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AVIATION AFTERMARKET DEFENSE

FALL 2006 Volume 2, Number 3

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PBL CONTRACTING
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C-130 SPECIAL SUPPORTING THE HERCULES SECTION

HERCULEAN TASK
Structural Maintenance and the C-130

LOCKHEED MARTIN'S HOLOGRAM PRODUCTS INITIATIVE The Latest Update

INDUSTRY'S LEADING C-130 PROVIDERS

EXCLUSIVE INTERVIEW
Linda Allen of Lockheed Martin Corp.

FROM: AAD/116 Radio Circle/Ste 302/MT. KISCO/NY/10549-1148

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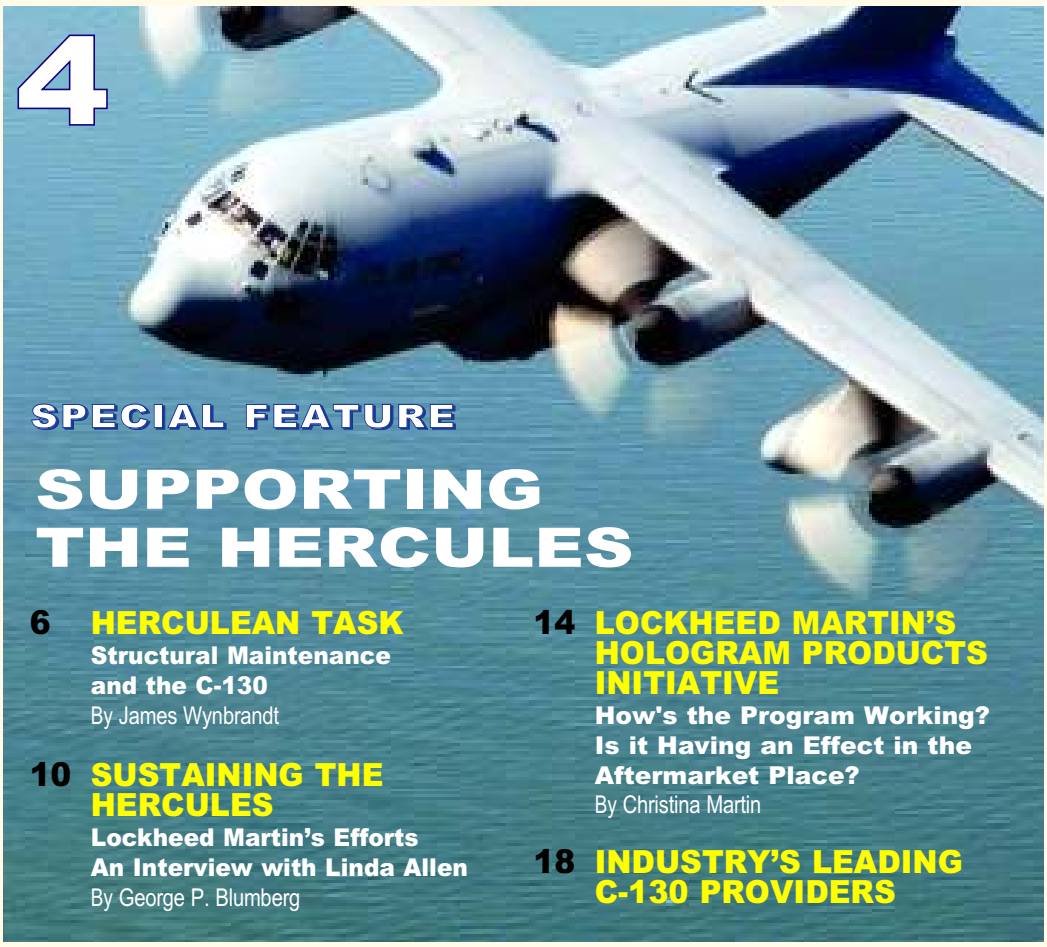

