



"PBL contracting has demonstrated we can apply the concept of performance-based outcomes to a particular sector of DOD support. We need to inculcate the DOD culture, using lessons learned from PBL, moving toward performance-driven outcomes in all areas. We need to build on lessons learned from continuous process improvements, and apply an overall performance-based outcomes approach, tying all budgeting and contracting to a warfighter-supported metric."

- David V. Pauling, Deputy Undersecretary of Defense, Materiel Readiness, and Maintenance Policy, in a December 2006 interview with AAD.

Photo courtesy of Department of Defense

# Weapons Systems Support and Beyond

By George P. Blumberg

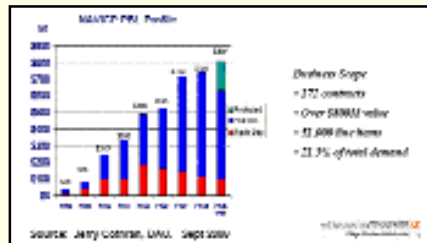
**P**erformance Based Logistics (PBL) has become the preferred U.S. Department of Defense contracting approach when purchasing weapons systems support. Tying long-term contracts to the performance of weapons systems over their lifecycles, the PBL structure pays contractors for performance outcomes, not repairs. Therefore, the goals of for-profit corporations align with the DOD goals of system availability, cost minimization, and bringing MRO activities closer to the end user.

Under PBL, private sector contractors adapt their best commercial practices to large-scale program management, often entering into unique partnerships with DOD facilities, streamlining the logistics process, and enabling the integration of base-and-intermediate-level facilities. The growth of PBL naval contracts, for example, is illustrated in the accompanying chart.

PBL for weapons systems support has been successfully evolving, as a means to achieve defined and measurable outcomes. The DOD has also launched initiatives to apply performance-based contracting principles to

the acquisition of the many types of services that it purchases. This practice is referred to as PBSA—Performance Based Service Acquisition.

The first installment of this three-part series on PBL contracting (AAD Fall 2006) outlined the evolution of the approach, its revolutionary nature, and the impact on organizations. The second installment (AAD Winter 2007), described the need for contractor risk minimization, achieved through historical



modeling and data projection, and surveyed the PBL structure of several weapon systems programs.

This third installment addresses some of the best practices for PBL—some of the key metrics that define a potentially successful

# PERFORMANCE BASED LOGISTICS

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*Kate Vitasek,  
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PBL program—by focusing on a real-life case. Additionally, we will discuss the move into PBSA for DOD services acquisition.

#### **BEST PBL PRACTICES**

Kate Vitasek, a partner in the consulting firm Supply Chain Visions ([www.scvisions.com](http://www.scvisions.com)) and a faculty associate at the University of Tennessee's Aerospace and Defense Clearinghouse, has been part of a team researching what makes PBL contracting successful. "Successful PBL programs," says Vitasek, "exhibit some common factors for success."

She lists those common factors as (1) A contracting strategy developed in partnership with the contractor and the DOD, (2) long-term contracts, (3) few metrics, (4) top-level support from both parties, and (5) leveraging the mix of where the work gets done. Here's an outline of those practices.

**Contracting Strategy:** Often, says Vitasek, PBLs have evolved, as the contractor and the DOD have agreed to a go-as-you-learn process. Over time, the contract structure shifts the burden to the contractor, as more data becomes available for modeling cost and risk.

"We like to see when a contractor and [the] DOD begin their PBL journey with a contracting strategy," says Vitasek, "because you can't go to a PBL out of the gate. So, you might start off with a contracting strategy that is maybe a cost-plus format at first. Then, you collect data over two years or so, like production data and reliability data. Then, you put in performance measures as benchmarks. Then, over time, you move toward a PBL that is more firm fixed price with contractor risk, and with more performance measures and incentives."

The evolution is important, she says, because it provides the necessary learning curve about risk and reliability factors. Sometimes, the mistake has been made of simply taking what's been done before, slapping metrics on it, and calling it a PBL. "That's not it," she says, "we're looking for a total shift from a transactional base to a performance base."

Successful PBL contracts, she emphasizes, "Have a statement of objectives versus a statement of work. A PBL contract outlines desired outcomes and criteria for understanding success. But it doesn't tell you in anal-retentive detail how to get there like traditional transactional contracts [do]. The contractor has flexibility on the details to hit the numbers."

Long-term contracts: "We once reviewed a contract strategy to convert over to a PBL,"

has a gung-ho, proactive project leader and the contractor has a lukewarm one . . . or vice versa," says Vitasek, "it's not a good balance. They both have to be equally dedicated to dynamic performance approaches, not just taking an existing program and slapping on metrics and a bonus structure."

