

Pentagon Systems Acquisition Director Speaks to Graduates of APMC 99-1

Evolutionary Acquisition — “We Need To Make It the Preferred Way”

COLLIE J. JOHNSON

John C. Wilson Jr., didn't deliver a “climb every mountain,” “go out and conquer the world”—type message to the graduates of DSMC's Advanced Program Management Course (APMC) 99-1. Instead, the Pentagon's new Director of Systems Acquisition in the Office of the Under Secretary of Defense (Acquisition & Technology) gave them a substantial dose of common sense and good, practical advice on a subject they'll all have to deal with sooner or later.

Speaking from Essayons Theater, Fort Belvoir, Va., April 16, Wilson spoke about a critical component of the Revolution in Business Affairs — one that has a direct bearing on DoD's ability to operate in the changing security environment: *acquisition program cycle time.*

Why the Focus on Cycle Time?

“Cycle time,” says Wilson, “is the period of time that it takes from program start to achievement of IOC [Initial Operating Capability].” He notes that the average cycle time for major defense acquisition programs started since 1960 has been 132 months or 11 years. “Many of the programs take even longer, some achieving IOC after 15 or 20 years of development.”

The need for reducing acquisition cycle time, Wilson told the graduates, has long been recognized by acquisition management leadership. The Packard Commission, the FASA [Federal Acquisition and Streamlining Act] of 1994, and the



FROM LEFT: JOHN C. WILSON JR., DIRECTOR OF SYSTEMS ACQUISITION, OFFICE OF THE UNDER SECRETARY OF DEFENSE (ACQUISITION & TECHNOLOGY), AND APMC 99-1 GRADUATION SPEAKER, PRESENTS AN OVERSIZE DIPLOMA TO CLASS PRESIDENT, NAVY CAPT. CURTIS A. KEMP. KEMP ACCEPTED THE DIPLOMA ON BEHALF OF THE 361 GRADUATES OF APMC 99-1. ALSO ASSISTING IN THE PRESENTATION IS NAVY REAR ADM. LENN VINCENT, DSMC COMMANDANT. THE TYPICAL STUDENT OF CLASS 99-1 WAS 41.6 YEARS OLD, WITH 18 YEARS OF GOVERNMENT SERVICE AND 11 YEARS OF PRIOR ACQUISITION EXPERIENCE. ON AVERAGE, 68.1 PERCENT OF THE STUDENTS HAD A MASTER'S DEGREE OR HIGHER.

National Partnership for Reinventing Government have all stated that the Defense Department should reduce cycle time. He points out that recently, the Defense Systems Affordability Council tasked the acquisition community to reduce acquisition cycle time for new programs by 50 percent.

Wilson believes that DoD is badly disadvantaged by long acquisition cycle times, which he calls a serious problem that program managers must address *now*. To illustrate, he cites the F-22 Raptor, which has been in development since 1986. “Now, more than a dozen years later,” says Wilson, “the F-22 aircraft is

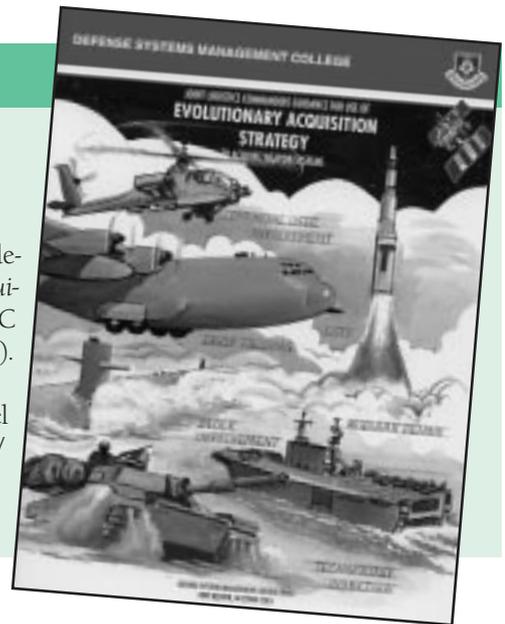
Johnson is managing editor, Program Manager magazine, Visual Arts and Press Department, Division of College Administration and Services, DSMC.

