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

WARFIGHTER-BASED CAPABILITIES AND OUTCOMES

Mission Success:

The Apache Performance Based Logistics (PBL) program has enabled the AH-64D Apache Attack Helicopter to provide exceptional support to the Warfighter in peacetime and wartime operations throughout the world. This program's support has allowed the Apache to sustain an unprecedented flying hour operational tempo (OPTEMPO), which exceeded estimates by 19.3% (Figure 1, page 9). During this time, the Apache PBL program's performance contributed to low Non-Mission Capable Supply rates, which averaged 5.8% for the period (Figure 2, page 9). Through collaboration and teamwork, the Apache PBL Team overcame new challenges, such as split operations and forward operating bases (FOBs), and old challenges, such as return of unserviceable retrogrades (Figure 3, page 9), to contribute to the overall sustained mission success of the Apache and the US Army.

Materiel Availability:

The overall mission success of the AH-64D Apache Longbow has been greatly enhanced by the efforts of the Apache PBL program. The Apache PBL program supports 600 AH-64D Apache Longbow attack helicopters in over 16 locations throughout the world, including Overseas Contingency Operations (OCO). The program has achieved an OCO materiel availability success rate of 96.3% and an overall 92% materiel availability success rate versus an 85%

requirement (Figure 4, page 9). The program has also issued more than 7,700 requisitions with only 10 open backorders (Figure 5, page 10). The Apache PBL support framework's flexible contract structure ensures that the program has the proper tools and processes in place for long term success. Overall, the program's structure has enabled the transition from a reactive model to a more dynamic, proactive Warfighter support model. This proactive support has allowed the Apache PBL program to exceed its materiel availability requirements during a sustained flight hour OPTEMPO surge which was 19.3% greater than forecasted without any additional US Government (USG) investment in repairable components.

Materiel Reliability:

The Apache PBL program has implemented the Apache Materiel Reliability Review Board (Joint USG and Boeing Integrated Product Team (IPT)) to review, monitor, and improve component performance. The AH-64D Apache components continually surpass their reliability baseline and demonstrate constant improvement. Some of these improvements include the Generator Preventative Maintenance Program (PMP), Multi-Purpose Display (MPD) Covers, and MPD Bezel, all of which account for $2M in cost avoidance annually. The flexible contract structure of the Apache PBL program allows Boeing to be progressive in investigating and mitigating reliability impacts. While a specific materiel reliability metric is not contractually required, it is inherent to a PBL program and Boeing tracks and reports reliability quarterly. During the period, components exceeded their materiel reliability baseline by an average of 65%.

Ownership Cost Reduction:

The Apache PBL program has implemented numerous improvement measures resulting in substantial total ownership cost avoidance. These efforts allowed for increased support (materiel availability) during challenging times (OPTEMPO and split operations) at no additional cost to the USG. Materiel reliability efforts have kept components on wing longer, translating into

reduced quantities and reduced costs for future contracts. Overall, cost per flight hour has decreased by 24% (Figure 6, page 10) from the Multi-Year Contractor Logistics Support Program (MYII) to the PBL follow-on contract. This decrease has resulted in annual cost avoidance of $19.2M.

SUSTAINMENT STRATEGY EFFECTIVENESS

Public-Private Partnering:

The Apache PBL program is actively engaged in public-private partnerships (PPP) with USG depots. This effort is led by an IPT staffed with members from the Apache Project Manager (PM), the Integrated Material Management Center (IMMC), the Tank-Automotive and Armament Command (TACOM), the Communications Electronics Command (CECOM), USG depot personnel, Boeing, and various Boeing suppliers. This IPT was chartered to transition components to Corpus Christi Army Depot (CCAD) and Tobyhanna Army Depot (TYAD) and has several ongoing transition efforts (Figure 7, page 10).

Apache PBL public-private partnering efforts are driving multiple benefits, including:

(1) USG depots receiving more work share (Title 10 and "50/50" requirements).

(2) Industry knowledge transfer and best practice sharing with USG depots.

