

USAWC STRATEGY RESEARCH PROJECT

**PERFORMANCE BASED LOGISTICS – A BRIDGE BETWEEN ACQUISITION  
REFORM AND LOGISTICS SUPPLY CHAIN MANAGEMENT**

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## ABSTRACT

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The DoD acquisition framework has been the subject of intense scrutiny and reform for almost two decades. Performance based logistics links acquisition and supply chain management in the Total Life Cycle Systems Management, and thus, may provide the opportunity for true reform, resulting in increased weapons system availability and reliability, with a smaller and more responsive logistics footprint, all cost effectively. This research project provides an overview of past reform initiatives; assesses the causes of failure or limited success of those reforms; examines the ability of the Department of the Army to implement PBL; and projects PBL's potential benefit to effective Total Life Cycle Systems Management. Finally, the paper identifies the major barriers to fully implementing PBL and proposes recommendations on how to move forward to achieve long-term success and lasting DoD acquisition reform.



## PERFORMANCE BASED LOGISTICS – A BRIDGE BETWEEN ACQUISITION REFORM AND LOGISTICS SUPPLY CHAIN MANAGEMENT

In late 2005, the Government Accountability Office found the Department of Defense paid billions of dollars in bonuses for weapons programs that failed to meet performance objectives. They also found supply chain management a high risk area requiring high-management level commitment and oversight. Additionally, they surfaced almost continuous and pervasive cost overruns and production delays within nearly every major weapon systems program. “The way DoD develops and produces its major weapons systems has had disappointing outcomes....Performance, if it is defined as the capability that actually reaches the warfighter, often falls short, as cost increases result in fewer quantities of produced systems and schedule slips. Performance, if it is defined as an acceptable return on investment, has not lived up to promises.”<sup>1</sup>

Inefficiencies within DoD weapon systems acquisition and procurement program management are not a new problem. In fact, DoD acquisition framework has been the subject of intense scrutiny and reform for almost two decades.<sup>2</sup> The most recent spate of reforms have focused on infusing many of the “best practices” found successful within private industry into defense program management. On September 10, 2001, Secretary of Defense, Donald Rumsfeld delivered a speech outlining his determination to free the Pentagon from itself, reducing bureaucracy and simplifying the acquisition process.<sup>3</sup> Additionally, he stated that in order to transform, “the DoD must take advantage of the private sector’s expertise,” challenging his Senior Executive Council to streamline the acquisition process and spur innovation in our traditional supplier base.<sup>4</sup>

Correspondingly, performance based logistics (PBL) was formally introduced in 2001 in the Quadrennial Defense Review Report as a means to capture many of the management approaches that are effective within the private sector and also promises to serve as a bridge between weapons system acquisition and logistics for Total Life Cycle Systems Management. This research project provides an overview of past reform initiatives; assesses the causes of failure or limited success of those reforms; examines the ability of the Department of the Army to implement PBL; and projects PBL’s potential benefit to effective Total Life Cycle Systems Management. Finally, the paper identifies the major barriers to fully implementing PBL and proposes recommendations on how to move forward to achieve long-term success and lasting DoD acquisition reform.

### Acquisition Reform: Many Attempts, Mostly Failures with Limited Progress

Acquisition reform has been the target of numerous reform efforts over the last several decades. Rodgers and Birmingham provide a comprehensive assessment of many of the recent major reform efforts. They researched and compared the vision for major reform policy changes and initiatives since the National Performance Review (NPR) in 1993.<sup>5</sup> Following the NPR of 1993, Secretary of Defense Perry delivered a mandate for change. He called for a complete cultural change in how the DoD operates, pointing out that the systems themselves were largely dysfunctional.<sup>6</sup> Additionally, Perry assessed the acquisition process as being too slow, and DoD's internal bureaucracy too much of an obstruction to effective and efficient management. In between Secretary Perry and Secretary Rumsfeld, four other visions of reform were initiated.<sup>7</sup> Each had differing foci and all met with marginal success. However, with Rumsfeld's announced vision, the reform efforts appeared to come full circle. Rodgers and Birmingham concluded that there is very little difference between Secretary Perry's vision and Secretary Rumsfeld's and it is merely the restatement of the sense of urgency to maintain change momentum.<sup>8</sup>

Each of the above referenced major reform visions were accompanied by specific acquisition process reform initiatives; some that were complementary and some conflicting. Generally, these initiatives addressed two disparate objectives: those that were targeted on eliminating fraud, waste and abuse and required detailed reporting and close oversight; and those that were focused on streamlining and accelerating procurement so to field new equipment better, faster, cheaper. RAND Corporation examined 63 acquisition reform initiatives with the majority originating during Secretary Perry's tenure.<sup>9</sup> Four themes comprised the reform efforts of the 1990s: rationalizing and improving the industrial base; streamlining processes; civilian-military integration; and logistics transformation and total life-cycle system management.<sup>10</sup> Better, cheaper, faster were the goals of the reform efforts in the 1990s while the 1980s had focused on reducing and preventing fraud, waste, and abuse. However, to achieve the goals of the 1990 reforms, many of the restrictive rules and procedures instituted in the 1980s had to be relaxed. Whether fraud, waste, and abuse will become major issues and the pendulum will swing back to the regulatory tightening of the 1980s is yet to be determined.<sup>11</sup>

The RAND report concluded that for reform to be effective, it must be pursued uniformly at the headquarters, program management, and contractor levels. For that to happen, it must be formulated, communicated, and understood in consistent ways across the entire acquisition "chain" – both within and outside DoD.<sup>12</sup> Although, the DoD acquisition policy released in 2001 incorporated the Total Life Cycle System Management terminology and its supporting concepts,

it left out many other related reform measures. The RAND report found the majority of the other 63 initiatives were not incorporated in the 2001 DoD 5000 series, implying they had not been institutionalized. However, DoD argued the initiatives were represented in other publications such as the Federal Acquisition Regulation (FAR), Defense FAR Supplement, and that they had left many other provisions out so as to not to make the DoD 5000 series unwieldy. While it makes sense not to capture every detail, the DoD 5000 series is the “bible” for the program manager who is responsible to orchestrate the efforts of the entire acquisition community (e.g., requirements determiners, contractors, testers and evaluators, financial managers, engineers, etc.).<sup>13</sup> Therefore, by not capturing or linking the reform initiatives, it limits the acquisition community’s knowledge of what is both authorized and feasible for effective and efficient program management. The conclusion being that if the initiative has not been uniformly communicated and cross linked between guidance and regulation, it most likely has not been adopted as a practice and is therefore a failure.

