

# PERFORMANCE BASED LOGISTICS: OPTIMIZING TOTAL SYSTEM AVAILABILITY AND REDUCING PROGRAM COST

BY

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USAWC CIVILIAN RESEARCH PROJECT

**PERFORMANCE BASED LOGISTICS: OPTIMIZING TOTAL SYSTEM  
AVAILABILITY AND REDUCING PROGRAM COST**

by

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## **ABSTRACT**

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Incorporating industry best practices into an evolutionary process under the program manager, as a single point of accountability for Total life Cycle Management, remains a fundamental principle in DOD's strategy. Arguably, funding constraints create a barrier to achieving strategic objectives with respect to meeting growing user requirements and providing cash flow stability to contractors in a dynamic wartime environment. Program managers are challenged to obtain economies of scale based on the availability of multi-year funding, which falls short in providing the leverage necessary for long term commitments with suppliers. As a result, contractors increasingly procure components with company funds to deliver items on schedule and maintain system availability. The phenomenon, considered as at risk purchases, afford contractors flexibility to lean forward in procurement; however, the action creates unintended consequences for program managers in areas of public policy as well as federal acquisition regulations. This paper explores funding as a barrier to achieving PBL strategic objectives. Additionally, it explores the phenomenon of contractor funded purchases and the potential impact on system availability and cost.





# PERFORMANCE BASED LOGISTICS: OPTIMIZING TOTAL SYSTEM AVAILABILITY AND REDUCING PROGRAM COST

## I. Introduction

The Department of Defense (DoD) strategy for Performance Based Logistics (PBL) emerged from a multi-disciplinary approach in 1998. It involved the efforts of a team consisting of approximately 60 personnel that included representatives from the Undersecretary of Defense for Acquisition, Technology and Logistics (USD (AT&L)), the Joint Staff, military services, and Defense Logistics Agency.<sup>1</sup> As part of the 2001 Quadrennial Defense Review (QDR), DoD officially embraced PBL as the preferred method or approach to implementing product support.<sup>2</sup> In particular, the strategy evolved from the widely used approach for purchasing goods and services through a process known as Performance Based Acquisition or service based contracting. Moreover, the approach presented a challenge to acquisition professionals in all services by calling for a fundamental shift in thinking about weapons systems logistical support. It also signaled a change in the way requirements were generated and moved processes away from the transactional and prescriptive to an outcomes and results oriented focus on the availability of weapons systems – to include all requisite sustainment and support operations.<sup>3</sup> In simple terms, the government made a decision to transition from the purchase of individual parts, components, and subassemblies to an even higher level of management based on systems readiness.<sup>4</sup>

PBL strategy required all services to optimize total weapon system availability by transitioning increasingly higher levels of performance to contractors. Moreover, it attempted to simultaneously reduce risk and alleviate the burden of cost on the

government. In doing so, the government expected to realize a significant reduction in cost through improved supplier performance and increasingly greater efficiencies in sustainment operations. Additionally, program managers were now designated, in accordance with DoD Directive 5000.1, The Defense Acquisition System, as single points of accountability for accomplishing Major Defense Acquisition Program (MDAP) objectives. As a result, these acquisition professionals were now expected to implement business approaches that fostered availability as well as the reduction of cost through Total Life-Cycle System Management (TLCSM).<sup>5</sup>

While there are larger concerns with respect to PBL implementation, culture and funding continue to present a formidable challenge in achieving the strategic objectives outlined by DoD. These challenges are further compounded by an expanding global economy and the sheer dynamics of a wartime environment, which often place competing demands on both the private and public sectors and its ability to maintain a robust defense industrial base. This paper explores PBL challenges in relationship to present day issues involving culture and funding within DoD. Additionally, it attempts to raise concerns regarding second and third order effects that may merit further exploration in both the acquisition and procurement processes. In particular, a recent development related to contractors called Contractor Funded Requirements (CFR) is addressed, and it measures any potential impact in terms of total system availability and cost reduction.