(3) Program cost-avoidance through lower depot repair costs.

(4) Second sources for repairs for mission critical components.

To date, CCAD has been qualified as an approved Boeing supplier and two components have been transitioned, yielding positive early results with repair turn around time (RTAT) averaging less than 20 days.

Systems Engineering Approach:

Apache PBL program employs a broad-based system engineering approach to address field issues, reliability, maintainability, availability, operational, and safety concerns. The program

capitalizes on the knowledge and shared intellect from the user, Apache PM, IMMC, TACOM, CECOM, USG Depots, Boeing and Boeing's suppliers. The program's flexibility allows for collaboration and for Boeing, in conjunction with the supply chain, to proactively respond to any situation. By having one collaborative team, the Apache PBL program is able to integrate resources and data from all stakeholders for incorporation into program decisions and initiatives. This approach has allowed the Apache PBL program to dynamically adjust and support production and field modifications.

Footprint Reduction:

The Apache PBL program has reduced the footprint through decreased materiel response time (from 7-21 days to 1-2 days), supply chain velocity, and increased materiel reliability (performance of 65% over requirement). This footprint reduction resulted in the program's ability to support a 19.3% increase in flight hours without additional investment in resources or repairable components. This effort was further enhanced by the Aviation and Missile Command (AMCOM), TACOM, CECOM, and Boeing's efforts to reconcile inventory positions. By closely collaborating, the team was able to improve the inventory reporting accuracy from 4% to 94% accurate. This enables greater efficiency in pre-positioning materiel which reduces the overall number of required assets in a given location.

Obsolescence Management:

The Apache PBL program benefits greatly from the efforts of the Obsolescence Working Group (OWG). This AMCOM/IMMC and Boeing Team continuously tracks and monitors obsolescence events for the AH-64D Apache. The OWG recognized and resolved 296 obsolescence events during the period, a 69% increase from the previous period. With a USG investment of $700K, the OWG has achieved a cost avoidance of $18M during the period, a return on investment (ROI) of over 2,500%, (Figure 8, page 10). With this ROI, the OWG

continues to be a major contributor to the success of the Apache PBL program, lengthening the life of components and reducing operation and support (O&S) costs. For these efforts, the Apache PBL OWG was awarded the Department of Defense Diminishing Manufacturing Sources and Materiel Shortage Team Achievement Award in 2009 for its proactive measures to avoid costs and mitigate obsolescence risks.

Reliability, Maintainability and Supportability Improvements:

By enabling proactive support, the Apache PBL program has benefitted from reliability, maintainability, and supportability improvements which are tracked and reported quarterly. These improvements have led to increased reliability, lowering the Warfighter operational burden as well as reduced O&S costs. Examples include:

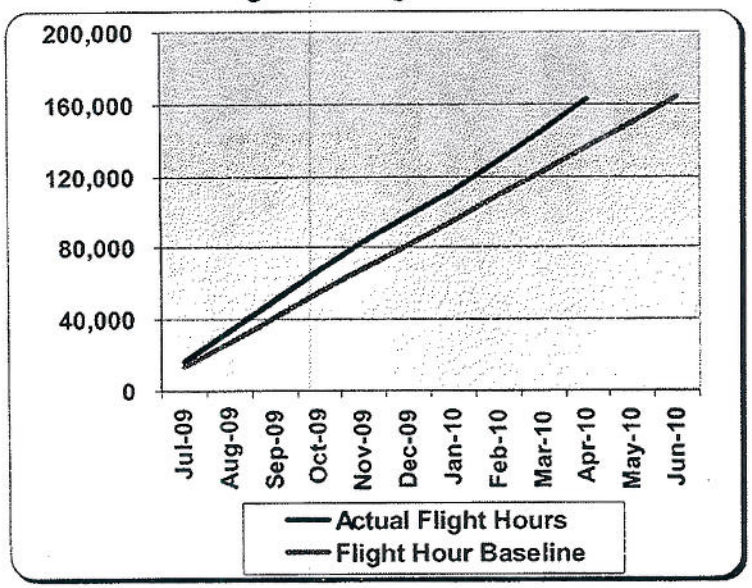
Apache Generator - An IPT was mobilized to develop improvement plans for the generator. The short term solution was successfully completed in 2009 resulting in replacement of bearings in 35% of deployed generators, yielding $1.25M in annual cost avoidance. An intermediate solution performing preventative maintenance is ongoing as a long term solution incorporating durability improvements into the generator design.

