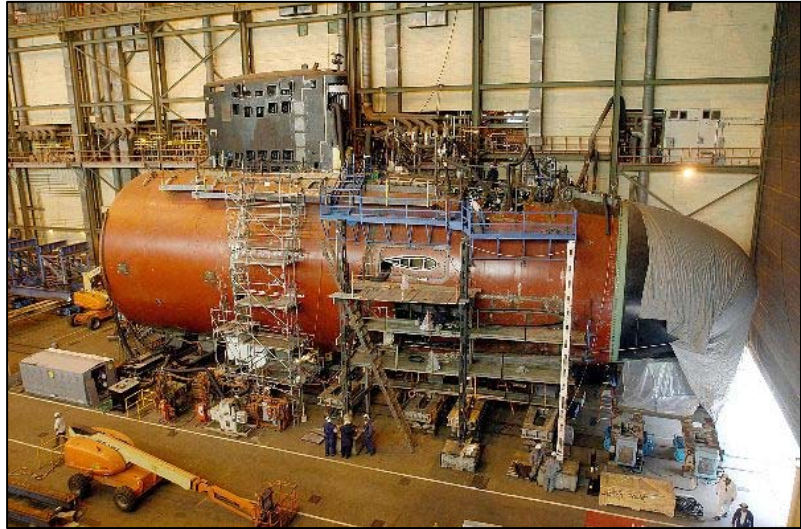


SMALL WELDMENTS OPTIMIZED CELL

This Navy ManTech project will optimize the process for assembling small weldments from component-level parts at the Northrop Grumman Shipbuilding -Newport News (NGSB-NN) shipyard.

Computer simulations conducted earlier this summer predicted touch labor reductions of up to 25% in the small weldments process by optimizing cell configuration, tooling, equipment, material flow, and work sequences. With over 1,800 small weldments assembled per VIRGINIA-Class Submarine (VCS), these improvements would yield estimated per-hull savings of \$2.4M for the VCS program and over \$12M for the FORD-Class aircraft carriers. Additionally, modernizing the small weldments facility will alleviate one potential bottleneck during simultaneous construction of two VCS hulls and one aircraft carrier per year.

Simulation results specify state-of-the-art tooling and equipment in each 'optimized' cell, including fixturing tables and tool kits, weld positioners, and lifting devices. As such, test cells have been erected in the NGSB-NN small weldments fabrication shop – populated with the specified equipment – to validate computer predictions. Controlled tests began in November 2008 on production assemblies. Labor hours charged for each work package will be compared with historical expenditures to determine the cost savings.



The forward section and sail unit of the SSN 777, under construction at Northrop Grumman Newport News shipyard.

Provided pilot tests generate favorable results, NGSB-NN plans to submit a capital expenditure request to each platform's program office and begin implementation activities as early as March 2009.

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.