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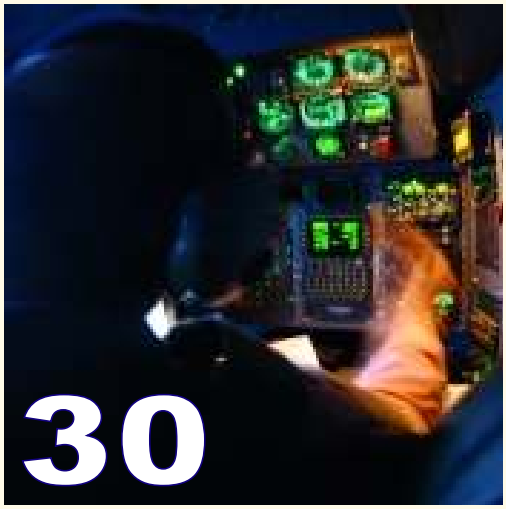

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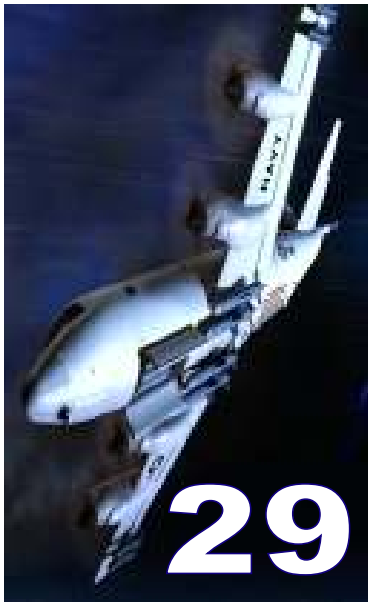

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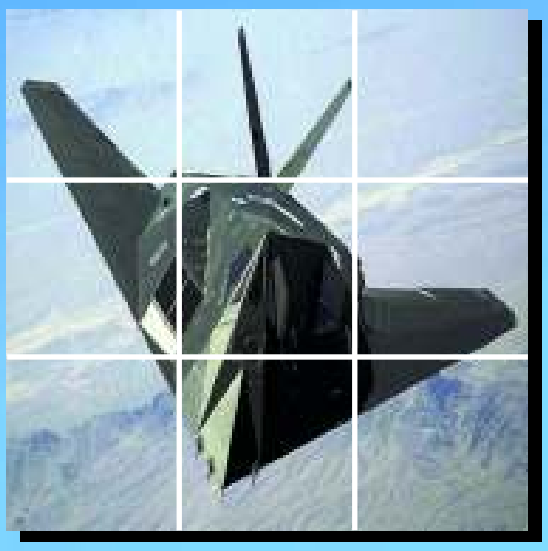
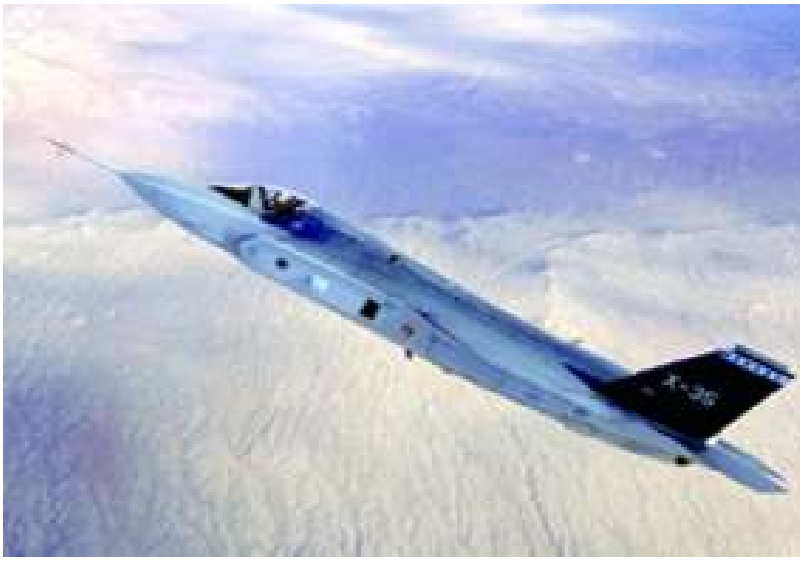
PBL CONTRACTING

WAVE OF THE FUTURE - OR TSUNAMI?