Concurrent with the publication of the RAND report, DoD simultaneously took dramatic action to reform the inherently bureaucratic acquisition policy framework: on October 30, 2002 Deputy Secretary of Defense Paul Wolfowitz cancelled “the Bible” (DoD 5000.1 D (directive), the 5000.2 I (instruction) and 5000.2 R (regulation)). He justified his action by stating that these references had grown to be “overly prescriptive and do not constitute an acquisition policy environment that fosters efficiency, creativity, and innovation.”<sup>14</sup> Subsequently, DoD 5000.1 D and DoD 5000.2 I were reissued and the Defense Acquisition Guidebook was written as broad policy guidance to the acquisition community, and not as prescriptive regulations. These references currently serve as the basis for evolutionary change, with governing principles focused on increasing acquisition program flexibility, responsiveness, innovation, discipline, and streamlined and effective management.<sup>15</sup> Certainly by taking away past constraints there is opportunity to improve effectiveness. However, without a clear understanding of the corresponding authority and responsibilities this general policy framework provides, the program managers face even greater challenges in trying to manage their programs across multi-disciplinary teams whom they do not control.

#### Acquisition Reform - Reasons for Failure

Notwithstanding, that Deputy Secretary of Defense Paul Wolfowitz sought to give the DoD a clean slate in implementing acquisition reforms, there remains many institutional and cultural impediments. Brandt and A’Hearn in their article “The Sisyphus Paradox: Framing the Acquisition Reform Debate,” contend the acquisition system is rooted in our system of

government of checks and balances and was not designed for efficiency.<sup>16</sup> They argue that effective reform must occur in the context of the governmental system in which it operates.<sup>17</sup> Congressional oversight and prerogatives often provide structural barriers which limits the flexibility of DoD to implement reforms. They contend, that reforms that conflict with Congressional oversight or infringe on their prerogatives are likely to be impractical. Therefore, most successful reform efforts must necessarily begin with a corresponding legislative measure enacted by Congress. Kenneth Oscar, Acting Assistant Secretary of the Army for Acquisition, Logistics, and Technology from January 2001 to March 2002 stated that three very important legislative changes were achieved in the 1990s; the Defense Acquisition Workforce Improvement Act, The Federal Acquisition Reform Act, and the Federal Streamlining Act.<sup>18</sup> In his view, these acts helped improve the education and skills of the acquisition workforce, remove unnecessary laws, and reduce regulations – thereby contributing to an environment that allows for more creative approaches to acquisition than previously possible.<sup>19</sup> Oscar suggests that when evidence is compelling; Congress will enact statutory requirements that enable the sound fiscal use of the taxpayers' dollars and improve the effectiveness of defense procurement activities.

Defense contractors may impede or facilitate reform efforts depending upon their perspectives. Most contractors are powerful stakeholders who sometimes perceive reform efforts as potentially cutting into their bottom line. On occasion, they lobby Congress to oppose reforms they believe will reduce their profit or their competitive advantage within their respective industry. Conversely, they can also support reforms that reduce their overhead, excessive and pervasive reporting and monitoring requirements, and that increase their profit margins. Other industry views of Army reform efforts were mixed. Industry representatives told RAND the Army was making good use of performance specifications, the use of evolutionary acquisition, sharing contractor evaluations so all in the industry could benefit and learn, and the Army's approach to implementing Total System Performance Responsibility.<sup>20</sup> However, most comments regarding Army's reform initiatives were negative. Industry representatives believed the Army's statements and actions were inconsistent in implementing reform; with no central guiding point of reference. Industry thought the Army was the least progressive in implementing reforms, providing only "lip service" to many of the initiatives.<sup>21</sup> Getting at the heart of the issue, industry representatives' stated Army acquisition reform initiatives are often evaluated by the same people most affected by the reform; these individuals are reluctant to risk losing any power – which might mean a loss of government jobs, a change in what government workers do, or a loss of bureaucratic power. The end result is often a "dilution of the reform."<sup>22</sup> Also

complicating reform efforts is the changing roles and management approaches of the responsible and stovepipe organizations.

Brandt and A'Hearn's argue that the organizational and management structure of the DoD actually prohibits reform efforts.<sup>23</sup> While integrated product teams are being formed across the defense acquisition community to improve project management and oversight by these ad hoc multi-functional teams, they are being superimposed on extant functional organizations which create an uneasy and sometimes disparate structural alliance.<sup>24</sup> Program managers as highlighted in the RAND report, stated "acquisition reform will remain sub-optimized until they reform the financial, logistics, test, engineering, contracting, and legal communities."<sup>25</sup> Integrated product teams many times devolve into collections of representatives of stovepipe organizations empowered to say "no" but not "yes," thus further delaying and complicating problem resolution. Program managers have been made responsible for total life cycle system management but have not been given the commensurate leverage or authority to fulfill that charge.<sup>26</sup> Unity of effort is profoundly dependent upon unity of command...in this case the authority of the program manager to control and make decisions over all life cycle management issues.

The Government Accountability Office (GAO) released a report in November 2005 on DoD program management corroborating the issues raised in the RAND report. GAO compared the best practices of industry against those of DoD.<sup>27</sup> They found success in industry was in large measure dependent upon leadership and disciplined knowledge-based processes for product development and execution. Before initiation of a new product, senior company officials made critical investment decisions so they could commit to programs they determined to best fit within their overall goals.<sup>28</sup> Once decisions were made, senior leaders ensured programs did not begin unless they had a solid business case that demonstrated the program was aligned with company goals and that resources were in hand to execute the program – time, technology, money, and people. Program managers were held accountable for delivering the right product at the right time for the right cost. Throughout execution, senior leaders supported the program managers by encouraging open honest communication and continually assuring that the right levels of resources and management attention were available for the project.<sup>29</sup>

Conversely, the GAO report criticized DoD program management. The report indicated that DoD starts more programs than it can afford and rarely prioritizes them for funding.<sup>30</sup> The result is a competition for funds that creates pressure to manufacture optimistic cost and schedule estimates and over-promise capability. GAO also found many programs begin without

a sound business case, that is, without adequate knowledge about technology, time, and cost, and without demonstrating that the candidate program is in fact the optimal approach for achieving the needed capability.<sup>31</sup> Moreover, once begun, the program manager is not empowered to execute the program because they cannot veto new requirements, control funding, or control staff.

