

## Common Submarine Radio Room (CSRR)

### SUMMARY

- The Common Submarine Radio Room (CSRR) installation on USS *Seawolf* is in progress and will be complete in FY05. The Navy's estimate for the operational evaluation is late 2005.
- The Navy is revising the Test and Evaluation Master Plan to update the test schedule and to clarify test requirements. The Test and Evaluation Master Plan revision will be complete in late 2004.



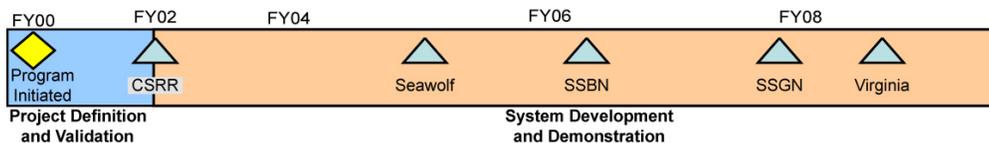
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### SYSTEM DESCRIPTION AND MISSION

The CSRR is an umbrella program, which integrates 15 smaller acquisition programs and commercial off-the-shelf components into a system that supports network-centric warfare. The Navy's goal is to provide a communications system that is common across all submarine classes, is interoperable with the planned Department of Defense Command, Control, Communications, Computers and Intelligence infrastructure, and will support the Navy's Copernicus Information System Architecture, the Joint Technical Architecture, the Global Command and Control System Maritime, and the Joint Maritime Communications System. CSRR will support the steady infusion of new technology and the modernization and replacement of obsolete equipment to allow prompt, sustained, and synchronized operations with joint U.S. and multinational forces.

The Navy will field CSRR variants upgrading the communications systems of all *Los Angeles* class, *Seawolf* class, *Trident* class, SSGN class, and *Virginia* class submarines. In order to arrive at the goal of a CSRR on all ships, the *Los Angeles* and *Seawolf* classes are being provided with a backfit Submarine Communications Support System that eliminates many legacy components in favor of CSRR components. The *Virginia* class CSRR is developed and integrated as part of new construction using the construction shipyard as the integrator. The goal for the out-years is that all in-service submarines will be upgraded to the technology of the *Virginia* CSRR, plus any necessary technology insertions, maintaining a common state-of-the-art radio room on all submarine classes.

### TEST AND EVALUATION ACTIVITY



The test concept involves operational testing for each CSRR variant and end-to-end system testing for each major phase. Each CSRR variant undergoes operational testing before introducing it into the fleet. CSRR class variants may undergo a land-based operational assessment and land-based technical evaluation to mitigate risk for submarine installation. Subsequent to onboard installation, each CSRR class variant will undergo an at-sea technical evaluation (for those tests not completed in the land-based radio room) and an operational evaluation. The *Virginia* class land-based testing occurs in the Combat Control System Module Off-hull Assembly and Test site during *Virginia* class submarine

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construction at the Electric Boat Company in Groton, Connecticut. At-sea operational testing of the *Virginia* CSRR will occur concurrently with the overall operational evaluation in 2008.

The at-sea operational testing of the Submarine Communications Support System-Phase I was cancelled when the test ship was deployed on short notice to Operation Iraqi Freedom. With the pending CSRR testing and no test platform, Phase 1 testing was overcome by events. The Navy will test the first version of CSRR on the USS *Seawolf* in FY05. The initial USS *Virginia* at-sea testing during builder's trials completed without communications problems. The CSRR Capstone Test and Evaluation Master Plan is undergoing a revision to clarify requirement measurements and schedules. Among other issues, the revision clarified the rules for defining failures. This Test and Evaluation Master Plan update will be complete in late 2004.

## TEST AND EVALUATION ASSESSMENT

CSRR is a high-risk program because it is integrating several high-risk programs (such as the Digital Modular Radio and Multi-functional Cryptographic System into a single integrated system). Many of the sub-component programs are delivering less than fully capable systems, requiring the CSRR program to rely on legacy radio equipment to fulfill a portion of the system functionality. These delays result in either a loss of redundancy, a loss of a capability, or the loss of space because legacy systems must be retained onboard until the new capability is delivered. Due to delays in delivering full Multi-functional Cryptographic System and Digital Modular Radio functionality, the USS *Seawolf* installation, currently in progress, will result in the ship having only one UHF asymmetric data circuit. If the Multi-functional Cryptographic System and Digital Modular Radio meet their new delivery deadlines, the communications suite will be fully capable by September 2005. These delays will delay full operational testing of the *Seawolf* variant of CSRR, but will have minimal effect on planned operations on the USS *Seawolf*.