

### *VCS Supply Chain Manufacturing Technology Review*

The General Dynamics Electric Boat (GDEB) and Northrop Grumman Newport News (NGSB) shipyards have identified another opportunity to reduce cost from the Virginia Class Submarine (VCS) program. The *Virginia Class Submarine Supply Chain Technology Review* project will identify key cost drivers for the 40 most costly contractor furnished components for this program, and will leverage in-house expertise in the areas of design, engineering, procurement, and delivery to work with vendors to reduce costs wherever possible.



The project team will subject each of the 40 vendor furnished components to a series of reviews, encompassing every stage of the installation process, from initial design, procurement, receipt inspection, all the way through shipyard delivery to the ship. Design engineers will determine if current component designs have been optimized to reduce cost and schedule, and if the most effective and efficient techniques are being used to manufacture them. Dimensional accuracy requirements

that drive costs will be challenged where practical. Design-for-assembly (DFA) tasks affecting components or gaps where DFA should be employed will also be considered. Additionally, the project team will evaluate vendors' existing infrastructures for their ability to provide components for two ships per year.

Once all 40 components have been initially reviewed, the project team will identify the top 10 vendors for whom any recommended changes in design, engineering, manufacturing, and/or delivery will provide the greatest cost savings and probability of implementation. Following vendor commitment, GDEB will lead a series of meetings at each vendor site to discuss the proposed actions that will ideally bring down the cost of their respective components, and an implementation plan will be developed so that all stakeholders can agree upon a clear transition strategy.

Experience with similar design reviews indicates that this project could save 1% of the total cost of the 'Top 40' contractor furnished components for the Virginia Class Submarine. Since GDEB and NGSB currently procure these components for roughly \$146M per VCS hull, this represents \$1.46M in potential savings per hull. Considering the total investment to implement this project's results, both the ManTech investment and the Virginia shipyards' estimated implementation cost, this project's investment could be returned after just two ships.

#### ***About CNST***

CNST is a Navy ManTech Center of Excellence, chartered by the Office of Naval Research (ONR) to identify, develop and deploy, in U.S. shipyards, advanced manufacturing technologies that will reduce the cost and time to build and repair Navy ships. For additional information on this and other CNST projects, please visit [www.cnst.us](http://www.cnst.us).