlate, and display geographic track information on friendly, hostile, and neutral land, sea, air, and space forces, integrated with available intelligence and environmental information.

Major Contractor

Northrop Grumman Mission Systems – San Diego, California

Activity

- Operational testing of GCCS-M Release v4.0.3, v4.0.3.1, and v4.1 conformed to the DOT&E-approved test plan and was adequate.
- COTF conducted the GCCS-M 4.0.3 system operational test October – November 2009 onboard the USS *Cape St George* (Group Level) while the ship was underway conducting naval surface fire support qualifications. The maritime commander

- conducted surveillance and defense exercises in conjunction with units from the U.S. Coast Guard and the Canadian Navy.
- COTF conducted the GCCS-M 4.0.3.1 system operational test in May 2010 onboard the USS *Abraham Lincoln* (Force Level) while the ship was underway conducting Tailored Ship’s Training Assessment in the Southern California operations area.

NAVY PROGRAMS

- COTF conducted the GCCS-M 4.1 operational test May – July 2010 onboard the USS *Tempest* (Patrol Coastal) while underway conducting simulated oil platform defense exercises in the Chesapeake Bay operations area and participating in the Commander, Second Fleet Common Operational Picture.

Assessment

- The Group Level variant of the GCCS-M 4.0.3 system is operationally effective and suitable. The GCCS-M v4.0.3 system met or exceeded all threshold requirements and satisfied all tested Critical Operational Issues (COIs). In comparison to legacy releases, the system demonstrated improved capabilities in processing, online documentation, and editing and exporting overlays, as well as more efficient loading of client workstations. A transition to blade-type servers and increased capacity storage hard drives reduces the space requirements for servers and workstations and provides the capability to accommodate future upgrades by expanding processing and storage capability.

- The Force Level variant of the GCCS-M v4.0.3.1 system is operationally effective and suitable. The GCCS-M v4.0.3.1 system met or exceeded all threshold requirements. The system included significant upgrades to the operating systems necessary to address security problems and obsolescence. The GCCS-M v4.0.3.1 system reduced client installation times and improved the information assurance posture compared to legacy releases. There were minor shortfalls associated with the Processing, Warfare Mission Planning, Reliability, and Documentation COIs, but these issues did not significantly detract from the overall mission capability.
- DOT&E expects results of the GCCS-M v4.1 operational tests to be available in early 2011.

Recommendations

- Status of Previous Recommendations. The Navy addressed all previous recommendations.
- FY10 Recommendations. None.