

# **The Many Flavors of Performance Based Logistics (PBL) Programs**

## **By John Kotlanger and Ron Giuntini**

With over 6 years of research, advisory, and consultative engagements with Government agencies and DoD Contractors on PBL related subjects, as well as 5 years of experience in PBL-like predecessor programs, we have witnessed the development of different flavors of PBL tailored to address a variety of control, statutory, regulatory, and fiduciary issues that have complicated the full adoption of PBL as the preferred DoD weapon system support alternative. Four business constructs have emerged as viable approaches that impact the key drivers of the PBL initiative of: favorably impacting system availability, lowering O&S costs, and decreasing the footprint of logistics resources. The constructs that we will discuss in this paper, each with different degrees of potential benefits, are:

- **PBL-Pure**
- **PBL-Lite**
- **PBL-Transitional**
- **CLS-Plus**

The adoption of PBL by DoD as the preferred support strategy for new-start and legacy ACAT I and II weapons systems is based on the fundamental premise that overall sustainment performance will improve if the Contractor community supporting a given system has “skin in the game;” this colloquial phrase refers to Contractors accepting a more “material” share of the financial risk of sustainment. “More is more” has been the historical by-word of the Government-Contractor relationship; the “more” that the Government’s sustainment effort is inefficient and/or ineffective, the “more” revenues and profits are generated by the Contractor.

With PBL, the Contractor-Government relationship is turned on its head. “Less is more” becomes the mantra; the “less” resources that are employed by the Government as a result of the Contractor’s initiatives, the “more” profits are generated by the Contractor. In fact, gross revenues drop for the Contractor in a PBL program, but their profit margins materially increase, due to the higher value PBL promises to deliver versus that of a Government managed organic/legacy approach to sustainment. Note that if the Contractor

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doesn't perform as promised, a PBL program construct requires that the Contractor pay a "penalty" to the Government.

In our dynamic private sector capitalist economic system, the more efficient and effective a customer can become as a result of a supplier's offering, the higher the potential profits for the supplier; think Microsoft. Also in our capitalist economic system, there is a contract, formal or implied, that penalizes a supplier if it doesn't meet its stated performance; think warranty. The Government is in effect utilizing PBL as an enabler to evolve from its current central planning and control economic model, to one that is quasi-capitalistic.

The positive behaviors that PBL desires to foster are as follows:

- **Reliability improvements to systems, subsystems, components and parts**  
This behavior increases the duration of time between maintenance events, driving reductions in maintenance labor requirements for component replacement and repair. This also reduces the consumption of maintenance parts. Note that uniformed maintainers are not part of O&S costs, though maintenance parts are.
- **Mitigation of obsolescence and Diminishing Manufacturing Sources (DMS)**  
This behavior ensures that no maintenance downtime is caused by the lack of required maintenance parts because they are out of production, no longer available, or scarce
- **Optimizations of the supply of parts assets**  
This behavior ensures that the right part is available at the right location, in the right quantity, in the right condition to supply the demands of scheduled and unscheduled maintenance events
- **Continually refreshed technologies**  
This behavior ensures that the supported weapons system remains viable, current,

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and flexible in meeting changing mission requirements over its product life

- **Reduced footprint**

This behavior assures that all field resources, such as maintainers, ammo, support equipment, maintenance parts and others are minimized in the field.

- **Predictability of Cost**

This behavior ensures that costs can be reliably budgeted in advance because of the fixed price nature of PBL. This allows Program Objectives Memorandum (POM) funding requirements to be identified, appropriated and allocated; this ensures stability of funding for sustainment.

### **PBL-Pure**

A PBL-Pure program can be at the system of systems, system, subsystem, or component configuration level, but in all cases shifts the preponderance of risk to the Contractor from the Government. In most cases the Government does not choose to acquire the technical data package for the product and therefore relies on the Contractor to serve as the design agent/configuration manager for the system and its related assets. A PBL-Pure program usually covers wholesale parts and sustainment labor associated with depot repair and sometime retail parts. The program manages the following processes:

- Customer order management of the demands for repairable and non-repairable parts employed in system maintenance events
- Balancing demands and supplies of maintenance parts to create requirements
- Sourcing/Purchasing of parts requirements
- Storage of the supply of parts
- Inbound transport of the supply of parts
- Forward/Reverse distribution of the supply of parts to customer sites
- Reliability improvement of subsystems, components and assemblies
- Obsolescence and DMS mitigation

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- Design Configuration Management and Control
- Total asset tracking of serialized assets

In all cases a PBL-Pure program will require the Contractor to access an Information Technology (IT) infrastructure, which will enable a program's processes to be both managed efficiently and effectively. Also included in the IT infrastructure are performance measurement and financial reporting capabilities. The Contractor's personnel that must execute the program must be made of "the right stuff;" this is not an easy logistics program to manage. Skill sets required for CLS programs will not work in a PBL-Pure program.

Other organizations than the Government must invest in the parts required to meet the supply availability assurance levels included in a Performance Based Agreement with the Warfighter. The ownership of parts supply investment may vary among programs. They can be any one, or a combination of the below:

- Contractor owned
- Pooled ownership among several Customers with the same system
- Contractor-supplier owned
- Financial services organization owned
- Others

PBL-Pure programs address all of the PBL behaviors that DoD desires to achieve, however, their application is generally limited to new-start ACAT I, or ACAT II programs, which are early in their development cycle and are characterized by the following:

- Large installed base of systems, support equipment, facilities, and other program specific assets
- Support processes replace rather than supplement existing organic capability
- Protracted development, test, and material fielding schedules
- Design life greater than 20 years factoring in remanufacturing/RESET
- Technology levels at threshold value or slightly greater

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PBL-Pure programs usually require the Government to transfer design agency to the Contractor in order for the Contractor to incorporate, in a timely manner, funded reliability improvements into the design; this reduces the incidence of unscheduled maintenance, as well as the frequency of scheduled maintenance. The Government generally retains approval authority for Class 1 engineering changes (changes to form, fit or function); this change modifies the performance specification under which a product was purchased. Similarly, when it is the Contractor, rather than the Government that owns the parts supply, the Contractor can incorporate Class 2 engineering changes (no change to form, fit or function), without the Government's approval. This reduces the Contractor's risk of financial impairment, due to obsolescence, of their parts assets.

