

SSGN-26 *Ohio* Class Conversion

As four *Ohio* Class nuclear ballistic missile submarines (SSBNs) became eligible for retirement from their strategic role, the Navy decided to reconfigure them as tactical platforms. The SSGN program entails the refueling and conversion of the four SSBNs to dedicated cruise missile launch submarines (SSGNs) to support the Land Attack/Strike mission. The new Multiple All-up-round Canister (MAC) launchers, each containing seven Tomahawk land-attack missiles (TLAMs), are designed to fit within the existing Submarine Launched Ballistic Missile (SLBM) vertical launch tubes. Each SSGN could possibly accommodate up to 22 MACs, for a total of 154 TLAMs.

The SSGN will also support Special Operations Forces (SOF) missions. Two of the large vertical launch tubes will be converted to SOF lockout chambers, and the ship will feature dedicated accommodations for SOF personnel and their equipment. The SSGN will be capable of hosting the Advanced SEAL Delivery System (ASDS) and Dry Deck Shelter (DDS) on its upper deck.

In the future, the extensive payload capacity of the SSGN may be used to support other offboard systems, including large unmanned and autonomous underwater vehicles, as well as alternate weapons systems.

TEST & EVALUATION ACTIVITIES

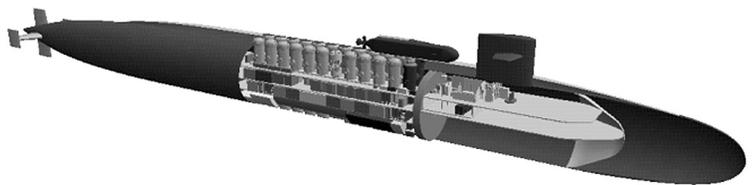
The SSGN Operational Requirements Document (ORD) and Test and Evaluation Master Plan (TEMP) have been completed. DOT&E participated in the review and drafting of both documents.

DOT&E and SSGN Program Office (PMS 398) held frequent meetings to develop meaningful test and evaluation plans, beginning with the formation of the Test and Evaluation Working Integrated Product Team in September 2001 until the issuance of the Live Fire Test and Evaluation (LFT&E) Management Plan. This plan includes shock qualification tests and analysis of components, a modified Total Ship Survivability Trial, and a series of three vulnerability assessments.

In May 2002, DOT&E approved a waiver from full-up, system-level live fire testing of the SSGN in accordance with Title 10, Section 2366.

TEST & EVALUATION ASSESSMENT

DOT&E's primary concern is that the thorough and realistic Operational Test and Evaluation of the MAC be conducted. While the Navy has extensive experience with vertical launch of TLAMs from Improved *Los Angeles* Class SSNs and submarine launched ballistic missiles (SLBMs) from SSBNs, the MAC represents an entirely new launch system. Specifically, the MAC includes up to seven separate all-up round (AUR) TLAM canisters placed within a single vertical tube with a single hatch. The launch concept includes risks, such as the effects of launch debris on the ship and associated systems, launch damage to adjacent AURs, and the effects of the SSGN's hydrodynamic flow field on the missiles. DOT&E supports the program's Demonstration and Validation plan as an important technical test and risk mitigation effort. Based on DOT&E desires, the current Strike operational test plans include the launch of five TLAMs from a single MAC, spaced as closely as possible over several days. While the firing rate will be too slow to accurately replicate a true salvo, DOT&E believes that the cumulative stress on the system will be representative. In addition, a full set of 32 AURs will be loaded and spun up as part of the at-sea testing of the weapons control system.



Artist Conception of SSGN

NAVY PROGRAMS

For both the Strike and SOF mission operational tests, the conduct of realistic operations against a capable opposing force is essential. The SSGN program is predicated upon the existing stealth of the SSBN platform. However, DOT&E emphasizes that the SSGN missions will involve new concepts of operations and take it into new environments, including the littorals. The SSGN must demonstrate the ability to execute its missions effectively while maintaining survivability. DOT&E is particularly interested in the ability of the sonar and combat systems to support the situational awareness necessary to accomplish these new missions.

Original *Ohio* Class vulnerability requirements must be reevaluated in light of current events and a radically changed set of missions as set forth in the ORD, which recently reinstated mines as a specific threat. Because of the necessarily rapid nature of progress on this high-visibility, transformational weapons system, all parties with LFT&E responsibility must necessarily stay consistently engaged, to ensure maximum benefits in the areas of ship vulnerability and crew safety and escape are achieved.