AN IN-DEPTH LOOK AT PERFORMANCE BASED LOGISTICS

By George P. Blumberg





The U.S. Department of Defense is committed to increasing the availability and reliability of its weapons systems, while, at the same time, downsizing its base level and depot level facilities. To do that, the DOD is relying more on partnerships with the private sector to support weapons systems.

Performance Based Logistics (PBL) is fast becoming the wave of the present and the future in the way the DOD purchases weapons systems support, and how it leverages the capabilities of both the private and public sectors. The preferred PBL contracting approach is through long-term contracts tied to performance, where contractors provide integrated packages of logistics. PBL pays a supplier for weapons system performance over the system's life cycle. In short, PBL buys outcomes, not repairs.

PBL turns traditional contracting on its head–suppliers are not paid for individual business transactions, which might include spare parts, repairs, or technical support hours. PBL outcomes are expressed in terms of operational availability, such as the number of available flight hours for an aircraft. Other measures are increased mission reliability, and reductions in operations and support costs, logistic footprint, and logistics response time.

While PBL is expected to result in higher mission availability for the warfighters' systems, as well as better cost performance, it breaks new ground and provides an uncertain environment for contractors. As Kate Vitasek, of the University of Tennessee's Aerospace and Defense Clearinghouse, has stated, "Instead of looking forward to a future of profitable, risk-free, cost-reimbursable contracts for spare parts, the contractor will be expected to maintain the aircraft in mission-ready, serviceable condition, and be paid not for the work done on the airplane, but for the work done BY the airplane."

Under PBL contracts, contractors are incentivized to meet or exceed measurable outcome metrics. And they can be penalized for falling short. The DOD is no longer concerned with all the details of how it gets done–for example, the number of contractor personnel assigned to a facility, or where that facility is located–but rather it is paying for the results produced, and the risk burden shifts to the contractor to deliver.

To properly assess risk and reward, and to bid–and perform–intelligently, careful business cases must be built, using historical and projected data. Operating under PBL, contractors are motivated to invest in infrastructure to increase the reliability of the parts they provide, to enhance system availability, and to create more efficient supply chains, yielding faster response times. PBL contracts can yield significantly higher profits for smart, efficient contractors, along with benefits to the warfighter and the DOD, in a proverbial "win-win" situation.

PBL contracting is relatively new, and emerging in importance as the DOD method of choice to increase availability and reliability of weapons systems to the warfighter, while decreasing support costs. Every new weapon system–for example, the F-35 Joint Strike Fighter–is being designed so that support will be managed under a PBL structure. Aside from this Total Platform level, PBL concepts can also be used at the Major Subsystem, and Component levels. And current support contracts for legacy systems are being reviewed to see where a PBL approach may be retrofitted.

Understandably, because of PBL's recent emphasis, it is under scrutiny. Questions have been raised about its effectiveness, the measurement systems being used, and its applicability to specific cases. A Government Accountability Office (GAO) report even questioned whether the successful outcomes of fifteen PBL-contracted systems were attributable to the PBL structure itself. And while systems using PBL, such as the F/A-18 and C-17, have demonstrated high mission rates, PBL has yet to be demonstrated on a full, complex system, such as the F-35 JSF or the Army Future Combat System program.

Are the performance measures clear and accurate? Have PBL efforts documented real successes? Or are results cloudy? Is PBL just a bandwagon the DOD is jumping on? What are the pitfalls, risks, and reward for the contractor and the DOD?

In this series of investigative articles, AAD will examine these questions. This first article provides the background of PBL and addresses some of its issues. Subsequent installments will address specific program challenges and achievements.

PBL contracts can yield significantly higher profits for smart, efficient contractors, along with benefits to the warfighter and the DOD, in a proverbial "win-win" situation.