Differences between the civilian and military program management domains are substantial. Success for the commercial world is focused on profit: maximize profit by selling desirable products to the customers with superior quality/performance, before the competition and at a competitive cost. DoD's definition of success is focused on maximizing capability: deliver the best possible capability to the warfighter, at an affordable price, as soon as practically possible, for the intended operational purpose. One is focused on maximizing profit (which is inherently cost dependent), the other is focused on maximizing operational capability (with many indirect and uncertain variables). DoD funding is secured with the promise of an improved "capability" usually based upon high risk and unproven technology while the civilian sector bases program funding upon recognized and proven technology projected to be "profitable." Because of a wide range of inherent manager assignment and program management factors; DoD program managers are considered successful if they can simply secure funding and/or continue their program (hand it off to the next manager usually in two years), while civilian program managers are held accountable for program performance through all phases of development and production.<sup>32</sup> The annual appropriations process, and a wide variety of mission demands placed on DoD, contribute to this dichotomy. However, DoD complicates this pervasive management environment by not making the hard tradeoff decisions to ensure the services do not pursue more programs than they can afford.<sup>33</sup> Consequently, DoD program managers are incentivized to be optimistic and suppress bad news because doing otherwise could result in a loss of support and funding and further damage their program. Similarly, any budget reductions that result in reduced program funding is usually "salami sliced" by DoD across numerous programs. Nearly every funding reduction is accommodated by the affected programs with the reduction of procurement quantities and/or by extensions of program schedules. Updates or re-evaluations of the original program "business case" is seldom performed (or done superficially) for affected DoD programs despite major changes in program cost, schedule and performance factors. In contrast, the private sector continuously examines the potential profitability of their programs and rapidly terminates those programs that fail to conform to cost, schedule and performance parameters. Thereby, within DoD, accountability becomes much more difficult to define.<sup>34</sup>

GAO made three main recommendations to improve program manager support.<sup>35</sup> First, develop an investment strategy that, at a minimum: determines the priority of needed capabilities with a corollary assessment of the resources required to achieve the capabilities; lays out incremental product development programs; and establishes controls to ensure requirements, funding, and acquisition processes will work together so that DoD will sustain its commitment to its priority programs. Second, for each new major weapons program, require senior level officials from the requirements, science and technology, program management, testing communities, as well as the Comptroller to formally commit to a business case prior to approving a program at milestone B (the point of formal program initiation). At a minimum the business case should demonstrate that: a requirement exists that warrants a materiel solution; reasonable estimates have been developed to execute the product development and production; and funding is available to execute the plan. Third, develop and implement a process to instill and sustain accountability for successful program outcomes. At a minimum consider: matching program manager tenure with delivery of the product, or for system design and demonstration; empowering program managers to execute their programs, including an examination of whether and how much additional authority can be provided over funding, staffing, and approving requirements proposed after milestone B; and developing and providing automated tools to enhance management and oversight as well as reduce the time required to prepare status information.

DoD concurred with the GAO recommendations and added that the ongoing Quadrennial Defense Review (QDR) would address these concerns, and subsequently, implementation plans and schedules for action would be developed. Additionally, mechanisms to improve the effectiveness of policies are part of the QDR with DoD engaged in the development of a manpower strategy to satisfy current and future acquisition requirements.

The 2006 QDR provides a vision for achieving net-centricity within DoD.<sup>36</sup> Because of emergence of network centric operations, almost every system is a component a system-of-systems. Within the joint environment, "networking" the battlespace translates into interoperability and interdependencies resulting in an overall increased capability for the warfighter. It is a systems-of-systems developmental approach which requires detailed coordination and synchronization across compartmentalized DoD organizations that is largely incompatible with DoD's normal program management approach. The traditional acquisition framework was designed primarily for a single system, not a system-of-systems. However, the concept of lead systems integrator along with performance based logistics strategies, effectively

bridge and integrate multiple DoD stakeholders to meet the system-of-systems development, production, fielding, and sustainment challenges.

#### Performance Based Logistics – How it Bridges Acquisition and Logistics

The previous analysis paints a bleak picture of acquisition reform. Generally, past acquisition reform efforts have failed to achieve the desired outcomes for which they were intended. Almost a continuous and unbroken string of GAO reports and independent studies have documented these reform failures and outline the program management challenges that remain unresolved.<sup>37</sup> Clearly part of the dilemma lies with attempting to force reform measures that are successful within the civilian sector onto an incompatible DoD acquisition environment. What is required is an approach that partners with industry, capitalizes on that sector's management strengths while accommodating the limitations and institutional management and legislative constraints of defense procurements. Performance Based Logistics (PBL) has the potential to kluge these civilian and military acquisition and management environments within a partnered framework that bridges the evolutionary acquisition strategy with military sustainment activities.

The PBL approach is designed to provide incentives for the contractor, with government oversight, so private industry is allowed to implement the efficient practices already in place in the private sector. The general approach is to progress the government contract into a "fixed price with incentives" instrument so that cost savings from contractor-provided part reliability, maintenance, and sustainment improvements that result in increased performance (usually measured in unit or equipment readiness levels) accrue monetary returns for both the contractor and the government. With cost savings shared directly with the contractor, the contractor is encouraged to undertake its own investment strategies to identify and improve low reliability components, enhance supply chain efficiency, use smart decision tools that provide real-time cost visibility, leverage off-the-shelf components that improves system overall performance and/or reliability and to establish performance based support relationships with its own parts providers. As opposed to the DoD's Army Materiel Command-provided supply process that actually rewards the poor reliability of parts,<sup>38</sup> PBL provides incentives for private industry to continually improve reliability and the performance of the managed system or system-of-systems. In this manner, private industry conducts research and development (R&D) and acquisition activities "in-stride" with performing their contracted logistics support contract. Consistent with evolutionary acquisition practices and the spiraling of technology as it matures, the PBL contractor can leverage R&D efforts for spirals into legacy component system reliability.