### The Purpose of PBL

DoD expected to capitalize on the success achieved in the private/commercial business sector by applying a similar methodology for logistics and sustainment support

to meet the warfighter's needs. In particular, it used the private sector's business model to define and refine strategy in terms of Supply Chain Management (SCM) and ultimately, measuring success based on performance and availability. Private industry leaders not only review critical lessons learned and implement best practices through a time-phased enterprise approach, but they also place a particular emphasis on supplier performance in areas of manufacturing and sustainment. In private industry, the key to implementing any strategy requires having the means to properly measure its impact with respect to the return on investment. In PBL, the government emphasis remains on results -- not resources -- as the paramount objective in implementing strategy. Moreover, properly defining the result requires an application of values or thresholds that measure outcomes through a systems oriented approach in life cycle management.<sup>6</sup>

Defense industry leaders have struggled with the definition and application of PBL strategy. In aviation, for instance, True or Pure PBL requires a fundamental shift from telling contractors what to do; instead, it requires implementing a practice of telling them what to achieve. In essence, the implementation of a Pure PBL transcends the mere availability of any single airplane, vehicle or platform. Today, it requires focusing on readiness levels that measure outcomes in relationship to an entire fleet -- including all associated parts, repairs, and fuel.<sup>7</sup>

A number of successful outcomes have evolved throughout the commercial industry sector, and each has had a profound impact on the customer-seller relationship using PBL. For instance, automobile manufacturers provide at no additional cost bumper-to-bumper warranties and full service maintenance leases based on a

predetermined and negotiated operational threshold – such as a fixed rate of miles driven over a set number of years. In another example, semiconductor equipment providers charge a fixed fee while guaranteeing outcomes that achieve greater mean time between failures and limit the duration of operational down time.<sup>8</sup> In short, commercial industry practices cannot be overlooked and remain the key factor in implementing performance based outcomes. Success with PBL often relies on establishing the correct threshold values, and even more importantly, it requires such values to not only accurately reflect a desired performance but also to appropriately compensate contractors for either meeting or exceeding negotiated expectations, as well.<sup>9</sup> In all cases, the contractor synthesizes data using its own expert knowledge of historical cost and past performance to deliver a predictable result. In doing so, contractors continue to establish long term contracts with suppliers as a mechanism to lowering cost and maximizing profits.

TLCSM represents an integral part of the government's strategy for optimizing readiness and reducing cost. It requires program managers to apply a holistic approach to integrating acquisition costs that address more than those related to manufacturing and production. Instead, it calls for the inclusion of sustainment and disposal requirements, as well. TLCSM focuses on readiness and cost by developing the right combination of organic (government) and nonorganic (contractor) support needed to meet the operational demands of the warfighter.<sup>10</sup> Previously, the former Undersecretary of Defense for Acquisition, Technology and Logistics, Dr. Jacques Gansler established a DoD wide requirement for 50 percent of acquisitions to meet performance based criteria by 2005. Moreover, the former Under Secretary's guidance

called for a selection process based on using best value providers that would create long term partnerships between government and industry.<sup>11</sup> From an enterprise level, service wide attempts have fallen short of fulfilling these guidelines.

The Stryker family of vehicles provides an example of TLCSM, and the on-going challenges associated with fielding a weapons system in a wartime environment. The Stryker was fielded in Iraq as part of an urgent combat requirement in 2003. The prime contractor, General Dynamics Land Systems (GDLS), had the requirement for achieving a performance based outcome to either meet or exceed an Operational Readiness Rate (ORR) of 90 percent. The measure was predicated on the baseline configuration of the vehicle, and although GDLS was successful in meeting the threshold value, it never realized any associated cost reductions. In retrospect, the Stryker incurred significantly higher costs, which were attributed to a number of factors that exceeded parameters established in the initial requirement -- including the increase in operations tempo (OPTEMPO), greater exposure to severe operating conditions, and collateral related impacts from stress on the system.<sup>12</sup>

As in the case of the Stryker, DoD applied a similar approach of power down decision making and implementation in PBL strategy to the other services. In general, the services were given latitude to develop further business related processes and procedures within established directives and guidelines. Nevertheless, the Department of Defense Inspector General (DODIG) published a report in 2004 which was critical of PBL strategy and implementation. In particular, the report underscored the limited guidance provided by DoD to the services. In effect, the DODIG disagreed with the requirement to apply PBL as a True or Pure strategy based on the entire weapons

system or platform. While the report seemed to emphasize the inability of private industry to achieve the goal as a best practice, it focused instead on the success in applying PBL strategy to both the subsystem and component levels. In turn, private industry benefited from a core competency involving program integration, and in doing so, contractors were able to reduce cost through volume discounts.<sup>13</sup>

While DoD formally acknowledged and emphasized the broader application of PBL at both the subsystem and component levels, it never discounted the potential to achieve future outcomes at the weapons system or platform level, as well. As a matter of fact, a number of program managers had already implemented PBL strategies that focus on subsystem and component levels. The Army AH-64D Apache Longbow and the Marine Corps V-22 Osprey are examples of aviation programs using such an approach and are discussed in more detail later.