Full Cell Battery Replacement - The supplier was directed to start full cell battery replacements rather than scrapping batteries. This led to an $80K cost avoidance as well as reduction of lead time from 324 days to fewer than 45 days.

MPD Cover - A protective cover was developed for MPDs not in use to reduce physical damage. The resulting reduction in repairs avoids an estimated $450K annually.

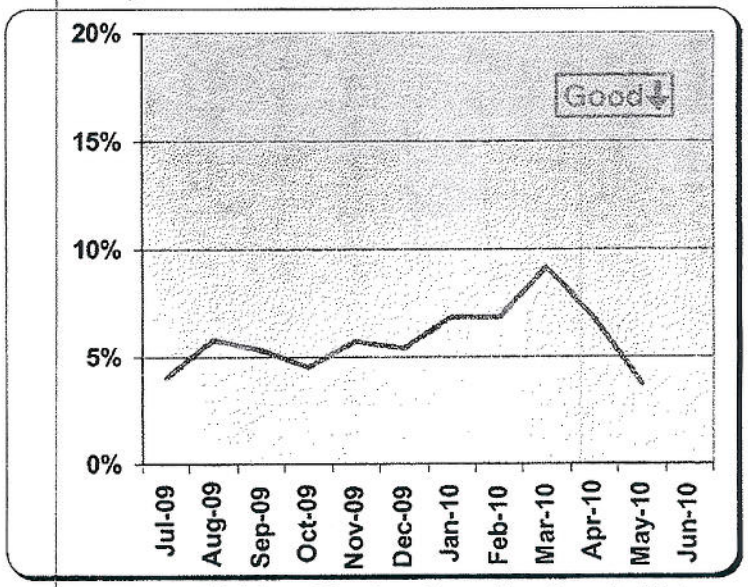
MPD Bezel – The bezel was made a field level repairable item, reducing the number of MPD repairs which avoids $300K annually.

Figure 1: Flight Hours



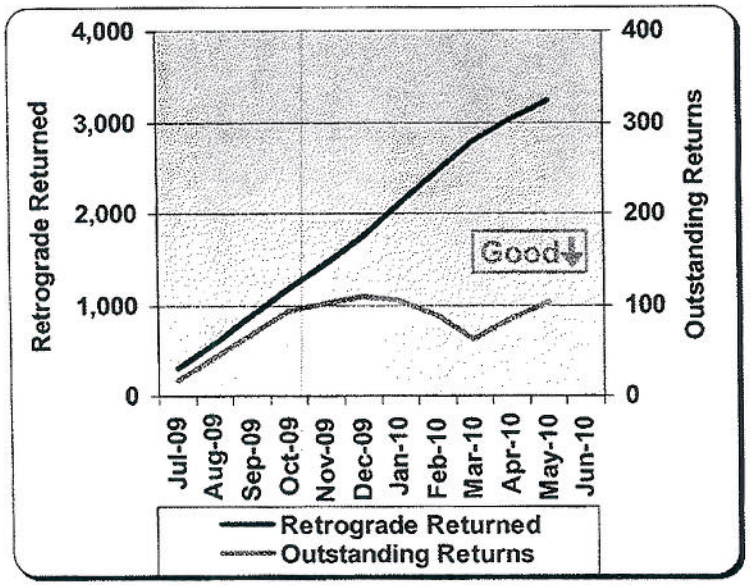
Exceeding Flight Hours Baseline by 19.3%