However, for the contractor to invest in parts reliability and maintenance improvements, the return from cost savings must be positive and the contract period long enough for them to recapture their investment. This in turn requires imaginative contracting instruments and the programming of government funds for substantial contract incentives. Both of these requirements are problematic within the current DoD acquisition framework.

Notwithstanding, performance base logistics is on track towards achieving true acquisition reform. Following the release of the 2001 Quadrennial Defense Review (QDR) Report, implementation by the services was slow and without uniformity. The QDR stated that DoD would implement PBL to compress the supply chain and improve readiness of major weapons systems and commodities.<sup>39</sup> Initially, the business process modernization efforts were the primary focus of senior DoD leaders. However, the attacks of September 11, 2001 and the subsequent execution of the campaigns for operations Enduring Freedom and Iraqi Freedom appear to have diverted focus from business transformation to fighting the global war on terror. For nearly a year, there was a void in guidance for moving forward with PBL. Then, as previously described, Deputy Secretary of Defense Wolfowitz cancelled the DoD 5000.1 regulation almost completely eliminating the prescriptive and restrictive requirements which had been adopted over the years. Limited interim guidance was published by the Defense Acquisition University in their Defense Acquisition Guidebook. The following year, the Defense Business Practice Implementation Board, established by the Secretary of Defense, released a report to the Senior Executive Council of the DoD.<sup>40</sup> The board's charter was to provide "independent advice and recommendations on effective strategies for the implementation of best business practices of interest to the Department of Defense."<sup>41</sup> The board recommended that DoD pursue PBL aggressively, issue standard guidance, reform program financial and contract management, and leverage the Defense Acquisition University and other organizational knowledge/education to accelerate PBL implementation.<sup>42</sup>

The board's findings highlighted the challenges of implementing this performance-centric approach; an approach that inherently had a wide range of possible implementation strategies. Arguably, purchasing support services for a tank, helicopter, airplane, or ship should have similar strategies for contracting overall system-of-systems performance. Yet, the board found the services were not consistent in their approaches nor was there a coherent standard for the preparation of a supporting business case analysis or the documentation of program performance measures. This prompted Deputy Secretary Wolfowitz to issue a memorandum to Service Secretaries and the Under Secretary of Defense (Comptroller) February 4, 2004,

directing them to aggressively implement PBL and use performance based criteria on current and planned weapon system platforms.<sup>43</sup>

Acting Under Secretary of Defense, Michael Wynne followed-up with a memorandum in August 2004, issuing guidance defining performance with five criteria: operational availability; operational reliability; cost per unit usage; logistics footprint; and logistics response time.<sup>44</sup> The Defense Acquisition University responded by publishing the *Defense Acquisition Guidebook* in October 2004 and followed up with *Performance Based Logistics: A Program Manager's Support Guide* in March 2005; both of which contain the top level metrics.

The Defense Acquisition Guidebook currently defines Performance Based Logistics as: the purchase of support as an integrated, affordable, performance package designed to optimize system readiness and meet performance goals for a weapon system through long-term support arrangements with clear lines of authority and responsibility. Application of PBL may be at the system, subsystem, or major assembly level depending on program unique circumstances and appropriate business case analysis.<sup>45</sup>

Similarly, the Army released in January 2006 its definition of PBL as:

the Department of Defense (DOD) preferred product support strategy for weapon system product support that employs the purchase of support as an integrated performance package designed to optimize system readiness. PBL is the delineation of output supportability requirements for acquisition systems and the assignment of responsibilities and incentives for the attainment of these requirements.<sup>46</sup>

Although it took four years of struggle, a definition of PBL and supporting guidance from DoD has been instituted by regulation within the Army. Additionally, responsibilities have been assigned for implementation.

DoD Directive 5000.1 states "the program manager (PM) is the designated individual with responsibility for and authority to accomplish program objectives for development, production, and sustainment to meet the user's operational needs. The PM shall be accountable for credible cost, schedule, and performance reporting to the Milestone Decision Authority."<sup>47</sup> The Defense Acquisition Guidebook further states; "consistent with DoD Directive 5000.1, the program manager shall be the single point of accountability for accomplishing program objectives for total life-cycle systems management (TLCSM), including sustainment."<sup>48</sup> TLCSM encompasses the following concepts: single point of accountability; evolutionary acquisition; supportability and sustainment as key elements of performance; performance-based strategies, including logistics; increased reliability and reduced logistics footprint; and continuing reviews of sustainment strategies.<sup>49</sup>

The Army states:

Total life-cycle systems management (TLCSM) establishes clear lines of responsibility and accountability for meeting warfighter support performance and sustainment requirements for the life of the system from acquisition to disposal. Under TLCSM there is no longer a transition of management from the program manager (PM) to a sustainment command after production and fielding. The PM is formally designated as the life-cycle manager (LCM) for assigned program(s) and retains the responsibility for managing, sustaining, and upgrading system(s) throughout the service life of the program. Throughout the life cycle of the assigned system(s), the PM will ensure supportability is co-equal with cost, schedule, and operational performance.<sup>50</sup>

Further defined, "Integrated Logistics Support (ILS) is the process used by the Army to implement these mandatory life-cycle logistics policies and procedures and includes all elements of planning, developing, acquiring, and supporting Army materiel throughout its life cycle."<sup>51</sup>

Contrary to past reform initiatives, there is now coordinated and consistent DoD guidance and Army regulations outlining the responsibilities and implementation of related support requirements to include those of the Army Industrial Base.<sup>52</sup> However, the early inconsistent attempts to implement PBL have had potential setbacks to the overall effort and have tainted the perception of some program managers as to whether PBL can ever be effective. Program managers interviewed as part of the RAND report scoffed at the notion that PMs had authority for TLSCM. They indicated that TLSCM will not happen as long as the mission is fragmented between disparate commands, and funding is not consolidated under the PM or an accountable manager.<sup>53</sup> Additionally, reports by the Government Accountability Office and DoD Inspector General rendered less than favorable assessments of the Army's implementation of PBL and provided recommendations on how to improve implementation.<sup>54</sup>