All services have specific guidance with respect to the application of PBL. In essence, the guidance is outlined for program managers in service specific regulations. While Army guidance is outlined in AR 700-127 (Integrated Logistics Support), the Navy provides guidance in NAVAIR INSTRUCTION 4028.2A (Policy Guidance for Performance Based Logistics), and the Air Force outlines its guidance in AFI 63-107(Integrated Product Support Planning and Assessment).<sup>14</sup> In each service related publication, the program manager is responsible for developing a Business Case Analysis (BCA), which remains an integral document or blueprint for implementing and executing PBL strategy on both new and legacy programs. Although the methodology on how services implement or update the BCA has varied based on the aforementioned

guidance, the document remains an analytical tool for assessing projected cost and benefits in comparison to other alternative weapon system support options.<sup>15</sup>

### Current Operations

PBL and logistics efforts remain a costly driver and contribute significantly to government spending in the current wartime environment. Experts from both the public and private business sectors have closely studied the costs and reported obligations totaling more than 190 billion dollars to support a full spectrum of military operations.<sup>16</sup> The asymmetric threat posed by wartime environments in Iraq and Afghanistan has had an unquestionable impact on the increasingly higher costs and challenges associated with sustaining aviation, missile, and ground combat systems. In some instances, weapon systems like the Stryker family of vehicles had already experienced more than a 500 percent increase in performance objectives/thresholds from those initially outlined in the development and pre-deployment phases of the vehicle.<sup>17</sup> Consequently, the ability to implement a strategy that transcends mere effectiveness remains subject to providing a more flexible approach and overcoming government limitations resulting from existing statutory and regulatory policies and procedures. While program managers remain the gatekeepers for implementing PBL, they exercise only limited control of funding outlays and remain impacted by actions or outcomes resulting from the specific buying commands of the services.<sup>18</sup>

The statutory and regulatory requirements outlined under Title 10 of the United States Code (USC), Public Laws, and Federal Acquisition Regulation (FAR) provide further guidance to program managers in implementing a PBL strategy. As previously stated, the key to implementing PBL strategy relies on transitioning performance

thresholds and associated risks to the contractor. In doing so, only then does the contractor become empowered to make management decisions facilitating the optimization of inventory, maintenance and technical support.<sup>19</sup> Under Title 10 USC and Federal Acquisition Regulations, the government places a number of restrictions on program managers with respect to the control and use of funds. It also limits the long term thinking and flexibility needed for implementing PBL strategy over the entire life cycle of a system.<sup>20</sup> For example, Section 2208 establishes a Working Capital Fund for maintaining industrial related supplies and inventories. Section 2464 requires the maintenance of a Government-Owned and Operated core logistics capability. Section 2466 sets funding limits on non-organic depot level work in terms of establishing a not to exceed level of 50 percent. Section 2469 sets limits on transferring or contracting of depot level repair and maintenance work valued at 3 million dollars. Finally, Section 2474 sets requirements for the Secretary of Defense or service secretaries to establish Centers of Technical or Industrial Excellence.

The Federal Acquisition Regulation outlines guidance to program managers on contract length, cost reporting, and quality standards. Commercial industry strategy typically supports the use of multi-year contracting which enables prime contractors to build long term relationships and economies with suppliers. Nevertheless, the public sector has typically limited contract awards to periods of 3-5 years at best. Such limitations on contracts and funding do not exist as best practices in the private or commercial sector. In the public sector, the “Color of Money” or appropriation of funds by Congress not only places limitations on the availability of dollars through annual or Operations and Maintenance (O&M) appropriations, but it also requires the use of



multiple lines of accounting to capture funds in contracts. Consequently, purchase orders require the contractor to flow down technical or quality requirements to validate critical characteristics and ensure strict traceability of Critical Safety Items (CSI), as determined by the engineering service directorate for the specific platform or weapon system. As a result of these limitations, a number of questions remain with respect to the feasibility of implementing a Pure PBL strategy at the fleet level based on TLCSM.<sup>21</sup>

Considerable emphasis has been placed on developing the BCA and establishing a foundation for optimizing readiness and reducing cost of acquisition systems. DoD requires an analysis on every new and legacy Acquisition Category Level I and II program with respect to reliability, availability, and maintainability.<sup>22</sup> In retrospect, program managers have fallen short in previous attempts to capture the level of detail necessary to support such an analysis.<sup>23</sup> In some instances, the lack of detailed analysis was attributed to poorly defined requirements or objectives by the user. In other cases, the shortcomings were also attributed to a lack of internal control procedures that mandated completion. For instance, the Government Accountability Office (GAO) previously reported on 29 service-wide programs in 2008 and determined 14 of the programs lacked, to various extents, information on important economic elements. As a result, the sustainment methodologies on programs were subject to further analysis and debate, with cost effectiveness ultimately being called into questioned.<sup>24</sup>