DMS and obsolescence issues, as in the case of reliability issues, will be corrected due to the self-interest of the Contractor. When parts are scarce or not available at all, the Contractor will be "holding the bag" in meeting assured parts supply availability levels. To avoid the "pain" of non-performance, the Contractor will address the issue of DMS and obsolescence proactively.

A PBL-Pure program has a long gestation period since it requires that the Government cede major responsibility to the Contractor and the Government must be assured that the Contractor's sustainment processes are capable of delivering the controls, relationships and management practices necessary for the Government to meet its fiduciary and statutory obligations. The planning process for a PBL-Pure program during a new-start system program begins as early as the Concept Technology and Demonstration (CTD) Phase of the acquisition process and delivers logistics and planning artifacts which by the completion of the Systems Design and Demonstration (SDD) Phase provides a detailed description of all processes, relationships, agreements, and metrics to manage the execution of sustainment operations over the lifecycle of the product. These logistics and planning artifacts are described in a Performance Based Logistics – Implementation Plan, which is employed throughout the design process and validated during Low Rate Initial

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Production (LRIP). As a weapon is fielded, greater and greater definition of how support will be delivered is established. PBL-Pure programs usually include a transition period during which metrics, data collection strategies, and cost and performance data are collected and analyzed to establish the baseline performance from which future performance will be measured and the Contractor's proposed costs are evaluated for fairness and reasonableness.

### **PBL-Lite**

PBL-Lite is a term coined by our consulting practice to describe a less comprehensive program than PBL-Pure. The Government, for legacy programs in which an existing support base exists, generally utilizes PBL-Lite constructs. The program manages all the same processes as that of PBL-Pure, with usually the exception of:

- Reliability improvement of subsystems, components and assemblies,
- Obsolescence and DMS mitigation
- Design Configuration Management and Control

These type programs generally yield improvements in supply chain efficiency, but often lose the opportunity for improving systems or component reliability due to the overall lack of timeliness of a Government controlled engineering process. Similarly the Government becomes the arbiter of response to obsolescence and DMS issues which also tends to make the parts supply availability performance process less effective.

PBL-Lite programs generally use performance metrics that are less effective than that used in PBL-Pure; they are usually associated with supply availability levels at the wholesale level, component repair turnaround times and other supply related metrics. The Contractor, for a PBL-Lite program, does have to employ an IT infrastructure which addresses the support of PBL processes and may selectively choose to invest in long lead time parts in order to deliver the supply availability levels assured to the Government. As with a PBL-Pure program the "right" personnel must manage the greater financial risks to the

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Contractor. Note that these programs are typically a combination of Government owned parts assets, and Contractor owned parts assets.

### **PBL-Transition**

PBL-Transition programs are a required for both PBL-Pure programs, as well as PBL-Lite programs. PBL-Transition programs are general short term in duration ranging from two years to as long as seven years; for new-start programs, they are usually through at least LRIP. This type of program provides a risk mitigation strategy for both the Government and Contractor to protect each of their own self-interests. The PBL-Transition program protects the Government from committing to a Contractor's PBL program price prematurely before metrics and performance baselines are established and validated. Also the Contractor must "scrub" their processes through demonstrating their efficiency and effectiveness, not only to the Government, but also to their Leadership Team who wants to validate that the program's profit will be commensurate with its risks. PBL-Transition programs are usually performed on a time and materials cost-plus-basis for a fixed period of time. In some cases a PBL-Transition program will include award or incentive fee provisions to allow the contractor to practice PBL behaviors during the transition period.

### **CLS-Plus**

Though not truly a PBL program, some non-programs of record are experimenting with practicing PBL behaviors using the PBL-Transition program construct as a model. One program is utilizing an omnibus labor type contract as the funding instrument for support of its weapons system but supplementing the contract with the use of an award fee to incent the Contractor to practice PBL type behaviors. The program fee is awarded based on achievement of repair turn around times, but has established secondary measurements that serve as award fee criteria to ensure that the \$ cost per unit supported remains stable.

Under the contract, without an award fee criteria, the Contractor would be incented to sell more labor services as a way to increase its revenue, however, with an award fee in place, the Contractor can make more profit, with less revenue, by maintaining or reducing the

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ratio of technicians to equipment supported as the installed base grows. In essence, under the award fee provision, the Contractor is delivering lower O&S costs because the overall \$ cost per unit supported is shrinking as a result of improved efficiency in delivering on-site repairs.

### **Conclusions**

The Government benefits most when they implement PBL-Pure strategies. Sometimes, however, regulatory, statutory and fiduciary constraints hamper the ability to move to a PBL-Pure business construct. PBL-Lite provides a less onerous path and still allows many of the DOD's PBL imperatives to be achieved. Most promising, however, is the emergence of CLS-Plus as a means to achieve PBL results even in the most constrained environment. It is our conclusion that doing something to improve the efficiency and effectiveness of the sustainment process is better than doing nothing at all.