#### Problems in PBL Implementation

GAO assessed four Army programs: HIMARS, Javelin CLU, TOW-ITAS, and TUAV Shadow. While GAO did not attribute comments directly by program name, they did state that the program offices reported performance requirements were generally exceeded or met with PBL contracts. However, GAO found none of the program offices had analyzed performance data to validate whether the improvements could be directly attributed to PBL.<sup>55</sup> Program offices had used contractor management documentation for cost and performance data, but, had not determined whether that data was sufficiently reliable to update their business case analysis.<sup>56</sup> Independent audits by the Defense Contract Audit Agency or the Defense Contract Management Agency are not automatic on fixed price contracts as they are lower risk, and the Army did not request an audit. Therefore, GAO recommended the Army develop procedures to

track whether the associated program offices validate their business case decisions and verify the reliability of contractor provided cost and performance data. During the same period, the DoD Inspector General (IG) assessed the PBL strategy for the Javelin Weapon System. The IG recommended the project manager update the economic and business case analyses for the system and reassess the support strategy.<sup>57</sup> Additionally, the IG recommended the project manager update performance based agreements with the warfighter for the system. The Army partially concurred with the IG's recommendations, defending the project manager for executing the PBL strategy with the most current guidance at the time, and that recent policy or guidance would be incorporated in new agreements or economic analyses when appropriate. While these reports cast a negative light on early PBL implementations, the Army continues to define and refine its regulations in accordance with evolving DoD guidance and emerging program management lessons. The lessons are being captured and documented; the question is whether the responsible organizations will ever be able to effectively implement that guidance.

Within the Army, there exist real cultural and institutional impediments to the implementation of PBL. Similar reform initiatives involving the institutional Army have met with significant resistance. For instance, the Prime Vendor Support (PVS) initiative for the Apache helicopter failed in 2000 despite aggressive support by Jacques Gansler, Under Secretary of Defense for Acquisition, Logistics, and Technology. The major issue was the impact on the Army Working Capital Fund, the fund for which the Army Materiel Command (AMC) buys spare parts and then sells them to Army customers at a markup. By transferring the Apache support (including the supply of repair parts) to a contractor, AMC stood to lose as much as \$60 million annually which would have driven up the cost of parts for other programs.<sup>58</sup> PBL will face similar obstacles as it will challenge the authorities, responsibilities and income streams of AMC and other logistics agencies within the existing sustainment processes; forcing them to either become more cost effective or lose the business to a more efficient and lower-cost PBL contractor. To remain competitive, AMC will need to improve its business processes and provide repair parts that meet improving performance criteria. Responding to the challenge, AMC is beginning to reform and has been incorporating lean practices into its business processes as well as establishing innovative public-private partnerships to posture itself as an efficient service provider with industry as a partner. However, large organizational cultures require long periods of time to effect this sort of dramatic institutional reform.

The Army's Installation Management Agency is a positive example of a successful large institutional change effort, where the Army leadership engaged and stayed engaged. Created in 2002 to serve as the single agency maintaining the Army's installations, the agency met

significant resistance from Major Commands (MACOMS) who lost access to a large amount of operations and maintenance funds. No longer could MACOMS move resources out of the installation accounts for other purposes, often to the long term detriment of facilities. Although there are still issues three years into execution, resistance is fading because installations' service levels are more standardized and the IMA is on an upward trend of reducing its backlog of facility sustainment, restoration, and modernization. The Army leadership made an investment decision, resourced the decision, made an agency responsible, and gave it the authority to carry out the mission. These are the same tenants GAO recommends for DoD program managers to effectively manage their assigned programs. Cultural and organizational barriers must be broken down if the PBL initiative is to be successful.

#### Statutory Impediments to Implementing PBL

Several legislative and regulatory constraints serve to limit implementation of PBL. These include Section 2464, title 10 United States Code (USC), which requires DoD to maintain a core logistics capability that is Government-owned and Government-operated and Section 2466, title 10 USC, which limits the percent of funds for depot level maintenance to not more than 50 percent for non-Federal Government work. However, Section 2474, 10 USC provides latitude to the Service Secretaries or Secretary of Defense to establish Centers of Industrial and Technical Excellence and encourage public-private partnerships. The objectives for exercising this authority are as follows: to maximize the utilization of the capacity of a Center of Industrial and Technical Excellence; to reduce or eliminate the cost of ownership of a Center by the Department of Defense in such areas of responsibility as operations and maintenance and environmental remediation; to reduce the cost of products of the Department of Defense produced or maintained at a Center; to leverage private sector investment plant and equipment recapitalization for a Center and the promotion of the undertaking of commercial business ventures at a Center; and to foster cooperation between the armed forces and private industry. These objectives are consistent with the strategy of PBL of providing the best performance at the lowest cost to the warfighter. Several Army Materiel Command depots or arsenals have engaged in public-private partnerships. Red River Army Depot, a designated Center of Industrial and Technical Excellence cites an advantage of the partnering as reducing the DoD cost of products that are produced.<sup>59</sup> Other advantages include the avoidance of investment in duplicative capabilities and single point accountability for product support. Partnering also enables compliance with statutory constraints such as core logistics and 50/50 depot maintenance workload distribution, and provides a built-in surge capability.<sup>60</sup> Helping to codify

responsibilities, Army Regulation 700-127 directs the Commander of Army Material Command to: establish an ILS/supportability organization to ensure compliance with primary ILS policies and procedures, and provide matrix support to assigned TLCSM; monitor and assist in the development of a business case analysis (BCA) along with ensuring that the PBL concept (if supported by the BCA) is used throughout the acquisition process; and provide single Army logistics enterprise (SALE) architecture to support sustainment of weapons systems and provide integrated best business practices for PBL strategies. Therefore, although there are statutory limitations imposed on the program manager, there is latitude for achieving successful PBL implementation. Responsibilities have been assigned to MACOMs to assist the program manager in executing his or her responsibilities and authorities under TLCSM.

