DOD TO MOVE NOW; WILL NOT WAIT ON CONGRESS TO ACT ON REFORM

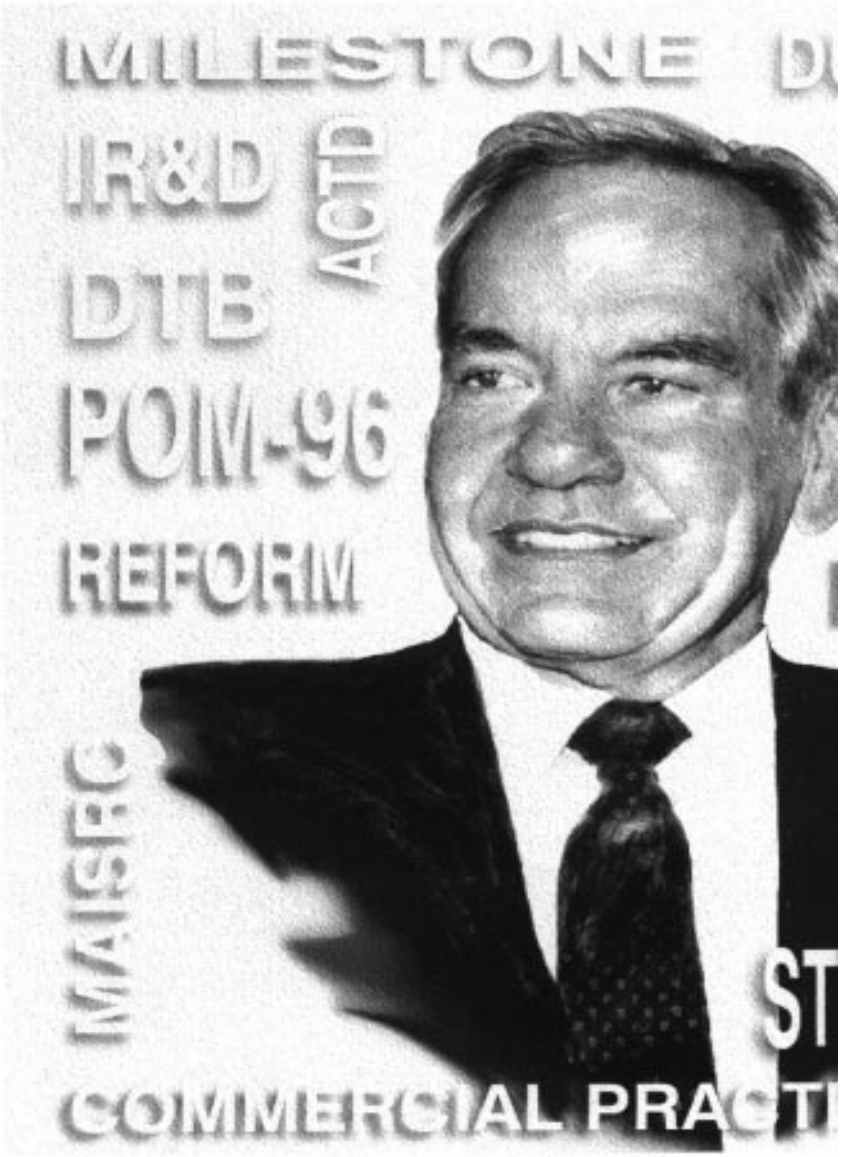
Says Acting USD(A&T)

Program Manager recently interviewed The Honorable R. Noel Longuemare, Acting Under Secretary of Defense (Acquisition and Technology). Mr. Longuemare assumed the position on 11 March 1994 after Dr. John M. Deutch, the incumbent, was sworn in as Deputy Secretary of Defense. His biographical sketch follows this interview.

Program Manager: Will you wait on Congress to legislate acquisition reform?

