



ACQUISITION,  
TECHNOLOGY  
AND LOGISTICS

## THE UNDER SECRETARY OF DEFENSE

3010 DEFENSE PENTAGON  
WASHINGTON, DC 20301-3010

19 SEP 2007

MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS  
CHAIRMAN OF THE JOINT CHIEFS OF STAFF  
COMMANDER, U.S. SPECIAL OPERATIONS COMMAND  
DIRECTORS OF THE DEFENSE AGENCIES

SUBJECT: Prototyping and Competition

Many troubled programs share common traits – the programs were initiated with inadequate technology maturity and an elementary understanding of the critical program development path. Specifically, program decisions were based largely on paper proposals that provided inadequate knowledge of technical risk and a weak foundation for estimating development and procurement cost. The Department must rectify these situations.

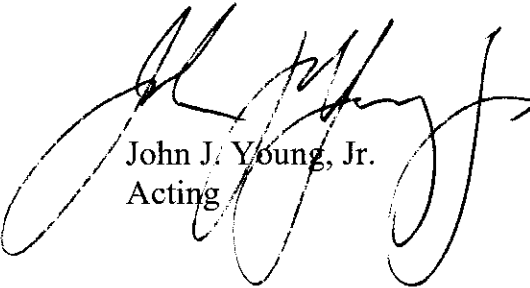
Lessons of the past, and the recommendations of multiple reviews, including the Packard Commission report, emphasize the need for, and benefits of, quality prototyping. The Department needs to discover issues before the costly System Design and Development (SDD) phase. During SDD, large teams should be producing detailed manufacturing designs – not solving myriad technical issues. Government and industry teams must work together to demonstrate the key knowledge elements that can inform future development and budget decisions.

To implement this approach, the Military Services and Defense Agencies will formulate all pending and future programs with acquisition strategies and funding that provide for two or more competing teams producing prototypes through Milestone (MS) B. Competing teams producing prototypes of key system elements will reduce technical risk, validate designs, validate cost estimates, evaluate manufacturing processes, and refine requirements. In total, this approach will also reduce time to fielding.

Beyond these key merits, program strategies defined with multiple, competing prototypes provide a number of secondary benefits. First, these efforts exercise and develop government and industry management teams. Second, the prototyping efforts provide an opportunity to develop and enhance system engineering skills. Third, the programs provide a method to exercise and retain certain critical core engineering skills in the government and our industrial base. Fourth, prototype efforts can attract a new generation of young scientists and engineers to apply their technical talents to the needs of our Nation's Warfighters. Finally, these prototype efforts can inspire the imagination and creativity of a new generation of young students, encouraging them to pursue technical educations and careers.



Based on these considerations, all acquisition strategies requiring USD(AT&L) approval must be formulated to include competitive, technically mature prototyping through MS B. The Component Acquisitions Executives will review all existing programs and all programs in the initial stages of development for the potential to adopt this acquisition strategy. It is the policy of the Department of Defense that this acquisition strategy should be extended to all appropriate programs below ACAT I.



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cc:  
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