JOINT LOGISTICS COMMANDERS' GUIDANCE

For Use of Evolutionary Acquisition Strategy to Acquire Weapon Systems (Revised Ed., June 1998)

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still in development, the Soviet Union has collapsed, U.S. pilots are engaged in combat operations over Iraq and Yugoslavia, our greatest concerns about missile development emanate from Iran and North Korea, and a Pentium II microprocessor runs at 627 megahertz per second ... By the time the F-22 is fielded in 2005, what threats will dominate our headlines and our military operations? What new technologies will shape our lives? Technology is advancing just that rapidly.”

An unavoidable conclusion, says Wilson, is that we are currently spending a significant portion of our authorized funds to develop and build systems that will *not* suitably address our needs when they are finally fielded. Furthermore, as the pace of technological change increases, systems that require a decade or more to field are *technologically obsolete* before IOC is achieved.

Retrofitting, he explains, is not a cost-effective option. Concerns even arise that the spare parts will not be available soon after these systems are in the field. Finally, the longer a system's cycle time, the greater likelihood of budget instability and requirements creep.

Evolutionary Acquisition

In trying to reduce a system's cycle time, Wilson names three kinds of uncertainty program managers must deal with: uncertainty related to the requirements, uncertainty associated with technology, and uncertainty related to funding. “Reduc-

ing cycle time,” according to Wilson, “requires we minimize uncertainty *before* program initiation.

“Because we expect each generation of technology to be a revolutionary leap ahead of the last generation,” he says, “we try to fund requirements ten to 15 years in the future. As the F-22 example demonstrates, not only does this practice cause us to design systems based on our ‘best guess’ of future threats and technology (which is often inaccurate), but it also extends cycle times by making us repeatedly revise the program to incorporate new developments.” Instead, he counters, DoD should express requirements in incremental terms, looking ahead *five* years rather than 10 or 15.

He notes that the Joint Staff is currently revising the requirements generation instruction to adopt such time-phased evo-

lutionary requirements.

“We [USD(A&T)] will support the shift to evolutionary requirements by making evolutionary acquisition the preferred way to do business. This method has usually been associated with information technology acquisition, but in order to be more responsive and flexible with the limited budgets and our changing threats, we need to use an evolutionary acquisition strategy for most – not necessarily all – but *most* of our weapon systems development.”

He explains that evolutionary acquisition entails defining requirements and building systems in blocks so that the urgent needs are met quickly and longer-term requirements are met by demonstrations, exercises, and experiments. Evolutionary acquisition, says Wilson, allows for rapid fielding and continuous

John Wilson on Reducing a System's Acquisition Cycle Time

- Consciously separate technology development from acquisition.
- Commit to an evolutionary acquisition approach as the standard from which DoD will do business from now on.
- Advocate Modeling and Simulation to further Simulation Based Acquisition.
- Advocate and seek as fully and completely as possible the funding that will allow a program to be quickly and efficiently executed.

improvement. "We need to make it the preferred way."

Separate Technology Development From Acquisition

Wilson speaks of another important piece to the puzzle for cycle-time reduction — the separation of technology risks from acquisition. "Having a project designated as an acquisition program is one of the few ways to obtain funding for technology development," he told the graduates. "I believe we need to create an alternative method that would encourage and support technology development activities without committing the Department to full-fledged acquisition of a system."

At present, ACTDs [Advanced Concept Technology Demonstrations] provide one such alternative, according to Wilson. "We should enable broader use of demonstration projects in order to fund technology development outside the acquisition system. By doing so, we are not just attempting to reduce cycle time with the stroke of a pen. The demonstration is not an acquisition program — intentionally so. The execution of a demonstration project has a single specific goal: the demonstration of an operational capability."