Leverage the effective mix of where the work will be done: PBL looks at where it makes sense to do the work, often splitting it between government facilities and those of contractor providers. Vitasek stresses the importance of asking, "What is the optimal mix between organic (the traditional government depots) facilities and personnel and private contractor facilities personnel?" She says that Title Ten amendments, starting in the late 1990s, have opened the door for public/private partnerships.

In the larger sense, David V. Pauling, Undersecretary of Defense, Materiel

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recalls Vitasek. "It was a 10-year agreement, with 1-year contracts for [the first] 5 years." She said that the customer could not specify each year's commitment, and after the fifth year, they wanted the ability to opt out. "Is that a PBL? No."

"I will take a risk for only the first year you define?" she continues. "If a contractor is guaranteed only 1 year's worth of business, how can the customer expect a behavior change [on the contractor's part] to invest in the changes necessary to meet contract goals?" Vitasek says that 10-year contracts are common in the United Kingdom, and that "We have some in the United States, but we hate to see less than 3 years. What contractor will make pro-active investments to improve the product or processes for 1 year?"

Few metrics: "With many metrics, you lose focus and get involved in micro-management," says Vitasek. "Use five or less metrics. Use a statement of objectives and not a statement of work. If you hit the desired outcomes, it's really not relevant measuring the micro process of how to get there. The contractor needs enough flexibility to invest in areas that have the best returns, and to adapt his processes to meet the objective metrics."

Top-level support: Vitasek says you need champions on both the contractor and the DOD side for the business model to shift to a performance-based model. "If the government

Readiness, and Maintenance Policy, stressed in an AAD interview that a PBL contract must align itself to readiness metrics, from the warfighter's perspective. As such, Pauling says, a PBL contract must address points such as: "How long does a system last before it fails? How long does it take to turn it around and get it working again? What can be done to improve it over time? How long before it goes out of commission permanently? And what is its ownership cost over its life cycle?" There are some PBLs, he says, that focus on less than those four factors. "The point is," he emphasizes, "we need to align all our budgeting and contracting with outcomes."

#### **THE SHADOW, IRAQ AND PBL**

The Shadow 200 is the U.S. Army's Tactical Unmanned Aircraft System—its battlefield eyes—using video and infrared sensors. In October 2002, the Shadow 200 was approved for full-rate production, and support is provided under a PBL total product support contract with AAI Corporation. AAI manages the Shadow's supply and maintenance system, and it meets metrics to support Shadow operational requirements, with incentives for meeting and/or exceeding performance targets. And it's doing all that in a deployed, tactical, over-the-shoulder environment—in the middle of a shooting war.

According to Steven E. Reid, AAI's Vice



President for Unmanned Aircraft Systems, Shadows have flown over 37,000 sorties and surpassed 146,000 flight hours during the period from their initial deployment to Iraq in 2003 to the time of AAI's December 2006 interview with him. Reid says that the U.S. Army has contracted for a total of seventy systems, extending the program through December 2009.

At the University of Tennessee, the Shadow serves as a case study of a highly successful PBL logistics support program. This program taps into PBL best practices, key ones described above and which unfold below.

According to AAI's Steven Reid, "The Army's acquisition strategy was to buy an off-the-shelf system. We won a fly-before-you-buy competition, so the product design was complete as part of the proposal process. The Army wanted to field it quickly, learn from soldier experience, then dial it in and modify it for more military utility." One of the key elements from AAI's perspective, says Reid, was to have total support responsibility for the equipment. "We get feedback from our Field Service Reps (FSRs) on a daily basis and use it for modifications necessary for the gear." AAI FSRs, explains Reid, are totally embedded in the deployed battleground of Iraq—certainly an example of a unique contractor/DOD partnership.

The University of Tennessee case study points out that Phase I of the U.S. Army/AAI contracting relationship (2003-2006) allowed time "to validate and verify the metrics and data collection processes. . . ." Initially, it was a cost-plus, fixed-fee type contract, "then easing into cost-plus with incentive fees...this phase to evaluate true cost and determine the incentives to support the ultimate fixed-price objective."

Only a few critical metrics were used as performance measures. "It's really all about

availability of the system," says AAI's Reid. "And meeting or exceeding the availability goals."

In the contract's Phase II, commencing in 2006, PBL results and system performance were reviewed. In May of 2006, AAI was awarded a \$65.6 million Phase II contract for PBL product support through FY 2007.

"The decision was made to revise the performance metrics," details the University of Tennessee's case study, with "greater emphasis on objective data and system reliability . . . also introducing gain sharing on

rate as the 10 to 12 times increase in operations tempo," he says. To do that, he says, lines of action must be cut to a bare minimum. "Trust between customer and contractor is paramount," he explains. "Our customer must have faith we understand the product and the user." Reid states that the availability goals are being met or exceeded—and are higher than normally expected from weapons systems. "We do earn an incentive fee from that," he says, "and we're also expected to invest in continuous improvement from an investment pool."

