

**The Secretary of Defense Performance-Based Logistics Awards Program
For
Excellence in Performance-Based Logistics
In
Life Cycle Product Support**

**Section 2
Summary of Criteria Accomplishments**

Improvements in Warfighter-Based Capabilities and Outcomes

Mission Success: The EA-6B Hydraulics Performance Based Logistics (PBL) has effectively and affordably provided support to the warfighter since 2005. The most recent PBL was awarded to AAI Corporation/Textron Systems (hereafter referred to as AAI) by NAVSUP Weapon Systems Support (NAVSUP WSS) on 29 January 2013. This five-year base Firm Fixed Price (FFP) \$6.9M competitive contract renewal delivers supply support for 112 line items of repairable and consumable hydraulics components for the EA-6B Prowler Electronic Warfare (EW) aircraft. The current contract performs through 31 January 2018 and contains language that encourages AAI to continually improve repair and supply chain capability. This contract followed on to the original, successful eight-year (four-year base with one four-year option) \$30.9M FFP PBL, also competitively awarded to AAI in January 2005.

The hydraulics system is used to actuate flight control surfaces and numerous other systems on the aircraft. 100% of the hydraulics components are repaired organically at Fleet Readiness Center Southeast (FRCSE) and Fleet Readiness Center Southwest (FRCSW). In compliance with Title 10 requirements, the PBL leverages existing government repair capabilities via a partnership between AAI and the FRCs. Under the PBL, AAI assumes responsibility for an increased scope of effort compared to traditional transactional support. AAI applies best commercial practices and takes greater ownership for full life-cycle support of its products. The PBL deliverable is a material availability outcome, i.e., Supply Response Time (SRT), vice procurement of a pre-determined number of repairs, parts and supplies. Under the PBL AAI is given the opportunity to pursue improvements, increase efficiencies, and remove waste.

The PBL is unique among NAVSUP WSS PBL efforts as AAI is not the Original Equipment Manufacturer (OEM) for the hydraulics components; the company instead brings third-party logistics (3PL) provider expertise to the sustainment strategy and integrates support across a significant government/vendor base. AAI scope of responsibility includes demand forecasting, provisioning of repair parts, and management of Navy asset inventory including requisition processing, storage, packaging, quality assurance, asset reporting, and other logistics elements. AAI is also responsible for configuration management, obsolescence management, and maintenance of tech data in accordance with Navy-approved procedures. The PBL fosters cooperation and teaming across the Naval Aviation Enterprise (NAE) and industry by maximizing the strengths of NAVAIR, NAVSUP WSS, the FRCs, sub-contractors, OEMs, and vendors. Performance over the past year has continued to deliver the outstanding results garnered since the outset of the program. The PBL consistently delivers affordable readiness for electronic warfare and jamming capability and is directly aligned with DoD Better Buying Power guidance. The paragraphs below document this consistent, long-term goodness.

Material Availability: The SRT metric requires replacement assets within 3 days 100% of the time for high priority/Issue Priority Group I (IPG I) requirements and within 13 days 91% of the time for low priority/IPG II/III requirements. The metrics align with Uniform Material Movement and Issue Priority System (UMMIPS) standards and the time-definite delivery parameters built into the NAVSUP WSS Readiness Based Sparing (RBS) allowance model. [Note: SRT methodology is used on every NAVSUP WSS PBL to align metrics with Fleet requirements and to ensure that the Navy is not buying more than the warfighter needs.] In the past year, all requirements have been exceeded at no additional cost to the Navy. AAI has met 100% availability for the past 83 consecutive months and overall performance since the beginning of the program is 99.2% [see Figure 1]. Pre-PBL material availability was 64% with 89 backorders (some more than 180 days old); 44% of demands pre-PBL were for end-use/hole-in-aircraft (IPG I) requirements. AAI eliminated all backorders within one year of contract award; currently only 13% of demand is high priority given the excellence performance in filling lower priority retail allowance requirements. AAI has filled 4,557 fleet requisitions since

program inception. The PBL includes surge coverage at up to 12% above forecasted flying hour levels at no additional cost which mitigates risk associated with routine demand churn and unforecasted Fleet operations.

