



ACQUISITION

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MEMORANDUM FOR UNDER SECRETARY OF DEFENSE FOR ACQUISITION,
TECHNOLOGY, AND LOGISTICS

SUBJECT: PARCA Root Cause Analysis for the DDG-1000 Program

This memorandum summarizes PARCA's analysis of the root causes of the cost growth which triggered the Nunn-McCurdy breach described by DDG-1000 program in its December, 2009 SAR. In that SAR, the Navy reported an increase in estimated Program Acquisition Unit cost (PAUC) of 86%. The Navy attributed this cost growth to the reduction in quantity from ten ships to three ships.

Based on the SAR, the quantity change from ten ships to three ships accounts for 79 points of the PAUC cost growth. The Navy has stated that the change in quantity from ten ships to three ships was motivated by their decision to purchase DDG-51s rather DDG-1000s. The smaller DDG-51 is cheaper than the DDG-1000 and more ships can be bought within budget constraints. The Navy further states that the DDG-51 provides superior area defense anti-air warfare, ballistic missile defense, and open ocean anti-submarine warfare capabilities. These are all destroyer capabilities that the Navy has stated they wish to emphasize. The remaining 7 points of reported PAUC cost growth are increases in development costs primarily due to increased content.

The DDG-1000 program has faced technological and fiscal challenges. Technologically, the DDG-1000 is incorporating ten transformational new technologies -- four of which were immature at MS-B with an assessed Technology Readiness Level (TRL) of 5. Fiscally, the DDG-1000 was funded to significantly less than the CAIG estimate. Subsequently, a series of cuts significantly substantially increased the risk to program executability. Nevertheless, the government and contactor appear to have executed well to this point.

Given the above, PARCA concludes that the primary root cause for the Nunn-McCurdy breach is the quantity change cited. That said, the lead ship is only 16% complete and some uncertainty in final costs necessarily remains. The estimate for production depends heavily on the successful integration of several advanced technologies -- especially the Total Ship Computing Environment, the Integrated Power System, and the Advanced Gun System/Long Range Land Attack Projectile systems. These are, therefore, key areas for PARCA to monitor both for the semi-annual monitoring required by WSARA 09 and as part of PARCA's normal program assessment. We will work with OSD DDR&E and the Navy to monitor these factors.

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