***"...the program has adjusted to the increased demands of battlefield utilization."***

cost reductions . . . the contractor was provided with an investment pool and the discretion to utilize these funds in the best way to achieve performance improvements."

AAI's Reid explains that the program has adjusted to the increased demands of battlefield utilization. "The way Shadow is supported, there's a Mobile Maintenance Facility [MMF] shelter on the back of a Humvee, manned by two AAI Field Service Reps [FSRs]. There's an MMF for each Shadow platoon." There are twenty-two soldiers in a platoon and two FSRs. "We're embedded in every sense of the word," says Reid. "The operations tempo is 10 to 12 times the design criteria. We're flying in months what was envisioned we'd do in a year. Given that tempo, the program has adjusted to one MMF per platoon, when theoretically it was one MMF for three platoons."

A key obligation for AAI, says Reid, is to make ongoing corrective actions and modifications to systems and support. "We think we should respond at the same or greater

According to Reid, one of the challenges in PBL contracting is the color of money, "in that there are different sources of funds which must be coordinated. Our PBL contract funding is under a maintenance category, while improvements are funded out of an R&D pool."

In effect, he says, AAI has two contracts running side by side, interacting with one another. "The two contracts depend upon one another," he explains. "The stretch goals are in the PBL contract, and we take the risk that the R&D will be funded so the goals can be achieved. We have a trust in accepting the PBL metrics and stretch goals, understanding that the R&D contract will be awarded in parallel."

To determine the changes that should be funded by R&D, the AAI engineering and customer engineering teams brainstorm regarding technical needs to determine which engineering changes will have the right impact on the reliability growth curve of the program. "These are data and technically driven decisions," says Reid. "Once they're right,



they're brought up for funding. The stretch goals are in the PBL contract, the R&D could be a risk."

The next contract award, for Phase 3,

Martin and the U.S. Air Force was developed to support the F-117 Nighthawk. In the short time since, PBL has demonstrated widespread success in the weapons systems logistics

outcomes. It's just that while PBL metrics are now well known, it's more difficult to get measures agreed to on the services side. There is a wide range of services involved, everything from 'manage my military base from the real estate perspective' to '[manage] my copy center,' and everything in between."

"[The] DOD needs to take performance-based outcomes beyond logistics," states Pauling, "and to organic situations, as well as to organic/private partnerships. Under all circumstances, we're not just looking to improve a process, but [to ensure that it is] the process which will lead to an outcome." He stresses that the DOD's launch of an enterprise-wide Continuous Process Improvement program has an outcomes orientation for FY07 and beyond.

To encourage PBSA, the General Services Administration (GSA), has established awards to acknowledge PBSA efforts: the GSA Excellence in Performance-Based Service Acquisition and the Government-wide Award for Excellence in Performance-Based Service Acquisition.

What are those sounds we hear? It's the steady hum of Performance Based Logistics contracting, and the roar of Performance Based Service Acquisition, taking off. ■

## ***PBL has demonstrated widespread success in the weapons systems logistics contracting arena.***

according to the University of Tennessee's report, is expected to be "either a long-term, fixed-price award contract, or a life-cycle contractor support warranty contract." The Shadow program meets the criteria for a PBL program that should ultimately prove to be very successful, according to that institution's criteria. Its case study cites that the Shadow program blends "metrics, performance management, and continuous improvement, into a balanced and evolving process aligned to the needs of the warfighter . . . a phased, long-term life cycle strategy with appropriate investment incentives and a defined schedule to move from cost-plus all the way to firm fixed-price, with gain sharing opportunities . . . and leadership commitment from both the government and the contractor."

### **BEYOND PBL TO BROADER OUTCOMES**

It's been only a short while since the 1998 landmark PBL agreement between Lockheed

contracting arena.

The DOD is now applying PBL-like, performance-based outcomes measurements for the acquisitions of many types of services. A September 7, 2004 Memorandum to Chief Acquisition Officers and Senior Procurement Executives signed by Robert A. Burton, Associate Administrator, Office of Federal Procurement Policy, directed that "agencies should apply Performance-Based Service Acquisition methods to 40 percent of their service acquisitions over \$25,000 to include contracts, task orders, modifications, and options, awarded in FY 2005...." Such services listed were architect-engineer services, construction and utility services, and others, with recognition that some services might not lend themselves to outcome-oriented requirements.

"There's been enough success with PBL," says Vitasek, "that the services areas are moving forward with measured performance