PBL EMERGES

Kate Vitasek is a partner in the consulting company Supply Chain Visions (www.scvisions.com) and a faculty associate at the Aerospace and Defense Clearinghouse at the University of Tennessee, where she is lead researcher for a PBL course for contractors.

She cites two concurrent drivers for PBL agreements. The first, she says, "was the 1998 National Defense Authorization Act, directing DOD to examine its overall practices. The government was studying costs and, in essence, it said, 'Hey, we're buying all these systems and, after that, it costs 73 percent more of the base costs to support them.' Plus, we had a huge infrastructure and, after the Cold War, the nature of war had changed. Congress said, 'You have to overhaul your practices.'

"Essentially, we had mountains of 'stuff,' and those mountains were just going to become obsolete. The question was: Can't

Kate Vitasek,
University of Tennessee's
Aerospace and Defense Clearinghouse

we meet warfighter needs with less stuff? Plus, the life of aircraft used to be 20 years; now it's maybe 50 years. So we also needed to find better ways to update obsolescent systems like avionics. We needed to refigure it all."

Congress also identified that DOD had logistics costs that were twice as expensive as private sector systems. As a result, it recommended the adoption of private sector practices, substituting prime vendors for government facilities where practical to streamline operations. While the 1998 National Defense Authorization Act did not specifically spell out PBL as a strategy, it did start the momentum for military program managers to start thinking differently about how to manage support.

The second driver Vitasek cites was a landmark 1998 PBL agreement between Lockheed Martin and the U.S. Air Force, called the Total System Support Partnership (TSSP) Program, to support the F-117 Nighthawk. The Sacramento Air Logistics Center at McClellan Air Force Base was closing as part of the Base Realignment Closure process, and the base serviced the F-117 Nighthawk. Lockheed Martin took over the entire scope of support for the aircraft, with operational readiness targets as contract success measures.

"It was the first PBL," says Vitasek. The contract provided for logistics support, material management, technical data and depot repair, to take place at the Lockheed Martin "Skunk Works" at Palmdale, California. It became an example of emerging PBL concepts.

