Common Submarine Radio Room (CSRR) (Includes Submarine Exterior Communications System (SubECs))

Executive Summary

- The Navy has shifted to incremental development of the Common Submarine Radio Room (CSRR), principally due to performance shortfalls and schedule slips in component programs that are integrated into CSRR. The system is projected to meet full capability when Increment 3 is fielded in FY13.
- The Navy is buying and installing low-rate numbers of CSRR. A full-rate production decision for CSRR Increment 1 is scheduled for July 2007. Currently fielded versions do not have full Increment 1 capability.
- The Navy completed Technical Evaluation and an operational assessment of the *Seawolf* SSN CSRR variant in June 2006. Operational Evaluation of the *Seawolf* variant began on September 11, 2006; Operational Evaluation results will be available in December 2006.
- The Navy plans to complete Operational Evaluation of the Guided Missile Submarine and Ballistic Missile Submarine variants of CSRR prior to the July 2007 full-rate production decision.
- Due to funding constraints, the Navy delayed the first *Los Angeles* class installation to FY15.

System

CSRR/Submarine Exterior Communications System (SubECS) is an umbrella program that integrates smaller communications equipment acquisition programs and commercial off-the-shelf components into a submarine communications network.

- It provides a common communication system across all classes of submarines and is designed to support the steady infusion of new technology with modernization and software replacement of obsolete equipment.
- It establishes common hardware and software baselines.
- *Virginia* class CSRR is developed and integrated as part of new construction. Other submarine class radio rooms are backfitted with CSRR variants to establish a common radio room baseline.

Mission

The Submarine Force utilizes the CSRR/SubECS to provide a common radio room capable of secure, reliable, and covert communications across all classes of submarines to accomplish assigned missions. CSRR:

- Manages, controls, and disseminates command, control, communications, computers, and intelligence information routed to and from submarines in an open architecture
- Enables Net-Ready communications and operations

Activity

- The Navy has CSRR variants installed on the three *Seawolf* class submarines, the Trident Training Centers, the *Ohio* Class Guided Missile Submarine conversions, and the *Virginia* class submarines. Although significant land-based integration facility testing had been conducted, these CSRR units were installed before the program completed initial developmental test reporting or an independent operational assessment.
- The Navy completed Technical Evaluation and an operational assessment of the *Seawolf* class CSRR variant in June 2006. Based on test results, the Program Executive Officer, Command, Control, Communications, Computers, and Intelligence, authorized low-rate production of an additional four CSRR units in August 2006.
- IOT&E of the *Seawolf* variant, originally scheduled for FY03, began in September 2006. The *Seawolf* variant will be the first CSRR to complete IOT&E. To permit the deployment of USS *Seawolf* prior to full operational testing, the Commander,

Operational Test and Evaluation Force completed a satisfactory Quick Reaction Assessment in May 2006.

- The Navy approved a Capability Production Document (CPD) for CSRR in May 2006. This CPD implemented Net Ready interoperability requirements and updated some of the original CSRR performance requirements. The CPD calls for an incremental development for the CSRR due to component program performance shortfalls and schedule slips. The system is not projected to meet full capability until Increment 3 is fielded in FY13.
- DOT&E approved Change 2 to the CSRR Test and Evaluation Master Plan (TEMP) Revision 1, incorporating the CPD performance objectives to support initial operational testing of the *Seawolf* class CSRR/SubECS variant. Revision 2 to the TEMP, fully incorporating CPD requirements and reflecting other program changes, will be approved prior to operational testing on all other CSRR variants.

Assessment

- The CSRR program made significant progress toward testing and correction of deficiencies in FY06. While not all operational Measures of Effectiveness were demonstrated during the *Seawolf* variant Technical Evaluation and concurrent operational assessment, extensive circuit testing was conducted both dockside and at sea. Technical Evaluation deficiencies were numerous, but minor. DOT&E concurred with the assessment that the CSRR variant was ready for Operational Evaluation.
- The CSRR has been a high-risk program because it integrates several high-risk component programs. These component programs are often behind schedule or deliver less than the required capability. Most of the CSRR schedule slippage can be attributed to poor supporting component program performance or late delivery, which requires CSRR redesign to substitution legacy equipment.
- Primarily as a result of schedule delays in component programs, the Navy shifted to incremental development of the CSRR. The system is not projected to meet full capability until Increment 3 is fielded in FY13. Due to funding constraints, the Navy delayed the first *Los Angeles* class installation to FY15.
- The Navy is procuring low-rate numbers of CSRR systems and installing the systems onboard submarines. Each CSRR system is slightly different based on the state of the CSRR and supporting component program and software development at installation. The shift to incremental development and strict adherence to an established configuration within each increment can help ensure that operational testing is adequate as the program moves forward.

Recommendations

- Status of Previous Recommendations. The Navy has taken effective action on all previous DOT&E recommendations.
- FY06 Recommendation.

1. The Navy should ensure each CSRR variant completes operational testing before the hosting ship deploys.