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 overall objective of the ALQ-126B contract is to meet and exceed Fleet readiness expectations and requirements. The Naval Inventory Control Point, Philadelphia, PA, selected BAE Systems- Electronics and Integrated Solutions' (E&IS) as the Prime Contractor for the Five Year AN/ALQ-126B Performance Based Logistics Support Contract. As part of this PBL contract BAE Systems has partnered with the Fleet Readiness Center - Southeast (FRC-SE) Jacksonville, Florida to provide support to the AN/ALQ-126B Countermeasures Receiver transmitter. Since the first year of the PBL program the joint government/industry team has filled all outstanding backorders, eliminated a growing pre-PBL "G" condition problem, and initiated activities to resolve significant obsolescence and Diminishing Manufacturing Sources (DMS) issues. Over the first four years of the program, the PBL achieved a material availability of 99.9 percent and filled 3028 Fleet requisitions per the metric timeframes. [See Figure 1 for full performance information.]

Materiel Availability: The ALQ-126B Deceptive Electronics Countermeasures Receiver / Transmitter System provides increased aircraft survivability by denying accurate range and position data to hostile air defense systems. The system is currently installed on over 700 Navy and F/A-18 A-D and AV-8B aircraft. NAVICP awarded the $28.7M five-year Firm-Fixed Price (FFP) PBL to BAE Systems, Nashua, NH, in February 2005. The PBL provides support to over 120 components included in the system. BAE Systems responsibilities under the PBL include

inventory management, requirements determination, repair/overhaul/replace decisions, obsolescence management, technology insertion, warehousing and custody of wholesale inventory, requisition processing, and transportation to Fleet customers. BAE Systems is responsible to manage all facets of the supply chain and related Integrated Logistics Support (ILS) elements to ensure availability of spares to the warfighter. The PBL includes coverage to 10 percent above forecasted demand levels to provide availability during surges in Fleet operations. After contract award, the team achieved its' goal of elimination of backorders and 100 percent availability by June 2005 and has maintained that level of support with only one requisition not filled within contractual metric timeframes.

Materiel Reliability: Reliability improvement is embedded in the ALQ-126B PBL process. BAE Systems and FRC-SE focus on long-term reliability in order to keep the system flying through at least the year 2023. Reliability and maintainability data and repair trends are monitored, and corrective actions are taken to improve reliability. Class 2 ECP incorporation, repair process changes, and development of improved repair diagnostic capability implement technology insertion thereby improving reliability and increasing time-on-wing.

Ownership Cost Reduction: The NAVICP Business Case Analysis (BCA) documents savings and cost avoidance of $2.1M over the five years of the contract. The long-term nature of the PBL allowed BAE to meet the affordability criteria of the BCA by enabling a reengineering of the support process. With a guaranteed business base, BAE Systems, as the Original Equipment Manufacturer (OEM), brings its' best practices and in-depth knowledge of the ALQ-126B system to sustainment support. The firm-fixed price nature of the PBL incentivizes BAE to make 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. BAE quickly and efficiently directs resources where required to deliver the performance outcome

specified in the contract. Depot repairs for ALQ-126B are accomplished at both government and commercial facilities, thus allowing for efficient teaming and sharing of best practices leading to effective and affordable support.

Sustainment of Warfighter Capabilities

Public-Private Partnering: As part of the PBL, BAE Systems established a partnership for repairs and warehousing with FRC-SE, the pre-PBL organic depot, per 10 USC 2474. A five-year Commercial Services Agreement (CSA), with two five-year options, was executed to provide support to the PBL. Under the terms of the CSA, BAE Systems is responsible for providing funding, Non-Ready for Issue (NRFI) parts, repair parts, technical support, and transportation to the FRC. FRC-SE provides supervision, labor, facilities, and equipment for depot repair of ALQ-126B assets.

In April 2005, to accelerate sharing of best practices and to facilitate teaming, the FRC-SE / BAE team participated in a Lean Six Sigma event focused on establishment of joint processes and defining of work procedures to provide quality assets to ensure optimal availability and Fleet readiness. The government / industry team has subsequently continued to collaborate on repair process improvements and cost wise readiness.

Benefits of the BAE Systems / FRC-SE partnership include development of full Ready for Issue (RFI) capability at the FRC. Inspection criteria were developed and utilized across the program, and statistical sampling is used to monitor and ensure quality standards across both repair facilities. The partnership has formalized routine government / industry information sharing sessions to share best practices and technical insight across the organizations. An embedded BAE Systems Field Service Engineer at FRC-SE provides on-site technical assistance. Integration of existing depot processes and equipment limited the need for additional infrastructure development. The CSA also covers operation of a BAE systems warehouse co-

located in Jacksonville that facilitates pre-positioning and management of repairable and consumable assets. Work content performed by the depot artisans at FRC-SE continues to surpass all requirements of the CSA. The teaming approach, the evaluation of material and labor trade offs, the establishment of sub-component rotatable pools, and the proactive approach being utilized in the procurement of materials, has all but eliminated awaiting parts problems that existed prior to PBL, has minimized repair turn around time, and has improved availability. [See Figure 2 for additional partnership information.]

In addition, the Defense Logistics Agency (DLA) is a valued partner with BAE Systems on the ALQ-126B PBL and is often the source of supply for piece parts needed for repair.

Systems Engineering Approach: BAE Systems provides dedicated systems engineering support for the ALQ-126B accomplished through the use of technology insertion, reliability and maintainability improvements, obsolescence management, comprehensive failure mode analysis, integrated logistics support and on-site performance monitoring and technical assistance.