The goal of reducing cost through PBL implementation remains an on-going challenge. Particular emphasis was placed on ending the acquisition death spiral of legacy systems through the anticipated cost saving efficiencies from PBL. In theory, no

longer would the services be hindered by the high cost associated with maintaining aging platforms and weapons systems. Instead, a new dynamic would occur over time and eventually turn the death spiral into a recovery spiral.<sup>25</sup>

## II. Implementing Future Strategy

The implementation of PBL and TLCSM created a new focus on acquisition and presented a number of challenges for program managers. The mere suggestion of change in any business or acquisition process often leads to resistance, and in this case, the evolution from a transactional to availability based approach has proven no different. For instance, experts have researched and identified specific barriers associated with the implementation of the PBL process in 2005: Funding, Statutory/Regulatory, Culture, Infrastructure, Data Rights, Lack of PBL Training, and Lack of Depot Incentives. While each of the areas, to an extent, have had an impact on implementing strategy, the top three drivers from the sampling and statistical analysis confirmed Funding, Statutory/Regulatory, and Culture barriers as the most prominent.<sup>26</sup> Although culture remains an on-going as well as an evolutionary aspect to change, the path forward with funding PBL strategy remains less responsive and flexible in achieving cost reduction under TLCSM.

DoD guidance continues to advocate for integration between the public and private sector business models in acquisition. In particular, it stresses a need for leaders to seek more effective and efficient methodologies to streamline processes, while meeting the unanticipated demands from the OPTEMPO of a wartime environment.<sup>27</sup> In order to achieve these goals, the acquisition process must first and foremost overcome barriers associated with culture and funding.

## Culture

DoD outlined five criteria for measuring performance based outcomes in August 2004 in regards to acquisition strategies for MDAPs. Mr. Michael Wynne, former Undersecretary of Defense, issued guidance that was subsequently incorporated by Dr. Kenneth Krieg, then USD (AT&L), in the Defense Acquisition Guidebook and Program Managers Guide for Performance Based Logistics in 2005. Program managers were now expected to leverage contractors and stakeholders by developing PBL metrics that evaluated system performance in specific areas – such as operational availability, operational reliability, per unit usage cost, logistics footprint cost, and logistics response time.<sup>28</sup>

As previously mentioned, the Army's Stryker program provided an example of applying the new metrics as part of a deployed weapons system in 2003. In particular, the Stryker emerged as part of an urgent combat requirement in two theaters of war and had the capability of supporting the warfighter over a full spectrum of military operations. While the system achieved and eventually surpassed the availability threshold, the resulting studies and analyses determined cost savings as non-existent. Although the cost plus – fixed fee contract was successful in motivating General Dynamics to perform, it fell short in providing the incentive necessary for reducing cost.<sup>29</sup> In retrospect, the higher costs were attributed to combat developers and the impact of rapid fielding. In particular, the combat developers were identified as failing to provide clarity and understanding on the system's performance parameters. In spite of these problems, the follow on analyses were helpful to understanding future contract actions and the performance based incentives needed to reduce cost.<sup>30</sup>

The Army continues to use a variation on fleet readiness outcomes, which includes parts, components, and subsystems. With respect to the AH-64D Apache Longbow helicopter, the program started transitioning sustainment operations from a transactional Contractor Logistic Support focus to a PBL approach in 2002. In this case, Apache “D” Unique model items began the transition with the contractor and integrated stakeholders on a select number of items. It also included an integrated approach for items associated with the production of the Apache Block III model scheduled for FY 2012. The PBL objective focused on an initial supply availability rate of 85 percent with incentives for 344 items. Eventually, these items would expand beyond 405 by 2011. Additionally, the Defense Logistics Agency would integrate 208 Boeing specific items into the process as part of the Virtual Prime Vendor Support contract, as well. Using a phased approach, the inclusion of additional support continues throughout FY 2019.<sup>31</sup>