Mr. Longuemare: We do not intend to wait for Congress to act, including the Section 800 panel recommendations, before moving out in areas not requiring their action. Waiting is an excuse not to make hard decisions. We will apply existing flexibility everywhere we can. In parallel we will be working to get the legislation through. This is going to be a long process. We will revise the DOD 5000 series of directives, but first we want to concentrate on applying what it already allows. The people who wrote the directives had good ideas, but we have not taken advantage of what's there. To achieve acquisition reform,

Program Manager *thanks Mr. Charles B. Cochrane, Professor of Systems Acquisition Management, Acquisition Policy Department, Defense Systems Management College, for his assistance with this interview.*



Acting Under Secretary of Defense (Acquisition and Technology) R. Noel Longuemare.

we must make sure everybody is on the same wave length, starting at the top and working down — an education process. And, we do recognize how long it takes to get things staffed through this building.

The DOD top management does have some ability to insist on these things happening. For example, we reviewed a couple of major programs recently where we charged the program executives to apply those aspects of acquisition streamlining within their purview and report back.

We will push hard on that. We are emphasizing design to cost and trading performance for cost. Not enough of that has been done previously. Programs are performance driven to a large extent. We must insist on tradeoffs for cost consideration, and are willing to give a little in the corners of the performance envelope to achieve it. Before long, people will get the message that we definitely want it to happen.

Program Manager: Regarding the DOD 5000 series of acquisition directives, do you see acquisition reform also streamlining the milestone management process?

Mr. Longuemare: One of the biggest problems we have is that people are not using the 5000 series the way it is explicitly written. It tells you to streamline and do a lot of similar things, but because of the way the acquisition process has evolved it has not been applied as intended. The good news is without doing anything at all to our basic approach the directives already give us a great deal of flexibility. Nevertheless, improving efficiency is very important, and we must revise the 5000 series to reflect new ideas such as the increased use of commercial practices. Overall, we need to look at all internal procedures such as the major milestone process. Are we too structured and too bureaucratic? Are we requiring an excessive amount of work only for this one milestone review?

Program Manager: Will you continue Dr. Deutch's active involvement in the planning, programming and budgeting system (PPBS)?

Mr. Longuemare: Yes. We need to continue high-level involvement in the PPBS. Most disconnects in the PPBS are often due to the isolation between the Services and the civilian side of the house. We are working very hard to bring them together. This is another example of concurrent engineering or integrated product process where we bring together the users, the Services and the people who understand the requirements with those who understand the financial realities, and try jointly to come up with answers as opposed to doing it in a serial way. That truly powerful concept is actually just pure common sense. John Deutch has made the people involved in the PPBS understand he is committed to a team effort. The results already speak for themselves.

Program Manager: What is the impact of the policy on commercial practices on the acquisition process, particularly regarding testing?

Mr. Longuemare: First, we do need to retain some degree of independence in testing. However, this doesn't mean it should be done in isolation. We currently take a system and subject it to the necessary development tests and define how we will evaluate it for operational suitability. Ideally, our operational test and evaluation (OT&E) people should be able to observe and utilize information from the entire process, and take direct advantage of the data provided with commercial items as well. We need a complete test plan, part of which is developmental and part operational test, a cohesive plan to test both aspects as a continuum.

An analogy is reliability. At one time reliability testing was performed only after the design was done. A more enlightened approach looks at every aspect of the process, getting all the relevant disciplines involved early, so manufacturing people, reliability people, logistics people, and end users can all have their say as the process iterates. We don't have to wait until a product is finished to find out if it's reliable.

In a similar vein, the test people need to get involved early. In recent years this has been done very successfully in the commercial world, and it works equally well in defense.

This team approach has been known by a lot of names, including concurrent engineering or, more recently, the Integrated Product Process.

Unfortunately, still prevalent is the all-too-familiar serial process where we start out with requirements, hand them off for design, hand them off for manufacturing and testing, then leave it to others to figure out how to support the product. We end up with something that takes a long time to field and sometimes doesn't work too well or fit the users' needs. This needs to be changed.

Program Manager: We appear to have a new emphasis on technology. How do the R&D efforts in 6.1, 6.2, 6.3A and B all become integrated into a development program, particularly the Advance Concept Technical Demonstrators (ACTDs)?

