



ACQUISITION

OFFICE OF THE ASSISTANT SECRETARY OF DEFENSE

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

SUBJECT: PARCA Root Cause Analysis for the Advanced Threat Infrared
Countermeasure/Common Missile Warning System (ATIRCM/CMWS) Program

This memorandum summarizes PARCA's root cause analysis of the cost growth described by the Advanced Threat Infrared Countermeasure/Common Missile Warning System (ATIRCM/CMWS) program in its December 2009 SAR which triggered a Nunn-McCurdy breach. The SAR attributed the 291% increase in the Program Acquisition Unit cost (PAUC) for the ATIRCM Quick Reaction Capability (QRC) to the reduction in A-kit quantity from 815 to 208 units. The SAR also attributed the 25% increase in the PAUC for the CMWS to an increase in procurement B-kit quantities and added costs for a new electronic control unit.

The primary root causes of ATIRCM QRC cost growth are a combination of unrealistic performance expectations and technological immaturity at MS B. The inability of the program to meet ORD weight requirements was understood early and, in fact, contractual specifications were never consistent with the ORD requirements. As a result, ATIRCM/CMWS, as currently designed, cannot be carried on any helicopter other than the CH-47. This fact led directly to the reduction in quantities and the associated increase in unit costs. The technological immaturity was associated with the fiber optic concept and the light weight laser. The fiber optic concept had to be abandoned because it required materials which were not available commercially. Consequently, the system required additional components to include a second jam head which increased unit costs and further increased weight. The laser was also technologically immature and, although it was redesigned twice, the combination of the power and weight demands was unachievable. Ultimately, the development of a lighter laser was abandoned altogether in favor of a heavier, commercially available laser but not until after consuming significant time and money. We note that the cost growth associated with the additional development cost and time would have been sufficient to cause a critical Nunn-McCurdy breach even without the change in quantity.

Unanticipated design issues are the root cause of the cost growth for CMWS. Specifically, the CMWS was not able to meet reliability requirements for target recognition against operational backgrounds. This required additional funding for software, development, schedule slips, and to retrofit systems with a new electronic control unit.

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