The Navy recently completed negotiations on the PBL contract for the Marine Corps V-22 Osprey tilt-rotor-aircraft with an award expected in FY 2011. While the contract action represents a joint venture between two prime contractors, Bell Helicopter TEXTRON and Boeing Defense Space and Security (BDS), the pending award only includes the negotiated Bell Helicopter portion at this time. In this case, the strategy integrates contractor and stakeholder support with respect to high dollar parts, components, and sub-assemblies based on projected flight hours over a five year period. The scope of the effort included over 4,000 line item part numbers and more than one million aggregated items. In this case, however, sustainment objectives

included not only spares and repairs but consumables, non-recurring engineering, support equipment, and surge capability as well.<sup>32</sup>

Methodologies used in implementing PBL strategy continue to vary throughout DoD by service and program. While efforts continue to integrate contractors and logistical support providers under a common process of delivering best value to customers, the culture challenges associated with implementing multi-year contracting and funding remain an area of considerable concern.<sup>33</sup> For instance, in interviews with members from the Army Program Executive Officer, Ground Combat Systems, integrated product teams are now working to define PBL outcomes in terms of Fleet availability based on operational readiness at the brigade level. Once again, this requires the user to define within the BCA metrics that provide the correct fit for both private and public sector suppliers. The overall challenge to acquisition programs and managers remains with developing a strategy in partnership with contractors and institutions to overcome barriers, while simultaneously reducing cost to achieve warfighter demands in both the current and future operational environment.<sup>34</sup>

### Barriers

The long standing budgetary process involving the authorization and appropriation of funds under Title 10 USC represents a formidable challenge to program managers implementing PBL strategy. Under the auspices of various public laws and acquisition regulations, the allocation and use of funds remains subject to the constraint of both a purpose and time dimension. In a comparison to the private sector and use of commercial best practices, the government approach to funding programs under PBL continues to fall short in enabling the achievement of objectives through TLCSM. While

both the private and public sectors seek to optimize availability, the former focuses on a long-term and flexible approach that embraces external economies of scale and profit maximization, and the latter uses a short-term reactionary approach that limits actions and meets availability objectives at best.<sup>35</sup>

While the responsibility for TLCSM has been squarely placed on the shoulders of program managers, the definition of success requires partnering between the contractor, stakeholders, and government institutions to meet the needs of the warfighter. However, a significant amount of funding remains under the control of various institutions and not with the program manager. The Defense Capital Working Fund (DCWF) established under Title 10 USC Section 2208 provides such an example. Each service uses the revolving fund to sustain, maintain, recapitalize, and reset the force. In practice, the funds are used to meet changing workload requirements that provide both flexibility and cost effectiveness to suppliers and industrial facilities operating in locations throughout the United States. The performance based funds seek to establish cost stability in the near term, while adjusting to market fluctuations and achieving a break even or zero balance goal in the long term. Unfortunately, the system only reimburses sellers after items are issued from stock to the user and merely exacerbate the inflexibility of funding.<sup>36</sup>

The DCWF remains a topic of continued discussion based on the divergent expectations of services and application of sustainment strategies. For example, the Army Apache Program previously attempted to transition sustainment support of spares from the Army Material Command's (AMC) Prime Vendor contract to the contractor in 2000. Although the transition had support and backing from Dr. Gansler, the former

USD (AT&L), the action ultimately failed based on the results of a competitive survey completed by the Office of Management and Budget (Circular A-76). In short, the survey determined the resulting loss of workload would create an annual gap of 60 million dollars and drive cost upward for the remaining portfolio of programs under AMC.<sup>37</sup>

The use of multi-year contracting and funding remains a key to implementing PBL strategy. Although programs like the Osprey are moving toward contracts with longer periods of performance, defense industry experts assert funding methodologies need to change as well. Upon consultation with industry experts, the Defense Acquisition University (DAU) advocated performance periods for contracts ranging from 5 to 10 years to enable program managers the advantage of long-term benefits.<sup>38</sup> While long-term contracts can help to reduce risk, the application of flexible funding remains a symbiotic requirement for success, as well. A declining domestic industrial defense base as well as the growth in lower tiered suppliers urges the need for change in funding to reduce potential risk of contractors assuming cost outside the BCA and negotiated PBL strategy.<sup>39</sup> In short, defense contractors are expected to exercise make or buy decisions in support of PBL strategy, and the resulting implications from these decisions present a different challenge to program managers -- a process called “at risk” purchase.