ALONG WITH THE F-117, PBL TOOK OFF

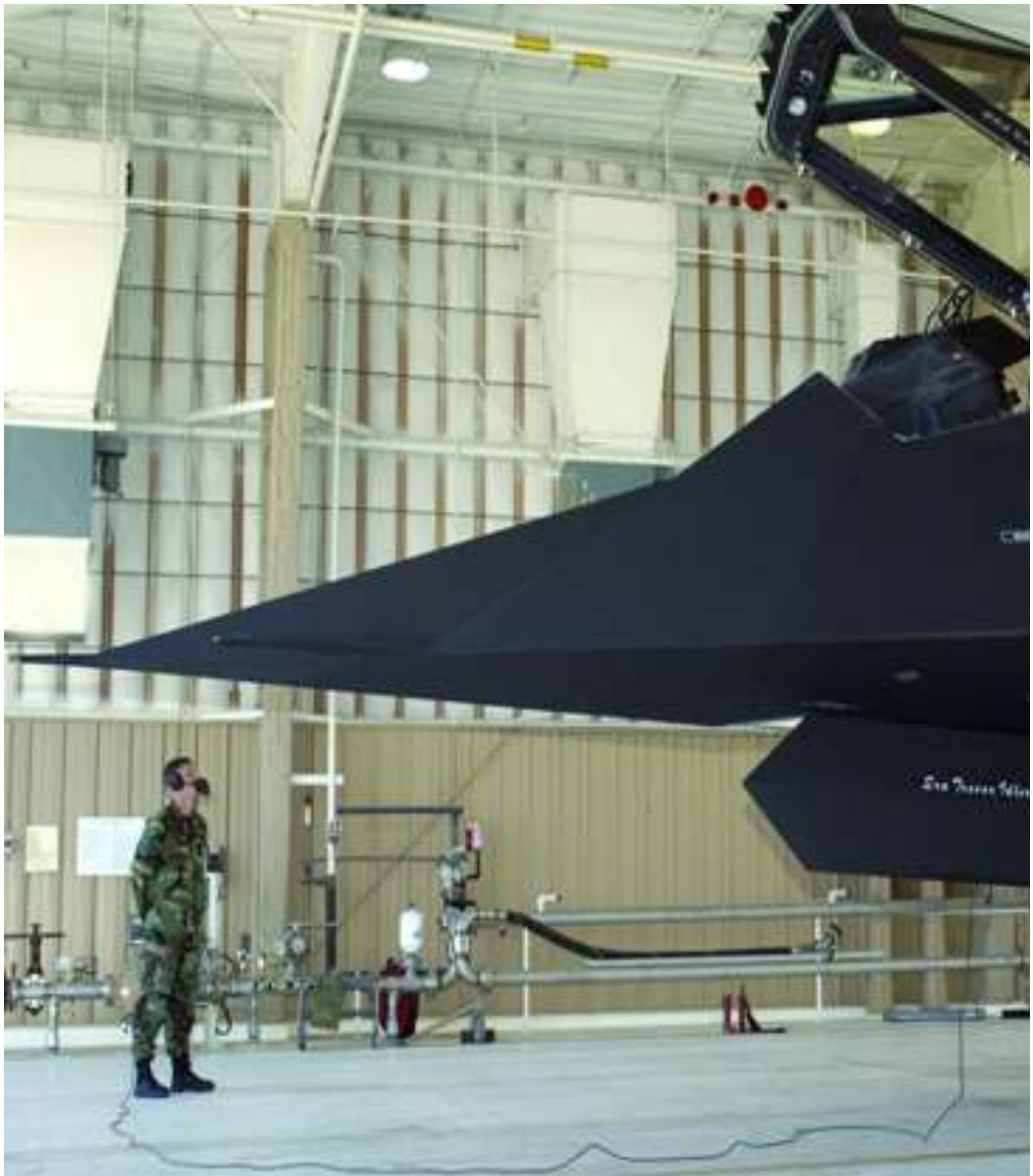
In 1999, DOD issued "Product Support For the 21st Century." In this document, the DOD announced a re-engineered logistics strategy that stated any new programs must have a PBL support agreement, unless there was a business case proving it was not the best method for the program.

An August 2004 "Memorandum for secretaries of the military departments" from Michael W. Wynne, Under Secretary of Defense, was issued to clarify the PBL role in purchasing weapon system logistics support. It states that "The Defense Acquisition System requires program managers to develop and implement PBL strategies that optimize total system availability, while minimizing cost and the logistics footprint. PBL strategies can be applied at the system, subsystem, or major assembly level, depending upon program unique circumstances and appropriate business case analysis. PBL arrangements will be constructed to truly purchase performance...."

In reality, PBL contracts are also applied at the components level. Vitasek says that, as of fall 2005, she had counted fifty-eight ACAT I and II programs under PBL, and there were about 163 more planned. This does not even start to capture the hundreds of smaller programs, she says.

Today, the DOD is looking at legacy programs to see if it makes sense to convert their support structures to a PBL format. The F-117 program was one such legacy program converted to PBL, and one of the programs studied at the University of Tennessee. Originally signed in 1998 for a 5-year base period with a 3-year award term option, the contract is considered prototypical for PBLs.

The current F-117 contract combines a

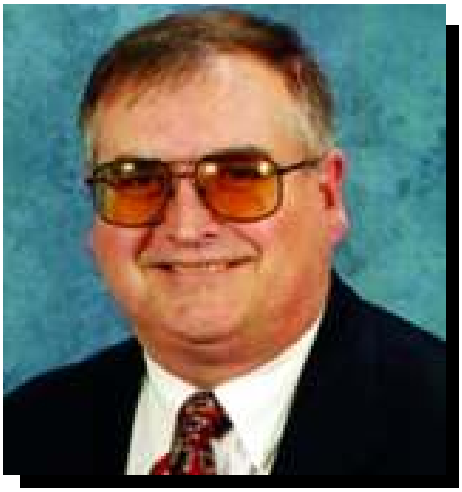


Cost-Plus Incentive Fee and Cost-Plus Award Fee structure. Lockheed has incentives to meet seven objective metrics related to system availability and readiness. They also must meet four subjective metrics related to overall support efficiency.