Mr. Longuemare: Our management team is working to make this as seamless as possible, trying to eliminate the various stovepipes with separate turf to reduce the time it takes to develop our weapons systems. This is hard to do in our long, tedious and structured major systems acquisition process. Mr. Larry Lynn, Deputy Under Secretary (Advanced Technology), has introduced a new approach to get advance knowledge of whether a concept is militarily useful. To do that we in fact have to build something real and apply it to a task using people who understand the need. The new vehicle for doing this is the ACTD, which embodies a number of proven technologies into an operational concept.

We have had hundreds of advance development demonstrators (ATDs) for a long time covering a gamut of technologies. The ACTD is a shortcut way of taking the next step by actually designing, building and evaluating something with military utility without all the rigors of the conventional production program. If possible, the ACTD programs will be structured to have a residual capability for use in emergency or crisis roles. If successful, an ACTD with real utility could transition into a full production program for deployment. If it doesn't work out, well, we will have learned a lot, but we haven't spent many years and lots of money doing so.

Photos by Richard Mattox

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In a related vein, we must find a way to leverage industry independent R&D (IR&D) so that DOD can take advantage of the investments industry is making.

Program Manager: The Defense Technology Board (DTB) was established in 1992 to assist the Director of Defense Research and Engineering (DDR&E) in overseeing the science and technology (S&T) base. What do you see as the DTB's role?

Mr. Longuemare: First, the DTB met several times during deliberations on the FY-1994 budget process. New S&T initiatives, added to the budget during an earlier review, were approved and prioritized. The DTB membership includes all Service acquisition executives. Their involvement and input are important to any decisions ultimately made by the DDR&E and the Under Secretary in the context of the entire acquisition program. We see it as a board of directors to advise the DDR&E on the overall direction and content of the DOD S&T program. However, it is not a Defense Acquisition Board, or DAB, for S&T initiatives. As we develop the next Future Years Defense Plan (FYDP) during POM-96 (Program Objectives Memoranda), I expect the DTB to be deeply involved.

Program Manager: Will the Secretary of Defense maintain such former policies as technology insertion, dual-use, upgrades, and rollover-plus? Will we keep programs in development longer?

Mr. Longuemare: Budget realities clearly will drive what we do. We will have fewer major programs. We need to keep technology moving to the forefront and the industrial base available. These are very difficult problems. Much of what we are talking about in new technology for the warfighter is in the electronics area. Fortunately, this area in most cases has some real commercial applicability. Therefore, the opportunity for the so-called dual use is real.

Dual use doesn't apply in some areas, like torpedoes. But, take a guided missile. What about the printed circuit boards inside; what about the

computer; what about the chips; what about the subsystem content of the missile? Probably in excess of 80 percent of the cost of that missile is tied up in things that fall into these other areas. We are going to be relying a lot on the commercial sector to help keep the R&D going and try to manage our risk by employing the ACTD concept. The need to retrofit to keep systems running longer is an opportunity to interject technology as well.

Program Manager: With the budgets for R&D and procurement shrinking, where is the optimum milestone to stop a program?

Mr. Longuemare: Some people recognize that the procurement budget is the bill payer for a lot of other things, much easier to reduce than are some other expenditures. Through streamlining actions, I believe we will be successful in reducing by large factors the total cycle time from conception to fielding of our new systems. We are confident because the commercial world can do it in half the time with good products. The ACTDs are a marvelous way to get an early look and determine how things work before we commit big bucks. If we've gone through the ACTD process it's obvious we don't have to go through the normal demonstration and validation phase building prototypes. We may well find that we can cut out major parts of the acquisition system and replace them in some logical way with ACTDs in many cases.

Program Manager: Can we take an ACTD out of concept, skip demonstration and validation, and go right into full-scale engineering development?

Mr. Longuemare: Unfortunately in the past we have not worried enough about a system's producibility and its manufacturing aspects. Most troubled programs have occurred because we rushed into the engineering development and manufacturing phases without an adequate vision of what was

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needed to build it. There are many examples where we committed to a large program with a high dollar burn rate only to find out that there were major technical problems, or that the manufacturing yield was too low. So the entire program gets delayed with massive overruns. We are now trying to interject manufacturability and manufacturing awareness early. As we enter the Engineering and Manufacturing Development (EMD) phase we must have metrics and exit criteria that allow us to know that the equipment is manufacturable. That doesn't require changing the 5000 series; it means just implementing what's there.