Lack of funding flexibility and limited multi-year contracting serve as additional barriers to the implementation of PBL. DoD believes program managers should be able to respond to funding fluctuations by using either procurement or operation and maintenance appropriations to fund PBL when the opportunity arises.<sup>61</sup> DoD is also seeking the authority to use multi-year contracting (3-5 years or more) in order to enable the contractor to reduce investment risk, maximize efficiencies, and efficiently manage the obsolescence of parts being issued.<sup>62</sup> Additionally, DoD requested that Congress substantially increase the amount of money that can be reprogrammed among appropriations.<sup>63</sup> None of these requests have yet to be approved and Congress will most likely not make any substantial changes to reduce its oversight authorities. Limited pilot programs that unambiguously demonstrate the cost effectiveness of proposed reforms, and that can withstand the scrutiny of an independent audit, will be needed to justify DoD-wide implementation and corresponding legislative support.

#### Lead Systems Integrator Approach

Another related concept the Army is pursuing on the Future Combat System (FCS) Program is the use of a Lead System Integrator (LSI). Under this approach, the Army contracts with the LSI, in this case Boeing and Science Applications International Corporation (SAIC), who executes the total systems engineering, integration, simulation and testing. The LSI acts as a "general contractor" for resource allocation, subcontract implementation, coordination, and programmatic responsibilities.<sup>64</sup> The program manager still has a major role in providing oversight of the LSI, however, it is the single accountable LSI who integrates the FCS family of systems. The LSI will optimize operational capability, maximize competition for systems development, ensure interoperability, and maintain commonality in order to reduce life cycle cost. This has merit vice trying to independently synchronize and integrate dozens of programs

that, under past practices, would be competing for the same resources. Supporting the LSI is an industrial base of 358 “One Team” Partners, who bring the best talent and best of industry to support the acquisition program.<sup>65</sup> Resources are released to the LSI who then executes and manage the subcontracts and a significant number of Cooperative Program interface agreements.<sup>66</sup> Independent reviews by the General Accountability Office (GAO) and the Institute for Defense Analysis (IDA) support the LSI/Best of Industry approach.<sup>67</sup> Within the FCS program, the program managers (DoD and Boeing/SAIC) are together implementing the PBL concept to manage and provide Class IX repair parts.<sup>68</sup> The purpose is to achieve a single point of accountability for sustainment stocks, delivering maximum combat power and a minimum logistics footprint.<sup>69</sup> Another advantage seen is that the suppliers will be incentivized to increase system and component reliabilities, as opposed to generating profits through the sale of expensive repair parts.<sup>70</sup>

The LSI concept is not without critics. Senator John McCain has been a vocal opponent of the commercial contracting procedures used by the Army for the FCS program and LSI management approach, and, through legislative pressure placed new restrictions on the existing defense contract. The intent was to require greater transparency in the relationship between industry and government in managing the FCS program.<sup>71</sup> Francis Harvey, Secretary of the Army, responded by directing the FCS’s very lenient and flexible, Other Transaction Agreement (OTA) with LSI Boeing/SAIC, be changed to a very restrictive and standardized Federal Acquisition Regulation (FAR) contract that will require compliance with the Truth in Negotiations Act; the Procurement Integrity Act; Cost Accountability Standards, and an Organizational Conflicts of Interest Clause.<sup>72</sup> As an additional oversight measure, the Army Audit Agency, the Army Science Board, and an outside panel of advisors will conduct periodic independent cost, schedule and technical viability assessments.<sup>73</sup> Given that there were no program management discrepancies found by the independent assessments of either the GAO or IDA, this appears to be a pure political decision made by the Secretary to avoid controversy or the appearance of subverting DoD or Congressional oversight. Consequently, DoD has introduced back into the system, the bureaucracy and oversight impediments that the OTA avoided. Although the Army made this decision, it must remain vigilant in its pursuit of the LSI without constraining the process so much, that it becomes the unsynchronized stove-piped culture it sought to replace.

### Recommendations

Performance based logistics is a viable strategy that inherently employs industry “best practices” to achieve program cost, schedule and performance improvements. It has the

potential to continuously increase weapon system availability and reliability, reduce the logistics footprint and improve sustainment response time. PBL is best implemented within a framework that includes management by the LSI. This is essential for complex systems-of-systems programs such as the FCS. When effectively implemented, PBL provides a bridge between acquisition and supply chain management within total life cycle systems management enabling best practices based upon cost savings incentives within a "fixed price with incentives" contract framework. To continue to move forward on the PBL initiative, four recommendations are provided to guide it to success:

1. Follow through on the guidance and regulations produced for PBL implementation over the last four years. Document success and failures so lessons learned can be effectively applied to follow-on programs. The DoD and Army leadership have invested significant energy in implementing PBL; that momentum needs to be sustained. With Deputy Secretary Wolfowitz's cancellation of the overly prescriptive regulations and starting with a new set of broad guidance principles, non value-added processes can be eliminated and the acquisition community can focus on those management approaches (including PBL) that will yield substantial cost and performance improvements.

2. Make the priority investment decisions prior to milestone B as recommended by the GAO, and adequately resource the decision. There will never be enough resources to fill the needs of the Army and DoD. Let evolutionary acquisition work for the Army, by spiraling in technology to systems as it matures vice delaying entire systems for the 100 percent technical solution only to be able to procure a fraction of the total systems required. Complement the evolutionary acquisition strategy with related PBL contracts that encourage contractors to continuously improve the reliability and performance of the fielded systems and systems-of-systems. Ensure adequate controls, active government oversight and periodic independent audits to ensure government interests are protected and to avoid potential scandals that would invite increased and overly restrictive governmental controls and/or invasive Congressional oversight.

3. Encourage government logistics organizations (Depots, AMC, DLA, etc.) to compete with private industry for PBL contracts as an indirect method of internalizing commercial best practices within these organizations and supply activities. Meet statutory requirements of core logistics capabilities and 50-50 depot maintenance workload, as an exception to those contracts the government activities cannot successfully compete and win. Encourage public-private partnerships as a means to distribute mandated core capability and 50/50 maintenance.

Progressively, wean these government logistics organizations away from legislated contract awards towards those genuinely won in competition with private industry.