"Lockheed is rewarded for containing total support cost at or under annual cost targets," explains Vitasek. "Under a 50/50 cost share ratio, Lockheed receives 50 percent of the amount by which they under run the annual cost target, but [they] are also penalized to the same extent for over-running the target."

The F-177 Nighthawk was so successful, it won a DOD award for the most successful systems level PBL at the fall 2005 Aerospace Industries Association meeting. Under the contract, F-117 mission readiness has been improved by reducing Mission Capable response time (MICAP, meaning any non-availability of a needed part or repair hampering a mission) from 80 hours to 23.4 hours, and bringing engineering disposition response time down from 190 hours to 2.1 hours.

This efficiency gain is the equivalent, Vitasek explains, of having one additional aircraft available per day. The total estimated savings recognized by the Air Force is over $217.5 million. This PBL partnership agreement with Lockheed Martin has been renewed for another 8 years. (We will review other examples of PBL program achievements in future installments.)

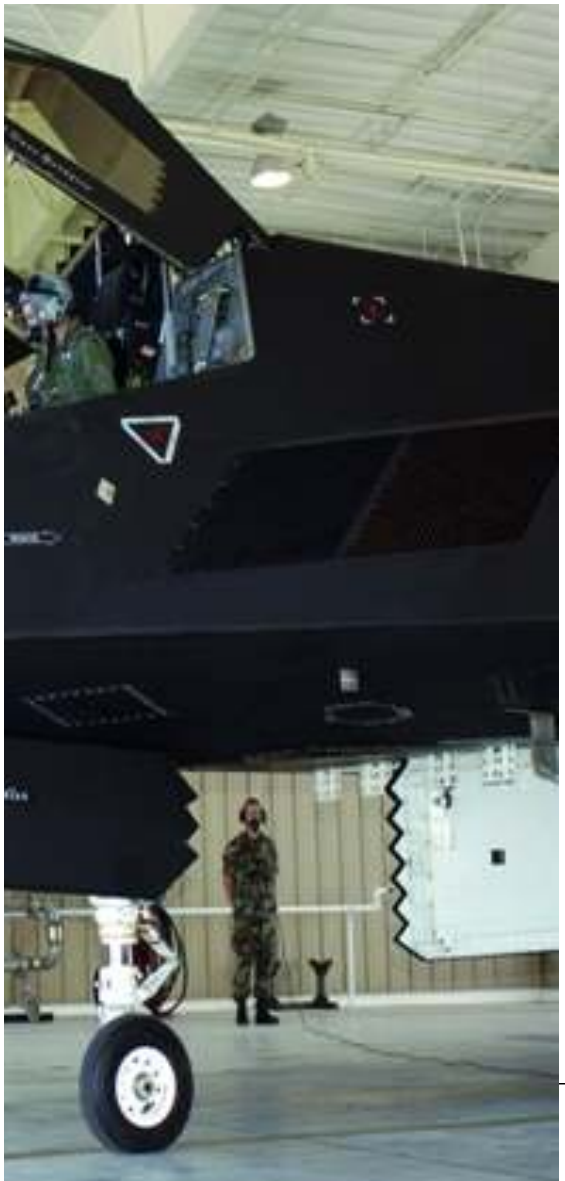


John Kotlanger, Partner in Performance Based Logistics Programs

PBL PROBLEMS?

Yet with all the "push" for PBL, two reports from GAO seemed, on the surface, to be critical of PBL. Reading them carefully, and speaking with the director responsible for them, another picture emerges.

The first report, in 2004, "Opportunities to Enhance the Implementation of Performance Based Logistics," addressed the DOD policy of adopting PBL "based in part on DOD's perception that this is an industry best practice." The report questioned whether it was an industry best practice for activities using costly equipment with life-cycle management issues similar to military equipment.