### III. Integrating Organic and Non-Organic Procurement

The lack of multi-year contracting and funding poses a challenge to program managers implementing a long-term PBL strategy. In a recent review, the GAO further elaborated on the challenges associated with overcoming barriers. In particular, it made

a comparison between the United States and United Kingdom (UK) contracts and funding. In doing so, the GAO placed an emphasis on the UK's ability to lower cost by leveraging contractor internal investment through multi-year contracting with performance periods over 10 to 19 years. In comparison, its review of U.S. actions failed to find any similar savings. In essence, multiple year contracts awarded using O&M funding lines were identified as barriers and only inhibited contractors from making important long term decisions geared to improving performance and reducing supplier cost.<sup>40</sup>

The pressures associated with support operations in a wartime environment continue to rise. As stresses on weapon systems and programs become more pronounced, the growing demands placed on complex systems that operate 24 hours and 7 days per week continue to stretch the limits of support for both the contractor and government. In the meantime, the lack of flexible funding has resulted in the creation of a potential "bubble" within DoD today. The term bubble serves as metaphor which depicts a reality that exists on the inside, while a larger reality hovers on the outside and eventually asserts itself. The condition is usually tied to a level of finite resources, which in this case represents funding. Although weapon systems continued to perform on the inside of the bubble by using a traditional culture and funding approach, the outside or larger reality demonstrates both as lagging in application to optimize wartime sustainment, replacement, and production.<sup>41</sup> Consequently, the resulting impact presents an increased level of risk for customers as well as stakeholders.



## Second and Third Order Effects

DoD implemented a pilot program called Management Initiative Directive 917 (MID 917) involving six programs in 2006. A key aspect of the program centered on the streamlining of multiple appropriations into a single line of accounting to meet outcomes based approaches to PBL. The MID 917 initiative sought, among other objectives, to holistically align DCWF with a revolving and non-expiring approach used by the Navy to support PBL. While progress continues to be made with respect to appropriations and the DCWF, the government continues to use an evolutionary approach to TLCSM. As a result, its application has not gone far enough in providing the flexibility needed to implement industry best practices.<sup>42</sup>

Where funding has continued to follow a transactional approach based on multiple appropriations, contractors have in some instances used CFR or “at-risk” procurements to meet availability objectives. In these cases, items are purchased by a contractor using internal funds with the expectation of receiving reimbursement in a future or anticipated appropriation to a contract. While the breadth and depth of this issue remains in question and merits additional research, its application may have even far greater implications on risk levels to weapon systems and programs. For example, aerial and ground weapon systems categorize manufactured items in terms of the likelihood and consequence of a potential failure, and the engineering support activity of each specific service classifies such items as Critical Safety Items (CSI). In doing so, a higher standard of quality is required, and as a result, Government Source Inspection is mandated by public law and conducted in accordance with FAR Part 46 -- not only to

validate the critical characteristics of the item manufactured but to ensure its traceability as well.

Procurements by contractors using CFR call such processes into question. Potentially, some may be outside the scope of the government contract and present a clear challenge to product integrity. In essence, higher level inspection is only possible when the government maintains the right of entry to either a contractor or subcontractor facility. When an item is neither on contract nor funded by an appropriation, the government has no right to inspection. Furthermore, the government has no means to seek corrective action or withhold payment for non-conforming items delivered by contractors or suppliers. In either case, the government may pay increasingly higher cost from the contractor working outside the BCA.<sup>43</sup>

#### Accepting Government Product

Ensuring product integrity is paramount to any weapons system and PBL strategy. As long as culture and funding continue to support a transactional approach in TLCSM, it will hinder flexibility and only place future limits on program managers in executing PBL strategy. The current situation with respect to culture and funding may serve to encourage a lean forward behavior by contractors that contributes to the bubble and leads to less than optimal results.<sup>44</sup> Now, program managers may be faced with a new reality that involves inherently governmental functions and how validation is accomplished outside an appropriation or line of accounting. A similar situation actually occurred when the government inspected an item that was eventually used by a Japanese commercial airline. After an aircraft mishap, the Japanese company was subjected to a lawsuit and wanted the U.S. Government's support in determining neither

the component nor the end item was defective.<sup>45</sup> In this particular case, both military and commercial items were combined on a single line and inspected by government quality personnel at 100 percent. Similarly, the same risk inside the bubble remains today and will only increase as long as CFR is used.