4. Refine and codify the Lead Systems Integrator approach to program management. The LSI approach promises to improve the quality of integration of complex programs more efficiently and effectively than multiple independent acquisition programs. The Army must resource the acquisition and contracting community to provide enough expertise to truly partner with the LSI and provide necessary oversight of the related multi-dimensional programs. The eyes of Congress are critical of this concept and the Army cannot allow poor or absent management controls to negatively impact the outcomes. Additionally, as Secretary Harvey directed, require the independent auditors to assess progress and not just rely on contractor program performance reporting. The PBL strategy integrated and executed by the LSI promises to capitalize on the management expertise of the best of industry and also unleash the competitive forces that will drive continuous improvement within the supply chain management system.

While acquisition and supply chain management reforms have come and gone over the years, the PBL strategy may serve as a permanent bridge to connecting acquisition with sustainment and the government and civilian management sectors. What is achieved is rewarded. What costs are saved, the savings are shared with industry. The metrics of performance are established: availability, reliability, cost per unit usage, logistics footprint, and logistics response time. Now is the time to resource our decisions, measure the results, improve performance, reward achievement, and institutionalize those “best practices” that are compatible with DoD acquisition environment and that actually produce results. As Secretary Rumsfeld challenged leaders, the urgency is now.

#### Endnotes

<sup>1</sup> U.S. Government Accountability Office, DoD Acquisition Outcomes, A Case for Change (Washington D.C.: U.S. Government Accountability Office, 15 November 2005).

<sup>2</sup> Christopher H. Hanks et al., “Reexamining Military Acquisition Reform, Are We There Yet?,” Rand Arroyo Center (Arlington, VA, Rand Corporation 2005), 1.

<sup>3</sup> Donald H. Rumsfeld, “DOD Acquisition and Logistics Excellence Week Kickoff—Bureaucracy to Battlefield,” Remarks as Delivered by Secretary of Defense Donald H. Rumsfeld, The Pentagon, Monday, 10 September 2001. Available at: <http://www.defenselink.mil/speeches/2001/s20010910-secdef.html>

<sup>4</sup> Ibid.

<sup>5</sup> Edward W. Rodgers and Robert P. Birmingham, "A Ten Year Review of the Vision for Transforming the Defense Acquisition System," *Defense Acquisition Review Journal* (January-April 2004): 47-48.

<sup>6</sup> *Ibid.*, 40.

<sup>7</sup> *Ibid.*, Colleen Preston, Deputy Under Secretary for Defense (Acquisition Reform), 1995-1997, continued Perry's vision with a mandate for both effectiveness and efficiency while restructuring the industry-government relationship base. Secretary of Defense Cohen followed in 1997-1999 with a focus of shortening the technology development cycle time, speeding field delivery, and doing both at a lower cost. The link was acquisition reform to support military effectiveness in the field. Additionally, Cohen established the Defense Management Council to bring focus and momentum to the change efforts. Deputy Under Secretary for Defense (Acquisition, Technology, and Logistics) Gansler issued the *Road Ahead: Accelerating the Transformation of Department of Defense Acquisition and Logistics Processes and Practices*. More emphasis was placed on cost issues than on cultural change. The three goals were: faster – reduce average acquisition cycle time; cheaper – lower total ownership cost in program costs and logistic support; and cheaper – lower overhead costs of acquisition and logistics. The document gave impetus to further use of commercial techniques and to greater use of outcome driven performance improvements. This meant more performance based contracts, commercial business practices and flexible responsibility at the program management level.

<sup>8</sup> *Ibid.*, 57.

<sup>9</sup> Hanks, 14.

<sup>10</sup> *Ibid.*

<sup>11</sup> Under pressure from Senator John McCain, the Army shifted from an "Other Transaction Authority (OTA)," contract towards a more conventional approach under the Federal Acquisition Regulation for its Future Combat Systems Program. Senator McCain believed there was not adequate oversight controls within the OTA although no specified deficiencies have been found. Sharon Weinberger, "Army Secretary Says FCS Restructuring Won't Cost More," *Defense Daily* 226, no. 5, (7 April 2005): 1.

<sup>12</sup> *Ibid.*, 2.

<sup>13</sup> *Ibid.*, 27.

<sup>14</sup> Rodgers and Birmingham, 46.

<sup>15</sup> U.S. Department of Defense, *The Defense Acquisition System*, Department of Defense Directive 5000.1 (Washington, D.C.: U.S. Department of Defense, 13 May 2003), 4.

<sup>16</sup> Linda S. Brandt and Francis W. A'Hearn, "The Sisyphus Paradox: Framing the Acquisition Reform Debate," *Joint Forces Quarterly* (Summer 1997): 34.

<sup>17</sup> *Ibid.*

<sup>18</sup> Hanks, 36.

<sup>19</sup> Ibid.

<sup>20</sup> Ibid., 63.

<sup>21</sup> Ibid.

<sup>22</sup> Ibid., 64.

<sup>23</sup> Brandt and A'Hearn, 37.

<sup>24</sup> Ibid.

<sup>25</sup> Hanks, 48.

<sup>26</sup> Ibid., 58.

<sup>27</sup> U.S. Government Accountability Office, *Best Practices: Better Support of Weapon System Program Managers Needed to Improve Outcomes* (Washington D.C.: U.S. Government Accountability Office, November 2005).

<sup>28</sup> Ibid., 4.

<sup>29</sup> Ibid., 5.

<sup>30</sup> Ibid.

<sup>31</sup> Ibid.

<sup>32</sup> Ibid.

<sup>33</sup> Ibid.

<sup>34</sup> Ibid., 11.

<sup>35</sup> Ibid., 62-63.

<sup>36</sup> Donald H. Rumsfeld, *Quadrennial Defense Review Report* (Washington D.C.: Department of Defense, 6 February 2006), 58.

<sup>37</sup> A sample of audit reports from the General Accountability Office, Department of Defense Inspector General as well as independent reports from RAND Corporation document these findings. U.S. Government Accountability Office, *Best Practices: Better Support of Weapon System Program Managers Needed to Improve Outcomes* (Washington D.C.: U.S. Government Accountability Office, November 2005); U.S. Government Accountability Office, *Defense Management: DoD Needs to Demonstrate that Performance Based Logistics Contracts are Achieving Expected Benefits* (Washington D.C.: U.S. Government Accountability Office, September 2005); Department of Defense, Office of the Inspector General, *Logistics: The Military Departments' Implementation of Performance-Based Logistics in Support of Weapon Systems* (Washington D.C.: (Department of Defense, Office of the Inspector General, 23 August 2004); Christopher H. Hanks et al., "Reexamining Military Acquisition Reform, Are We There Yet?," Rand Arroyo Center, (Arlington, VA, Rand Corporation 2005).