Program Manager: Because people involved in requirements generation are not necessarily in the acquisition workforce, what suggestions have you on improving the relationship between them and the acquisition community?

Mr. Longuemare: Requirements generation and acquisition are iterative processes. With our complex weapon systems there is no such thing as devising requirements and merely handing them over to somebody to acquire. Requirements generation should take into account what is "doable" technologically, take advantage of that, and then set the requirements accordingly. No single group or activity knows all the answers, and we all must depend on others to bring additional expertise to the party. The secret is to have early and continuous involvement. Our system needs to recognize that change is not unusual or indicative of having made a mistake. Everything is evolving constantly.

Unfortunately, there are those who believe that if only we could get requirements right we wouldn't have other problems down the line. Actually, change is the order of the day. Our process needs to be modified to recognize that change is to be expected, that it has to accommodate change in a graceful, disciplined way. Individuals coming in with requirements need to have exposure to acquisition people early on, and establish a way to interact continuously. Requirements must balance off against acquisition considerations to get optimum answers. Now, the requirements people may say they are already doing that. I think there's been a lot of improvement but there's a long way to go. One small step would be to have the requirements people and the acquisition people in the same classroom during courses at the Defense Acquisition University schools.

Program Manager: What is the possibility of integrating the process governing the Major Automated Information Systems Review Council (MAISRC) with the process for the

DAB, or at least having a single set of directives governing them?

Mr. Longuemare: Let me start with an observation. Today, communications technology is almost indistinguishable from avionics systems technology. However, they both started from different points and organizations, and the DAB and MAISRC processes are probably different for historical reasons. Technologically, now they're converging. The warfighter wants information connectivity. We now have unified command, unified information, unified databases; little is separate and duplicative. For example, we should strive ultimately for using the same computers, digital technology, and the like. There's no reason why we can't achieve these objectives. I believe the MAISRC and DAB oversight processes in the Office of the Secretary of Defense (OSD) will, in time, evolve naturally into a unified approach. I support the idea of bringing them into alignment.

Program Manager: What efforts are underway to pull together the various ricebowls, such as the comptroller, the testers, the acquisition executives, your office?

Mr. Longuemare: Almost everything in acquisition reform has been recommended time and again by the Packard Commission, Defense Science Board studies and other committees, and all reached the same basic conclusions. Little new has suddenly emerged in the last year. For whatever reasons, we have never implemented enough of these significant changes. Doing it requires a major culture change. To change a culture, you have to have a major emotional event. For example, in wartime people find ways to worry less about ricebowls, and people work together on what has to be done. Although we're not at war, a major emotional event bringing us together is the enormous change in the world status and its impact on the defense budget. We are unified on this subject from the top down for the first time. I don't hear dissenting voices anywhere. Almost everyone I talk to acknowledges the need for joint activities, that we must get rid of ricebowls and pull together. I am very optimistic that we'll be able to accomplish something meaningful here.

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Program Manager: How do you look at the issue of cross-servicing?

Mr. Longuemare: We must find ways to consolidate and have interservicing. That's true of the testing area, depot maintenance area and the systems areas. Before long, I believe we will require the Services to justify why many of their systems and services aren't multi-Service. A unique single-Service system will be something out of the norm. Much of what's developed initially ought to be used across the board. There are certain things which will remain Service-unique. For example, submarines are only needed by the Navy. Tanks are not needed by the Air Force, but they are by the Marines. As we go deeper into information technology there is absolutely no reason why we should have Service-unique everything when technologies can be shared. Great cost economies can be made, but there is an added benefit. If we have common systems then clearly we will also be solving our interoperability problems.

Program Manager: Characterize relations between the Pentagon and Capitol Hill.