Wilson goes on to say that the successful demonstration will incorporate both the satisfaction of an operational need and the feasibility of the selected approach. "It is important to note," he says, "that an acceptable result of a demonstration project is that technology may have insufficient utility or is not feasible and must be studied further or killed. And killing off poor technological solutions early *before* substantial sums of money are committed," he emphasizes, "is an important byproduct of the new approach."

Moreover, evolutionary acquisition, he contends, will make even better use of DoD's Research, Development, Test and Evaluation (RDT&E) dollars than the traditional acquisition model does. By adhering to the new approach, he told the graduates, a large proportion of the RDT&E budget can be pooled and thus

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—John C. Wilson Jr.



expended more efficiently than under the current process where these funds are divided up among a myriad of acquisition programs.

Simulation Based Acquisition

Wilson also speaks of another initiative DoD is focusing on to reduce the technology risk and cut cycle time — Simulation Based Acquisition (SBA). Ultimately, he believes that SBA will affect DoD's ownership costs such as those in the logistics support area that generally are the drivers of life cycle cost.

SBA cuts cycle times, he notes, by getting rapid answers to questions about requirements and designs and by distributing them simultaneously to many users. And program managers, he believes, can incorporate SBA into their programs without significantly expanding cycle time.

The Pocketbook Issue

Program managers, says Wilson, are often motivated to initiate acquisition as soon as possible to secure funds for their programs. "We should fund fewer programs but should fund them appropriately for completion within the FYDP [Future Years Defense Program]. We want to screen new starts and see if we can afford them and then fund them, optimally, before the Department makes acquisition commitments.

"Unless we control what goes into the acquisition pipeline from the beginning," Wilson concludes, "we will not make significant impact on cycle times."

He notes that cycle times have already started to come down from their historic average of 132 months. A few recent programs stand out, using commercial technology and innovative contracting arrangements. The Navy's UHF follow-on program was able to meet IOC in 65 months; the Army's ATACM modification program was at IOC in 48 months. Also using existing technology, the Air Force is on track to deliver JDAM [Joint Direct Attack Munition] in 71 months.

"The key to achieving 50-percent reduction in cycle time is a commitment,"

Wilson says, "an active involvement by program managers."

The Challenge

Concluding his remarks, Wilson enjoined the graduates to "look at how you can deliver your program or project faster." Whether in industry or government, Wilson urged them to:

- Consciously separate technology development from acquisition.
- Commit to an evolutionary acquisition approach as the standard from which DoD will do business from now on.
- Advocate modeling and simulation to further Simulation Based Acquisition.
- Advocate and seek as fully and completely as possible the funding that will allow a program to be quickly and efficiently executed.

"By cutting acquisition cycle times, our nation will reap many benefits," Wilson concludes. "We will spend money only on what we need; we will field only state-of-the-art technology; and we will avoid the unstable budgets and creeping requirements for which DoD has been notorious." But more importantly, he notes, "We will save taxpayers' dollars, and we will get better equipment into the hands of the warfighter — *faster*."

Wilson reminded the graduates that while *today* they're leading programs as senior managers in government and industry, *tomorrow* they'll be leading the Department and private industry as senior leaders. "I'm asking you to take up this challenge and run with it," he told the graduates, "not only through the life cycles of your programs (which I hope will be short), but as you implement your own visions of defense policies. If you do, we will be prepared for whatever may emerge from tomorrow's headlines."

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IN MEMORIAM



James W. "Jim" Leaf, an electronics technician-technical advisor in the Professional Development Department, Faculty Division, DSMC, died March 18 after a brief illness. A native of upstate New York, Leaf enlisted in the U.S. Navy in 1960, where he served for five years. After operating his own electronic repair business for 10 years in Utica, N.Y., and for three years in Arlington, Va., he began his federal career in 1979 as an electronics mechanic at Cameron Station, Alexandria, Va. In August 1982, he joined DSMC as an electronics technician in the Audiovisual Support and Electronics Maintenance Division. More recently, he worked in the Education Department, Faculty Division, where he managed the technical aspects of DSMC's first Video TeleTeaching (VTT) linkup in June 1997. Leaf is survived by his wife, Suzanne, as well as two sons, a daughter, and eight grandchildren.