Figure 2: Non-Mission Capable Supply



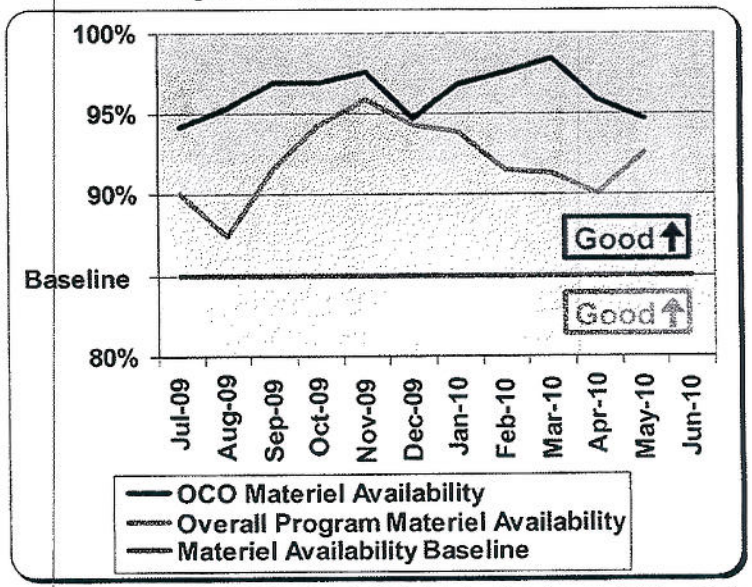
Average 5.8% Non-Mission Capable Supply Rate

Figure 3: Return of Retrograde



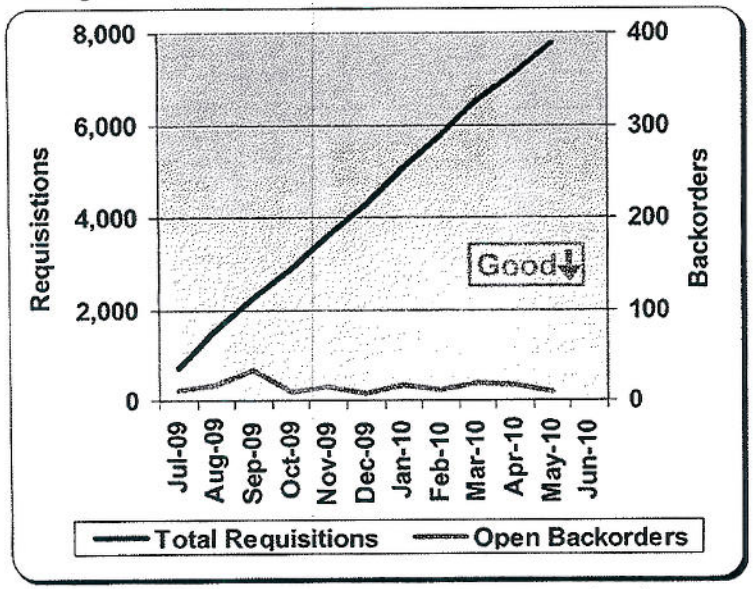
3,200 Returns - Only 103 Outstanding Returns

Figure 4: Materiel Availability



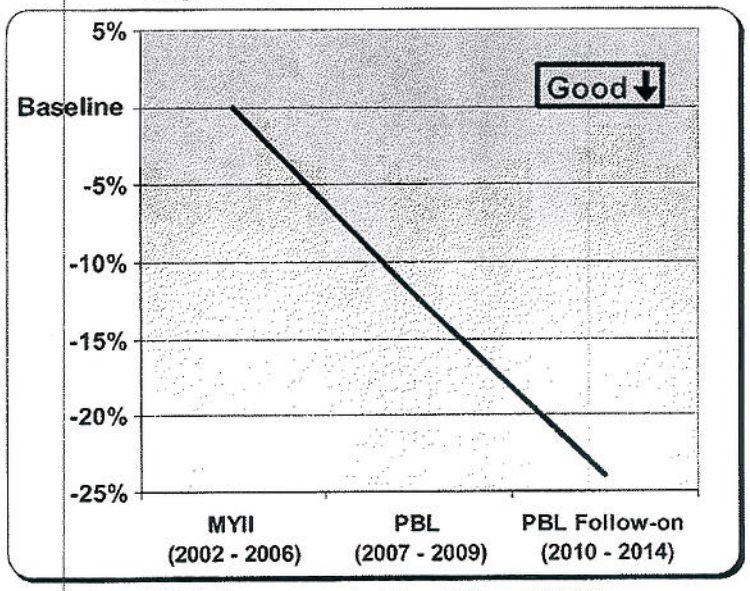
Average 96.3% OCO & 92.0% Materiel Availability Rate