<sup>38</sup> Inventory is purchased by Army Materiel Command (AMC) with all costs related to supplying the materiel recouped by charging the customer a stabilized price which includes overhead costs such as inventory losses, transportation, inventory management and supply operations. Therefore, if parts were more reliable less revenue would flow into AMC to cover the costs of their overhead. Katherin McIntire Peters asserts an issue from the Apache Prime Vendor Support Program which would have transferred parts supply from AMC would cause the Army Working Capital Fund to lose up to \$60 million annually which would drive up the cost of other parts. Katherine McIntire Peters, "Roadblock," *Government Executive* 32, no. 11, (Sep 2000): 41.

<sup>39</sup> Donald H. Rumsfeld, *Quadrennial Defense Review Report* (Washington D.C.: Department of Defense, 30 September 2001), 56.

<sup>40</sup> Herb Shear, Defense Business Practice Implementation Board, "Supply Chain/Performance-Based Logistics Task Group," Report FY03-04, 15 October 2003; available from <http://www.dod.mil/dbb/task-scm.html>; Internet; accessed 18 December 2005.

<sup>41</sup> Defense Business Practice Implementation Board, "Charter"; available from <http://www.dod.mil/dbb/charter.html>; Internet; accessed 2 January 2006.

<sup>42</sup> Shear, 4-5.

<sup>43</sup> U.S. Deputy Secretary of Defense Paul Wolfowitz, "Implementation of the Defense Business Practice Implementation Board (DBB) Recommendation to the Senior Executive Council (SEC) on Continued Progress on Performance Based Logistics," memorandum for Secretaries of the Military Departments and Under Secretary of Defense (Comptroller), Washington D.C., 4 February 2004.

<sup>44</sup> Acting Under Secretary of Defense Michael Wynne, "Performance Based Logistics: Purchasing Using Performance Based Criteria," memorandum for Secretaries of the Military Departments, Washington D.C., 16 August 2004.

<sup>45</sup> Defense Acquisition University, *Defense Acquisition Guidebook*, 17 October, 2004; available from <http://akss.dau.mil/dag/DoD5000.asp?view=document&doc=1>; Internet; accessed 18 December 2005, 5.3.

<sup>46</sup> U.S. Department of the Army, *Integrated Logistics Support*, Army Regulation 700-127 (Washington, D.C.: U.S. Department of the Army, 19 January 2006), 1.6.

<sup>47</sup> DoD Directive 5000.1, 3.5.

<sup>48</sup> *Defense Acquisition Guidebook*, 2.3.

<sup>49</sup> *Ibid.*, 4.1.3.

<sup>50</sup> Army Regulation 700-127, 1.5.

<sup>51</sup> *Ibid.*, 1.1.

<sup>52</sup> Search of Army Regulations with Performance Based Logistics incorporated into policy revealed coverage in : AR 70-1, AR 700-127, AR 711-7, AR 700-90.

<sup>53</sup> Hanks, 54.

<sup>54</sup> See for example: U.S. Government Accountability Office, Defense Management: DoD Needs to Demonstrate that Performance Based Logistics Contracts are Achieving Expected Benefits (Washington D.C.: U.S. Government Accountability Office, September 2005) and Department of Defense, Office of the Inspector General, Logistics: Implementation of Performance Based Logistics for the Javelin Weapon System (Washington D.C.: (Department of Defense, Office of the Inspector General, 7 March 2005).

<sup>55</sup> U.S. Government Accountability Office, Defense Management: DoD Needs to Demonstrate that Performance Based Logistics Contracts are Achieving Expected Benefits (Washington D.C.: U.S. Government Accountability Office, September 2005), 8.

<sup>56</sup> Ibid., 10.

<sup>57</sup> Department of Defense, Office of the Inspector General, Logistics: Implementation of Performance Based Logistics for the Javelin Weapon System (Washington D.C.: (Department of Defense, Office of the Inspector General, 7 March 2005), 13.

<sup>58</sup> Katherine McIntire Peters, "Roadblock," *Government Executive* 32, no. 11, (Sep 2000): 41.

<sup>59</sup> Red River Army Depot, "Depot CITE Designation, 10 U.S.C. 2474," available from <https://www.redriver.army.mil/ibmo/new/partner14.htm>; Internet; accessed 21 January 2006.

<sup>60</sup> Ibid.

<sup>61</sup> Department of Defense, Office of the Inspector General, Logistics: The Military Departments' Implementation of Performance-Based Logistics in Support of Weapon Systems (Washington D.C.: (Department of Defense, Office of the Inspector General, 23 August 2004), 20.

<sup>62</sup> Ibid.

<sup>63</sup> Ibid., 21.

<sup>64</sup> Charles A. Cartwright and Dennis A. Muilenburg, "Future Combat Systems - an Overview," available from <http://www.army.mil/fcs/articles/index.html>; Internet; accessed 22 January 2006.

<sup>65</sup> Ibid.

<sup>66</sup> Ibid.

<sup>67</sup> Ibid.

<sup>68</sup> Phillip Hodges, William F. Moore and Leonard Konowinski, "FCS Supportability – Where We Are Going and How We Are Getting There," *Army AL&T* (November-December 2005): 60.

<sup>69</sup> Ibid.

<sup>70</sup> Ibid.

<sup>71</sup> Sharon Weinberger, "SASC Pushes for Acquisition Reform, New Contracting Restrictions," *Defense Daily* 226, no. 36, (23 May 2005): 1.

<sup>72</sup> Francis Harvey, "Army Announces Business Restructuring of the FCS Program," available from [http://www4.army.mil/ocpa/read.php?story\\_id\\_key=7125](http://www4.army.mil/ocpa/read.php?story_id_key=7125); Internet; accessed 22 January 2006.

<sup>73</sup> Ibid.