THE UNDER SECRETARY OF DEFENSE
3010 DEFENSE PENTAGON
WASHINGTON, DC 20301-3010

ACQUISITION,
TECHNOLOGY
AND LOGISTICS

AUG 24 2011

MEMORANDUM FOR DEFENSE ACQUISITION AND LOGISTICS PROFESSIONALS

SUBJECT: Should-cost and Affordability

For product development programs, some understandable confusion exists as to how to implement both "should-cost" and "affordability as a requirement," particularly early in a program's life cycle before engineering and manufacturing development (EMD) and production. The two are compatible, but they must be balanced differently across the product life cycle. The emphasis prior to Milestone B should be on defining and achieving affordability targets. Past this point, the emphasis shifts to defining and achieving should-cost estimates.

"Affordability as a requirement" directs that we establish quantified goals for unit production cost and sustainment costs for our products, driven by what the Department or Service can pay. We should set these goals early and use them to drive design trades and choices about affordable priorities. Affordability analysis is based on the budgets we expect to have for the product over its life cycle and provides a design constraint on the product we will build, procure, and sustain. When the Department, i.e., the Milestone Decision Authority, establishes the affordability requirement, it represents a metric that captures the product's expected capability against its expected (affordable) life cycle cost. From this point on, any future unit cost or sustainment cost increase above those levels, from whatever cause, must come back to the MDA and the user to determine what requirements can be dropped to stay within the affordability requirement or if the program must be terminated.

"Should-cost" asks us consciously to do something different. It asks us to continuously fight to lower all our costs, wherever that makes sense. Should-cost is a tool to manage all costs throughout the life cycle, and it operates in parallel with the effort to constrain our requirements appetites in order to control the final product unit and sustainment costs. Should-cost is focused on controlling the cost of the actual work that we are doing and expect to do. In particular, should-cost estimates inform our negotiations with industry over contract costs and incentives. The should-cost approach challenges us to do our best to find specific ways to beat the Independent Cost Estimates (ICE) or Program Estimate (which should already reflect the affordability requirements) and other cost projections funded in our budgets (i.e., "will-cost"), when we find sensible opportunities to do so. For example, should-cost does not mean trading away the long-term value of sound design practices and disciplined engineering management for short-term gain; it does mean eliminating non-value added overhead and unnecessary reporting requirements.

Should-cost can be applied to anything that we do and to any source of costs, including costs for services and internal government costs as well as contracted product costs. Should-cost targets are often stretch goals we expect our leaders to do their best to reach; we expect them to be

based on real opportunities, but to be challenging to execute. Unlike affordability requirements, we do not expect them to always be achieved, but we do expect strong efforts to do so.

Should-cost and affordability can come into conflict early in programs, particularly before MS B, when an affordability requirement may have been defined based on expected budgets, but it is too early to define should-cost estimates for future production or sustainment of products, because we have not yet defined the design. This is also the time when spending money on efforts to reduce future costs can have the biggest payoff. As a result, during the early stages of product development, the priority should be toward establishing affordability constraints and working to provide the enablers to achieve them in the ultimate design. In the early phases of programs, should-cost can still be constructively used to control program overhead and unproductive expenses and to generally reduce contracted development costs, but it should not keep us from making sound investments in product affordability. Prior to the pre-EMD Review or MS B, the ICE or Program Estimate for production and sustainment has not been finalized, and any should-cost estimates for future production lots and sustainment spending would be premature. At that point, however, particularly if we are ready to ask for bids and negotiate low rate initial production (LRIP) prices, we need a should-cost estimate to inform negotiations. Once the requirements, design and affordability goals are established and an ICE or Program Estimate exists, then it is time to challenge the assumptions embedded in those analyses, formulate should-cost estimates for production and sustainment, and work to achieve those estimates.

Ashton B. Carter

Ashton B. Carter