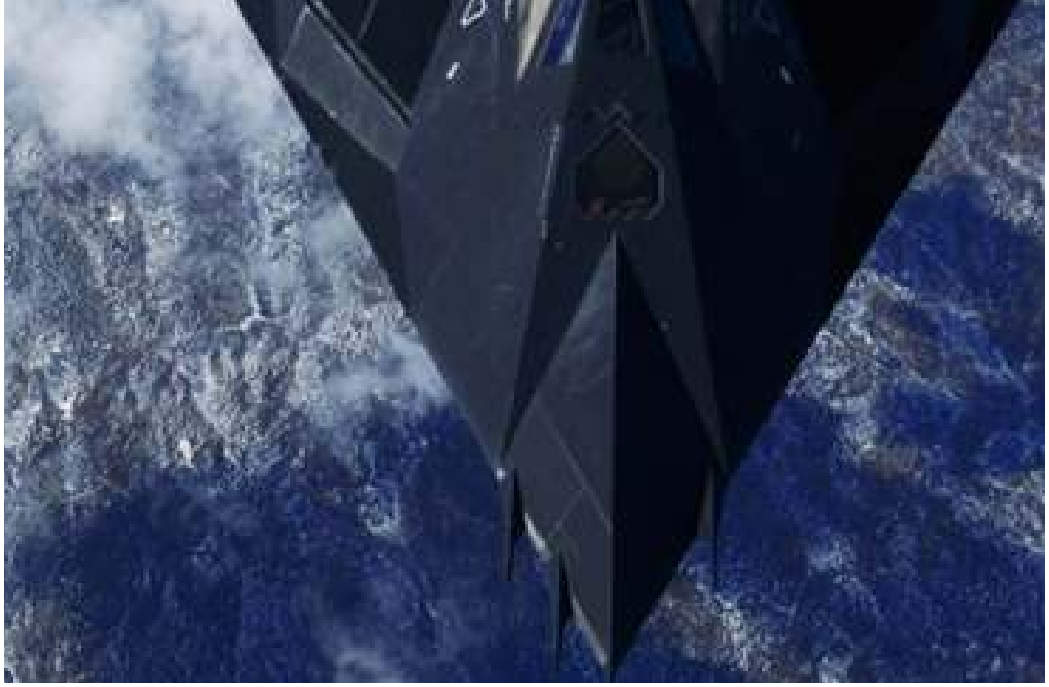
"the DOD is looking at legacy programs to see if it makes sense to convert their support structures to a PBL format..."

The conclusion? PBL is used in selective cases in industry, but mostly at a subsystem and component level versus a platform level. And the DOD's use of PBL at the component or subsystem level should be emphasized, rather than used as the preferred platform level contracting method, unless business cases are made for use at higher, platform system levels.

William L. Solis, the GAO's Director of Defense Capabilities and Management, under whose aegis the reports were prepared, basically explains the first report: "We were just concerned about putting all the DOD eggs in one basket, and moving out unilaterally to use a PBL approach on everything. We found that PBL approaches weren't used unilaterally in industry for large-scale projects. It's fair to say DOD will be, and is, and should be, using PBL as one of the tools in its toolkit. Use of PBL is facts and circumstances. Where it makes sense, it's appropriate. But it's not an end in itself."

John Kotlanger, Partner in Performance Based Logistics Programs (www.pblprograms.com), a consultancy advising commercial contractors on risk management with PBL says, "That GAO report was questioning why DOD was pushing for PBL. But they have to understand that the way it started emerging as a commercial best practice was on programs where there were reliability issues. Commercial OEMs who build capital equipment often used PBL-type programs to mitigate their risks when reliability issues were known to exist with their products. This way, OEMs had an incentive to fix reliability problems, consummate the sale, keep customers happy, and deliver higher profit margins. At the time, maybe it wasn't an across-the-board best practice, but it's rapidly becoming a commercial best practice, since it's a way to materially increase profit margins."