Reliability: The FFP nature of the PBL inherently incentivizes AAI to improve reliability and reduce returns. Mean Time Between Demand (MTBD) has improved from 53 flight hours pre-PBL to 77 flight hours in 2014, an increase of more than 45% under the PBL [see Figure 2]. A specific example of this improvement is the EA-6B Constant Speed Drive (CSD) [see Figure 3]. The CSD example documents improvements in reliability along with other benefits accrued under the PBL: MTBD pre-PBL was 245 hours, under the PBL it has increased to 312 hours; average cost to repair pre-PBL was \$12K, today it is \$2.5K; average repair turnaround time (RTAT) pre-PBL was 39 days, under the PBL it has improved to 23 days; average time that a CSD was awaiting parts (AWP) during the repair process pre-PBL was 25 days, AWP has been eliminated under the PBL. The CSD dropped from the NAVAIR PM's Top 10 Degraded list within the first year of the PBL.

Other program specific supportability Key System Attributes: The PBL utilizes a centrally located government approved warehouse; storage locations have been reduced from six to one, reducing overhead and management costs and the logistics footprint. Improved material availability results in lower Fleet maintenance costs as cannibalization and cross-deck actions are reduced with less on-station support required. AAI has also established relationships with intermediate level (I-Level) repair activities thereby reducing depot demand requirements. For example, a \$10K investment in piece parts provided to the I-Level at Whidbey Island eliminated the need for over \$200K in repairs at the depot.

Sustainment Strategy Effectiveness/Efficiency

Operations and Support Cost Reduction: A BCA affordability analysis is done on every PBL to document that the PBL solution is no more expensive than the cost of traditional support. The BCA for the current PBL identified \$71K in cost avoidance. AAI's proposal was also determined fair and reasonable by the NAVSUP WSS Contracting Officer. The FFP nature of the PBL incentivizes AAI to make capital investments and support decisions that pay off over the long-term through improved parts support, investments in reliability, optimized depot processes, and decreased depot returns. The 2013 contract incorporated cost and demand

reductions and reliability efficiencies realized during the initial eight years of the program. In addition, reductions in RTAT at the FRCs have significantly reduced depot touch labor costs (\$117/hour).

Should Cost Initiatives: The NAVSUP WSS Pricefighters organization reviews every PBL proposal from a "should cost" perspective. The contractor's proposal estimate is examined, analyzed and recreated using various cost estimating techniques to develop a cost model to capture all of the cost elements. Each of the contractor's Basis of Estimates (BOEs) is evaluated. For the Hydraulics deal, in December 2012 Pricefighters performed a Gap Analysis of AAI's proposal that facilitated the negotiation process and contract award.

Arrangement Type/Period of Performance/Incentives:

The current Hydraulics utilizes a FFP contract vehicle and has a term of five years. This maximizes AAI's incentive to improve processes and performance. Years of actual cost and reliability data fully support the FFP arrangement. The FFP nature of the PBL also controls cost growth by setting cost ceilings that prevent unbounded cost creep and growth. The five-year contract gives AAI the opportunity to make long-term return on investment decisions, increasing innovation and productivity. PBL metrics are aligned with Fleet requirements, utilizing flight hour bands, which allow for cost adjustments to meet changing operational requirements when warranted. PBL support is fully integrated into the existing Navy supply system architecture and transparently scales design across existing Navy infrastructure and expertise. The PBL is clearly structured to effectively and affordably meet Fleet requirements and incorporates the desired outcomes of DoD Acquisition Reform and Better Buying Power guidance.