Footprint Reduction: The ALQ-126B contract has significantly improved the supply chain through streamlined engineering and supportability change incorporation, improved asset visibility and the application of commercial support efficiencies and practices. This higher level of support results in lower Fleet maintenance costs because of improved reliability with less on-station support required. Improved availability has eliminated cannibalization actions. Significantly improved logistics response times through the PBL have reduced wholesale inventory footprint.

Obsolescence Management: Growing obsolescence problems and diminishing manufacturing sources on the system were a primary PBL driver. Proactive obsolescence management is a key tenet of the ALQ-126B program. BAE Systems is responsible for providing full, proactive obsolescence management, ensuring piece parts and WRA availability through timely parts

procurement or technical enhancements, accomplished through Class II Engineering Change Proposals (ECPs). Under the PBL, BAE Systems has implemented numerous Obsolescence mitigation strategies. Several repairable components, including the Input / Output Switch Matrix Assembly, the Digitally Tuned Oscillator, and the RF Amplifier Assembly, were re-sourced by BAE Systems to resolve non-supportability issues. BAE Systems has also expanded and re-established sources of supply for various piece parts such as transformers. Continued dedicated focus by the government / industry team on parts obsolescence and DMS management is understood as key to continued viability of the ALQ-126B system.

Reliability, Maintainability and Supportability Improvements: Reliability, maintainability, and supportability are a standard part of the ALQ-126B PBL process. Reliability and maintainability data and repair trends are monitored, and corrective actions are taken to improve reliability. This has been accomplished through technology insertion by attrition in the repair process, incorporation of Class 2 ECPs, repair process changes, and development of repair diagnostic capability. BAE Systems engineering activities include re-sourcing of numerous components and a redesign of the Analog IFM to a Digital IFM (DIFM) configuration. The DIFM design takes advantage of BAE Systems' extensive technological expertise and is expected to improve reliability by 300 percent. The DIFM is fully qualified and is a drop-in replacement with no impact on form, fit, or function. Design verification testing of the DIFM is successfully completed and is expected to be incorporated into the PBL in 2009 or 2010.

Figure 1: ALQ-126B PBL Partnership Performance Summary to Date

Requisitions	Year 1 (Feb 11, 2005 – Feb 10, 2006)	Year 2 (Feb 11, 2006 – Feb 10, 2007)	Year 3 (Feb 11, 2007 – Feb 10, 2008)	Year 4 (Feb 11, 2008 – Feb 10, 2009)	**Year 5 (Feb 11, 2009 – Feb 10, 2010)	Total
Received	819	782	731	696	90	3,118
Filled	796	775	724	688	90	3,073
Canceled Denied	21	6	8	10	0	45
Open	2*	3*	2*	0*	0	0*
Backorders Beyond 90 days	0	0	0	0	0	0
Metric	3 days/5 days	3 days/5 days	3 days/5 days	3 days/5 days	3 days/5 days	3 days/5 days
Avg Fill Days	1.9 days	1.1 Days	1.1 days	1.2 days		
Availability Metric	85%	85%	85%	85%	85%	85%
Availability Achieved	100%	100%	99.84%	100%	100%	99.96%

**As of 4/7/09 * Open represents: unit shipped, awaiting confirmation receipt at destination at the end of the year

Figure 2: Benefits of the ALQ-126B PBL Partnership

	Traditional Repairs	PBL/Partnership 10 USC 2474	Comments
Obsolescence Management	No Active Program (Reactive)	Active Program (Proactive)	Long term partnering with suppliers
Consumable Parts Availability	As low as 50%	98% Same day 2% Within 5 days	On site warehouse Continued use of DLA
SRA Availability	70%*	99% Same day	*Sub route repairs required
Repair Turn Around	75 Days	24 Days	From Induction to packaging
Awaiting Parts	Significant	Not a Factor	"G" Condition eliminated
Consistency in Work Flow	Intermittent/Choppy	Level & Consistent	Even Depot Manpower loading
Test Equipment Support	Not an Option	Improved	Engineering Assist
Program Engineering & Technical Data	Delayed	Immediate Feedback	

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Section 4
Achievements

The $28.7M five-year Firm-Fixed Price (PBL) ALQ-126B Performance Based Logistics (PBL) contract was awarded to BAE Systems, Nashua, NH, in February 2005. The PBL provides support to over 120 components included in the ALQ-126B Deceptive Electronics Countermeasures Receiver / Transmitter System. The system provides increased aircraft survivability by denying accurate range and position data to hostile air defense systems and is currently installed on over 700 Navy and F/A-18 A-D and AV-8B aircraft. BAE Systems responsibilities under the PBL include inventory management, requirements determination, repair/overhaul/replace decisions, obsolescence management, technology insertion, warehousing and custody of wholesale inventory, requisition processing, and transportation to Fleet customers. BAE Systems is responsible to manage all facets of the supply chain and related Integrated Logistics Support (ILS) elements to ensure availability of spares to the warfighter. The PBL has achieved a material availability of 99.9 percent and filled 3028 Fleet requisitions per the metric timeframes over the first four years of the program. BAE Systems in partnership with the Fleet Readiness Center - Southeast (FRC-SE), brings its' best practices and in-depth knowledge of the ALQ-126B system to sustainment support. The PBL incentivizes BAE to make 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 PBL provides unprecedented cost-wise performance to the Fleet.