The second report, in 2005, "DOD Needs to Demonstrate That Performance Based Logistic Contracts Are Achieving Benefits," seemed to say that they were not. Actually, GAO reviewed fifteen PBL programs and



was simply unable to conclude that PBL caused costs to go up. However, the report stated, "Performance indicators tracked by the program offices showed that the contractors met or exceeded performance requirements. Of the fifteen programs, ten reported that performance levels exceeded contract requirements, and five reported that performance levels were meeting contract requirements."

According to Solis, "We weren't questioning the benefits, just the extent of the benefits. We were focusing on cost analysis. What's required in their own policies is that they do a Business Case Analysis [BCA] up front, and then follow up and do a review and update. Most hadn't done that according to the specified policy. We weren't saying it was or was not cost effective."

So the DOD was directed to follow up and make sure BCAs were updated. According to Solis, there has not been any follow up work done by his organization on either issue. Solis did say, "I think PBL is the wave of where it's going, but we haven't looked at it in the entirety. When and if you have PBLs that require contractors performing on a battlefield, that will be a whole new issue."

CHANGING THE CULTURE

A key issue in rolling out PBL is getting the contractor world up to speed about the concept. "There was extensive work on the government side launching PBL, but very little effort [was] expended to educate the contractor side," says Kotlanger. "It requires contractors to become more customer-focused and willing to make longer term investments in infrastructure and inventory.

PBL causes a significant shift in risk to the contractor, who is accustomed to progress payments and minimal risk taking. In reality, they've not been prepared to do it. It's a different business model than cost-plus, where the contractor can deliver inadequate products and services, as long as they meet the contract terms, and still the government pays them. Often, the government pays them to correct mistakes they made in earlier deliveries."

"If you're a military person, you can go to DAU [Defense Acquisition University]," said Vitasek, "but there's a demand for PBL education on the commercial side." The University of Tennessee PBL course for contractors (www.thecenter.utk.edu/aerospace) is sponsored for the industry by Boeing, Lockheed Martin, Northrop Grumman, Pratt & Whitney, and Raytheon, in order to help bring the private sector community up to speed. Open enrollment is offered for any company to attend.

"We help clients understand the huge profit potential available through PBL," says Kotlanger, "and structure value propositions to give the government the value it wants, and, at the same time, inoculate the contractors from risk. We do extensive business modeling. We help identify and quantify risks and risk trigger points." Clients include BAE, Boeing, General Dynamics, ITT, and Lockheed Martin.

"One of the problems when the DOD PBL initiatives started," explains Kotlanger, "was the inclusion of 'Logistics' in the name. So when an RFP [request for proposal] came in to a contractor's facility, they'd hand it to the Logistics guy. Now, Logistics guys can run maintenance and supply operations, but we're talking here about the ability to scope and run a profitable business–a program that may require hundreds of millions in investment, with no profit up front, and with deferred ROI [return on investment] payback.

"And the Logistics guys," he says, "are just not positioned or equipped to go into their company's CEO or board of directors and make the broad investment requests that are required for these contracts. So contractors have to develop a new discipline within these companies. We have to do executive education to get the top people on board with the concept. After all, it's a cultural issue, counter to the old norm, which was selling more parts and labor was a good thing. In PBL, selling less labor and using fewer parts is a good thing, because it means the platforms are working. New organizational structures have to be built up to give PBL its rightful place in the traditional contractor's organization."

And PBL has a rightful place, because it can be profitable. Generally, says Kotlanger, "A PBL can generate 20 to 30 percent profit margin versus a 3 to 7 percent traditional profit margin. But contractors take on much greater risks, associated with performance and investment.

"Of course, it should generate a higher profit, because profit is no longer tied to revenue, but it's tied directly to the risk you're taking. A shock huh? It's called capitalism. Now you have to untrain them from the comfort zone they're in, to take intelligent risk."

Stay Tuned!

In our next installment, we will discuss taking intelligent risk, the need for program modeling data, GE/NAVDEP Jacksonville PBL partnering results, the Sikorsky/Lockheed Martin HH60 PBL support contract savings, and more.