Mr. Longuemare: I don't want to put a numerical score on it, but I can talk about the process. This matter is a high priority from the Secretary down. John Deutch spends a major amount of his time informing Congress about what is going on and working things here to be responsive to the Hill. There are two popular ways to do these things. One way is to hold things close to your vest and then, when you get your act together, inform Congress. That tends to set up an adversarial relationship. The current administration is doing the opposite in trying to be very open with Congress. That has its risks because it exposes things at a stage that is not quite as solid. On the other hand, if the people on the Hill can work with DOD on what is jointly perceived as the right answer then we are going to be ahead. People here are working very hard to eliminate the Potomac River barrier. We want Congress as part of the solution, for them to understand where we are coming from. We want to hear their needs early, and have give-and-take early.

Program Manager: What about taking a system through development

right up until the production decision; buying the technical data package and putting it on the shelf; and, if a contingency occurs, pulling it off the shelf and building the system?

Mr. Longuemare: I haven't heard anybody seriously talking about that in quite some time. That concept is basically flawed. If we leave a system on the shelf long, the components and parts are probably obsolete and not available. Technology also moves and we probably wouldn't want to spend money to replicate old technology.

There is great merit to using the latest proven technology. If we validate its manufacturability, this generally will reduce costs and improve reliability and maintainability. Then supportability is improved. At one time people were concerned because we were pushing for all this new technology, that it was so much more complex, so much harder to use and maintain. When properly done, the opposite happens. High-technology systems are simpler to use, more reliable, smaller, lighter, less expensive for a given function. There's every reason to make sure we use the best reasonable technology.

We are not talking about completing the EMD phase and then putting the results on the shelf. That would waste time and money. But we are talking about a robust program of technology demonstration that "roll over" technology without necessarily committing to production of specific weapons systems.

Program Manager: Do you think DOD will have a single procurement agency?

Mr. Longuemare: That's a long way out, if ever. It's not necessary. There are unique missions for each of the Services; so there will be a need to have some unique aspects in the procurement process. People who know best what their needs are ought to be the ones who define what they are buying. There is some merit in having a multiple approach. It's better to try to make what we have work than wait a long time to come up with something idealistic.

Despite this, I believe things will naturally gravitate to a single procurement approach for many items as we move toward more cross-servicing, with perhaps a single procurement authority emerging for these common items. However, as long as there are separate Services, I believe there will always be a need for each to retain its own unique capability in certain areas.

The Honorable R. Noel Longuemare was confirmed by the Senate as the Principal Deputy Under Secretary of Defense (Acquisition and Technology) on November 17, 1993. As Principal Deputy, he serves as chief advisor to the Under Secretary and oversees the Defense Acquisition Programs of the Army, Navy, Air Force and Defense Agencies. He executes his duties through the defense acquisition process, including the Defense Acquisition Board (DAB) and Defense Acquisition Executive Summary (DAES) program.

Prior to his appointment by the President, Mr. Longuemare was Vice President and General Manager of the Systems and Technology Divisions, Westinghouse Electronic Systems Group, Baltimore, Md. After joining Westinghouse in 1952, he worked in design and development engineering, line positions and project management. He played a leading role in the development of modern radar and avionics systems for airborne and land mobile applications. He has been heavily involved in Low Observable/Counter Low Observable programs, and recently took a leading role in successfully applying defense technology to non-DOD applications.

Mr. Longuemare holds eight patents and 17 patent disclosures, and was active in technical and industrial societies in the aerospace fields. He was Chairman of the Aerospace Industries Association (AIA) Technical and Operations Council, the AIA Key Technologies Thrust, and the Advanced Sensors Technology Panel. He was also Chairman of the Computer-Aided Logistics Support and Concurrent Engineering (CALS/CE) Steering Group for the National Security Industrial Association (NSIA).

Previously, Mr. Longuemare served on numerous panels for the Defense Department, and was a member of the Defense Science Board and the Air Force Scientific Advisory Board.

He graduated from the University of Texas-El Paso with a B.S.E.E. degree, the Johns Hopkins University with an M.S.E. degree, and the Stanford University Executive Program. He is a registered engineer in Maryland.