In implementing a strategy designed to optimize availability and reduce total cost, the focus will remain on effectiveness as long as enablers of efficiency continue to fall short of meeting life cycle requirements. Moreover, funding concerns may have a greater impact on program managers and extend beyond technical/quality issues. Contractors are required to submit disclosures statements that remain subject to compliance with Cost Accounting Standards outlined in FAR appendix B, 48 C.F.R. Part 9904 and Public Law No. 91-379. The implications of using CFR may result in the accrual of unallowable cost by suppliers and subsequently leave program managers vulnerable to funding shortfalls by time of appropriation and contract award. In any case, contractors are clearly provided with no incentive to control costs, and the government remains vulnerable to incurring simultaneous charges from both the contractor and supplier -- the former to overhead and the latter to direct cost.<sup>46</sup>

#### IV. Conclusion and Recommendations

The need for continued reform of culture and funding within DoD remain critical to implementing PBL strategy that not only optimizes weapon systems availability and simultaneously seeks to reduce cost in programs. A number of government reports, as well as published articles from leading private and public sector experts in the defense industry, recognize the barriers and have subsequently championed the need for change. While the dynamics of change are driven by a wartime environment and need

for increased supplier capabilities in a global market, the shift from a transactional to performance based approach in funding and contract management remains essential. Until barriers related to culture and funding are either reduced or eliminated, program managers will continue to struggle with implementing a holistic strategy that provides flexibility for achieving long term benefits. Therefore, the following recommendations are needed to optimize weapon system availability and simultaneously seek cost reduction.

First, the continued push for greater use of multi-year contracting and funding throughout DoD promotes flexible support in a high OPTEMPO and wartime environment. Eliminating multiple lines of accounting based on annual appropriations will provide program managers the leverage needed to holistically implement industry best practices. Moreover, it will enable the building of long term relationships by enhancing predictability between contractors and suppliers and promoting return on investment.

Second, DoD should further assess the potential scope and impact of “at risk” purchases by contractors using CFR on current weapon systems and programs. In particular, it should determine whether a funding gap exists that increases the level of risk to weapon systems and programs with respect to CSI and product integrity. Furthermore, the government should determine if contractor behavior requires a work-around strategy to comply with public law and regulations, which contributes to disincentives for reducing cost and exacerbates the problem.

Third, DoD should continue to press for a review and reduction of barriers associated with implementing PBL strategy under Title 10 USC and the DCWF.

Although the Army previously attempted to make changes in the Working Capital Fund and failed, the current process may likely continue to encourage behavior that remains contrary to the transfer of cost and achieving a zero balance approach. In a time of diminishing domestic manufacturing capabilities and increasing numbers of global suppliers, the application of overly restrictive policy and regulation fall short of adding value to implementing PBL strategy.

Changes to culture and funding are necessary to slow down the death spiral and potential for an emerging bubble in acquisition. The need for greater flexibility with contracts and funding will provide program managers with the flexibility necessary to make PBL decisions and achieve long term economies to optimize weapon system availability and reduce cost.

#### Endnotes:

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<sup>2</sup> Hurst, Dana. Performance Based Logistics – A Bridge Between Acquisition Reform and Logistics Supply Management (Carlisle Barracks, PA: U.S. Army War College, March 15, 2006), 9-10.

<sup>3</sup> U. S., Government Accountability Office. Defense Management Opportunities to Enhance the Implementation of Performance-Based Logistics. Washington: GAO, 2004, 4-7.

<sup>4</sup> Vitasek, Kate, et. al. "Performance Based Logistics: The Changing Landscape in Support Contracting." The University of Tennessee and Supply Chain Visions\_(2006), 1-10.

<sup>5</sup> Nash, Ralph C. Jr, et.al. The Government Contracts Reference Book, 3d ed. (Washington DC: The George Washington University, 2007), 428-429.

<sup>6</sup> Sols, Alberto, et.al. "Defining the Fundamental Framework of an Effective Performance-Based Logistics (PBL) Contract," <http://www.allbusiness.com/company-activities-management/operations-customer/8911927-1.html#> (accessed 10 November 2010).

<sup>7</sup> Adams, Charlotte. "Outsourcing Trends: Commercial Aviation PBL?" <http://www.aviationtoday.com/am/issue/specialreport/26301.html> (accessed 20 November 2010).

<sup>8</sup> Vitasek, Kate, et. al. "Performance Based Logistics: The Changing Landscape in Support Contracting," 1-10.

<sup>9</sup> Beggs, James, Benjamin Ertel and Mike Jones. "Performance-Based Logistics Perspective." 2005: 6-8, <http://www.boozallen.com/media/file/performance-based-logistics-perspective.pdf> (Accessed 15 October 2010).

<sup>10</sup> DeVries, Hank J. "Performance Based Logistics – Barriers and Enablers to Effective Implementation" Defense Acquisition Journal (December 2004-March 2005): 241-253.

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<sup>13</sup> U. S., Government Accountability Office. Defense Management Opportunities to Enhance the Implementation of Performance-Based Logistics. 2004, 9.