Public-Private Partnering (PPP): The partnership between AAI and FRCSE and FRCSW is the cornerstone of the PBL. Existing organic capability and artisan expertise are incorporated into program strategy. This approach not only complies with Title 10 requirements but also enhances the repair and overhaul process. A Commercial Services Agreement (CSA) between AAI and the Navy depots is the foundation of the PPP. Under the terms of the CSA, AAI is responsible for providing funding, carcasses, repair parts, and technical support to the FRCs. The partnership has been a resounding success. Parts support for depot repairs is an AAI responsibility. AAI invested more than \$1M in piece part inventory at contract inception. There were over

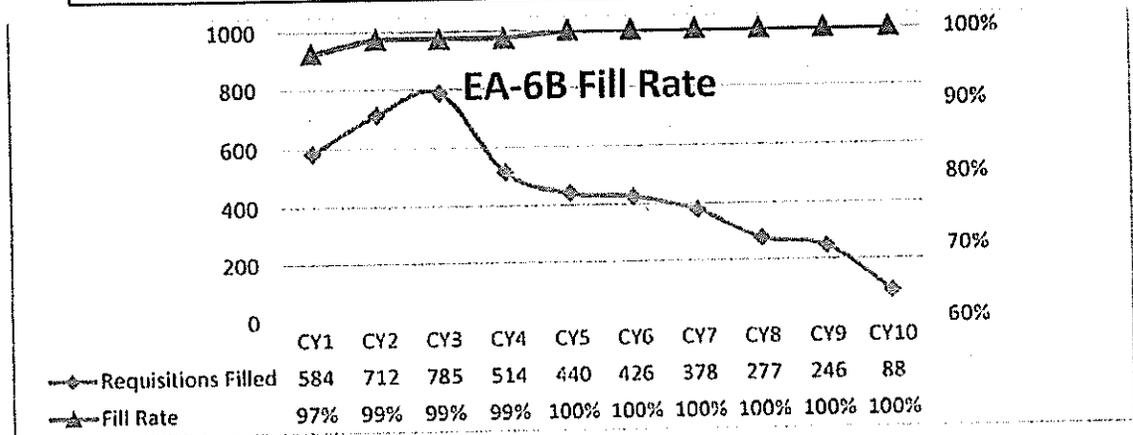
200 components at the FRCs prior to the PBL that could not be repaired for lack of parts; AAI resolved these issues and all assets were repaired within the first year of the contract. This parts support has been consistent across the years to the present. AAI embedded technical service representatives at FRC SE/SW to resolve outstanding repair discrepancies, to coordinate solutions, and to streamline the repair process. RTATs at the depot have improved by 56% since the beginning of the program, average time to repair reduced from 52 days to 24 days. The partnership facilitates improvements in both capability and capacity at the depot. AAI purchased and installed a Honing machine for FRCSE CSD repair that enabled salvage of previously disposed cylinder blocks and expanded use of all available Pistons and Slipper sizes. Sharing of technology, best practices and concepts for product and process improvements are enabled. The relationship is a true teaming and blends state of the art manufacturing processes and innovative repair strategies using highly experienced artisans. The PBL is a true partnership and fosters collaboration between Government and Industry.

Systems Engineering for Supportability Approach: AAI on-site reps and the Navy work closely together on engineering solutions. Some examples: AAI and Fleet Support Team (FST) engineers implemented a change in the Slat Drive gearbox repair process, reducing corrosion and extending gearbox life thereby reducing demand by 47%; investment in staking tools for the FRCSE Hydraulic Repair Center resulted in a 38% decrease in Rod End Replacement and a \$1K/repair cost reduction; in December 2010, AAI implemented a change in the Flap Drive Gearbox repair process, establishing new tolerances allowing for reuse of Clutch Disks resulting in a \$3.6K savings per assembly. AAI works hand-in-hand with FRC and FST engineers to improve processes, reduce costs, improve reliability, and reduce RTATs.

Obsolescence and Diminishing Manufacturing Sources and Material Shortages Management: AAI is responsible for obsolescence management on the PBL. AAI's process includes a proactive approach to qualify new sources for obsolete parts, initiate lifetime buys, and recommend material/component design changes. AAI worked with the FRCs to develop in-house manufacturing capability for commercially unavailable Drums and Clutch Disks required for Flap Drive Gearbox repair. The team also developed the ability to reclaim Nose Landing Gear Damper Housings slashing the replacement factor of the \$13K part by 50%.