Figure 5: Requisitions and Open Backorders



7,700 Requisitions, Only 10 Open Backorders

Figure 6: Total Ownership Cost

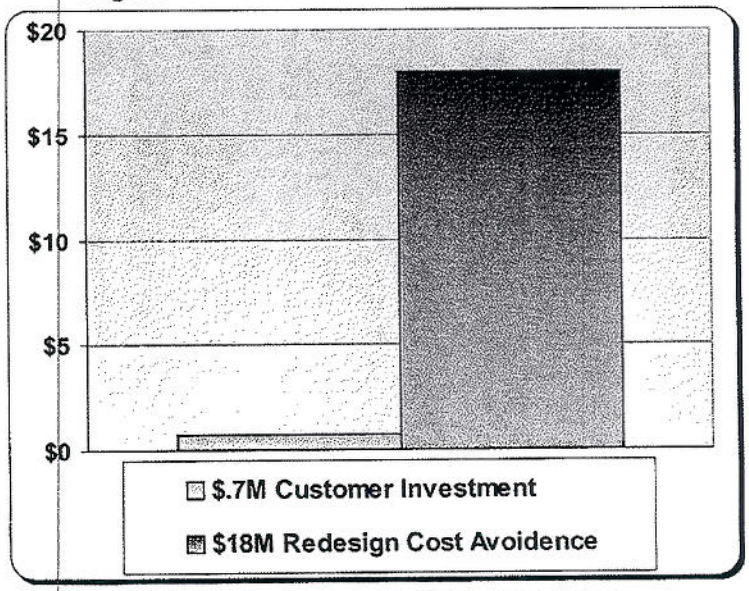


24% Decrease in Cost Since 2002

Figure 7: Depot Transition Status

Transitioned	2
Transition Plans Complete	4
Transition Plans In Work	5
Transition Plans Proposed	10
Future Planned Transitions	24

Figure 8: Obsolescence Cost Avoidance



$18M Obsolescence Cost Avoidance

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Section 4

Achievements

The AH-64D Unique Subsystem Level Performance Based Logistics (PBL) program is a collaborative partnership between the Apache user, Apache PM, IMMC, TACOM, CECOM, and Boeing. The program provides technical and logistical support for the Apache Attack Helicopter in operations at home and in Overseas Contingency Operations (OCO). The collaborative partnership and flexible contract structure allows the program to proactively address support issues and risks. This proactive support structure has enabled the Warfighter to consistently meet or exceed the required readiness rates during a time of increased OPTEMPO, split operations and additional deployments. The performance of this PBL program has clearly demonstrated it is the right sustainment strategy for the AH-64D Apache. The performance of the Apache PBL program has exceeded requirements and lowered the overall cost of sustainment. While supporting a flight hour/OPTEMPO surge of 19.3%, the program is exceeding materiel availability requirements by 8.2% and OCO materiel availability requirements by 13.2%. The program is exceeding the materiel reliability baseline by 65% and through the collaborative Obsolescence Working Group (OWG), avoided over $18M in costs. These combined efforts have resulted in a 24% decrease in Total Ownership Cost since 2002 which equates to $19.2M of cost avoidance annually. Overall, the Apache PBL program's success has contributed significantly and positively to the overall success for the Apache platform.