<sup>14</sup> Mahon, Deirdre. "Performance-Based Logistics: Transforming Sustainment." Journal of Contract Management (2007), 53-71.

<sup>15</sup> U. S., Government Accountability Office. Improved Analysis and Cost Data Needed to Evaluate the Cost-effectiveness of Performance Based Logistics. Washington: GAO, 2008.

<sup>16</sup> Punaro, Arnold, et. al. Reducing Overhead and Improving Business Operations, draft briefing slides, Defense Business Board, July 2010.

<sup>17</sup> Alfieri, Paul and McKeon, Donald. Stryker Suitability Challenges in a Complex Threat Environment . 2008.

<sup>18</sup> Center for Management of Science and Technology. "Organizational Culture and Change for PBL." University of Alabama in Huntsville (2009), 1-17.

<sup>19</sup> Beggs, James, Benjamin Ertel and Mike Jones. "Performance-Based Logistics Perspective." 2005: 6-7, <http://www.boozallen.com/media/file/performance-based-logistics-perspective.pdf> (Accessed 15 October 2010).

<sup>20</sup> Hurst, Performance Based Logistics – A Bridge Between Acquisition Reform and Logistics Supply Management, 13-14.

<sup>21</sup> Adams, Charlotte. "Outsourcing Trends: Commercial Aviation PBL?" (accessed 20 November 2010).

<sup>22</sup> The criteria and dollar thresholds for classifying DoD acquisition programs by ACAT Level are outlined by Ralph C. Nash, Jr. in The Government Contracts Reference Book, 3d ed. (pp. 7-8).

<sup>23</sup> Mahon, "Performance-Based Logistics: Transforming Sustainment," 53-71.

<sup>24</sup> U. S., Government Accountability Office. Improved Analysis and Cost Data Needed to Evaluate the Cost-effectiveness of Performance Based Logistics. 2008.

<sup>25</sup> Spring, Baker. "Performance Based Logistics: Making the Military More Efficient." Background, The Heritage Foundation, (2010), 1-9. No. 2411.

<sup>26</sup> DeVries, Hank J. "Performance Based Logistics – Barriers and Enablers to Effective Implementation," 241-253.

<sup>27</sup> Fowler, Randy, Assistant Deputy Undersecretary of Defense Materiel Readiness, DoD Transition and Logistics Challenges, briefing slides, Marine Corps Research Systems Command Symposium, Virginia, 8 July 2009.

<sup>28</sup> Hurst, Performance Based Logistics – A Bridge Between Acquisition Reform and Logistics Supply Management, 10-27.

<sup>29</sup> Alfieri, Paul and McKeon, Donald. Stryker Suitability Challenges in a Complex Threat Environment . 2008.

<sup>30</sup> Ibid.

<sup>31</sup> Sassenrath, Tim. Army Integrated Logistics, Aviation Missile Command Industry Days XII, Boeing Company briefing slides, Redstone Arsenal: March 2009.

<sup>32</sup> Baca, Leo and Wendy Zhou, et.al., Defense Contract Management Agency Bell Helicopter, interview by author, 19 November 2010.

<sup>33</sup> Hurst, Performance Based Logistics – A Bridge Between Acquisition Reform and Logistics Supply Management, 12-15.

<sup>34</sup> Thomas, Isaiah. Program Executive Office, Ground Combat Vehicle. Performance Based Logistics Integration, interview by author, 27 October 2010.

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<sup>37</sup> Hurst, Performance Based Logistics – A Bridge Between Acquisition Reform and Logistics Supply Management, 12.

<sup>38</sup> Sols, Alberto, et.al. “Defining the Fundamental Framework of an Effective Performance-Based Logistics (PBL) Contract,” <http://www.allbusiness.com/company-activities-management/operations-customer/8911927-1.html#> (accessed 10 November 2010).

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<sup>42</sup> Rentsch, Rusty. “White Paper: Performance Based Logistics Corporate Contracting Recommendations.” Arlington, VA: Aerospace Industries Association of America, Inc, 2005, 1-43.

<sup>43</sup> U.S. Department of Defense. Defense Contract Management Agency. Draft White Paper: Request for Government to Perform Government Source Inspection Prior to Contract Award. Virginia: DCMA 2010.

<sup>44</sup> Mahon, “Performance-Based Logistics: Transforming Sustainment,” 53-71.

<sup>45</sup> U.S. Department of Defense. Defense Contract Management Agency. Draft White Paper: Request for Government to Perform Government Source Inspection Prior to Contract Award. 2010.

<sup>46</sup> Ibid.