Figure 1: PBL Material Availability

- 100% availability for last 83 consecutive months
- Life of Contract on-time delivery metric = 99.2%
 - ✓ Pre-contract award = 64%
 - ✓ Pre-PBL: 44% of demand went to fill aircraft holes
 - ✓ Currently only 13% of demand is aircraft related



(2004 through 2014)

Figure 2: Flight Hours per Demand

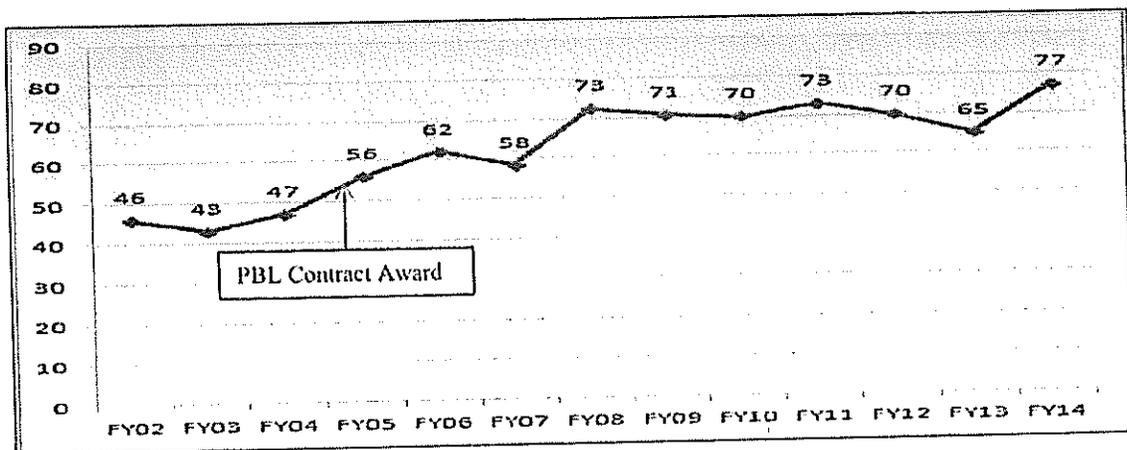
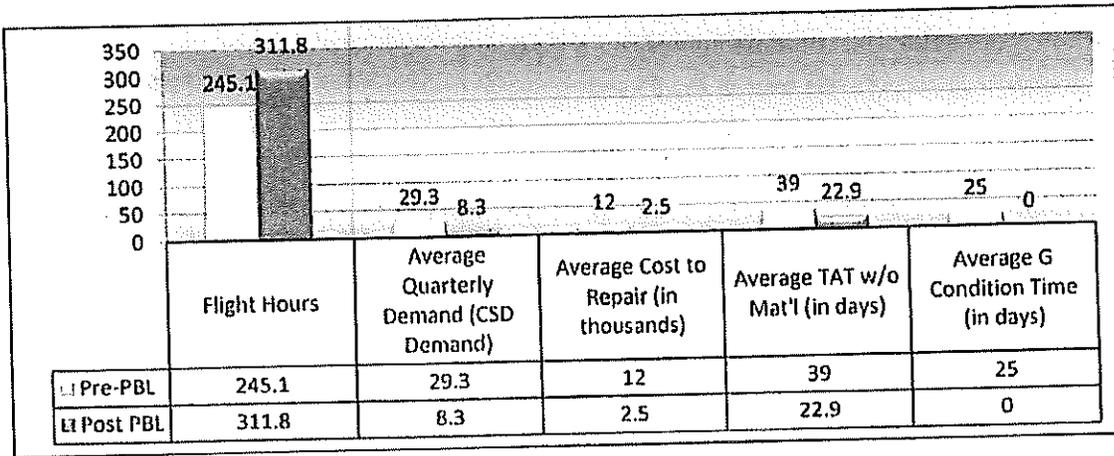


Figure 3: EA-6B Constant Speed Drive (CSD) Example



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**Section 4
Achievements**

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