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 Defense Logistics Agency's (DLA) Defense Supply Center Richmond (DSCR) awarded a Performance-Based Logistics (PBL) F404 Synchronized Supply Chain (S2C) contract to General Electric Aircraft Engines (GEAE) for worldwide support of the F404 Aircraft Engine. The F404 Engine powers the F/A-18 A-D (Hornet). Today, there are over 3,700 F404 Engines in use by the U.S. Marine Corps and U.S. Navy and several foreign nations. This effort is a joint approach between DLA and the Navy, including the Naval Inventory Control Point (NAVICP), Navy Fleet Readiness Center Southeast (FRC-Southeast), Naval Air Systems Command (NAVAIR), and Type Commands (TYCOMS), to improve overall support to the F404-GE-400 and the F404-GE-402 Engines. This integrated approach is designed to improve material availability, obsolescence management, and system maintenance and reliability in order to increase engine availability and flight hours per engine. Providing spare parts support for this engine is essential to its proper functioning and scheduled maintenance and repair. Delays in parts support render the aircraft not mission capable and thereby negatively impact military readiness. Improved material availability has a significant impact by having the right part to the right customer at the right time. Traditionally, DLA managed, stored, and distributed spare parts. DLA obtained those parts on a part-by-part basis by awarding a multitude of contracts for the individual spare parts used on the F404 Engine. This PBL effort shifts DLA's focus from

supplying the individual spare parts to supporting the weapon system. DLA now requires delivery of a level of supply readiness for the F404 Engine. The PBL strategy leverages the entire logistics supply chain to meet the Navy's performance objectives by consistently filling requirements in accordance with established measurable performance metrics, providing accurate forecasts of requirements, reducing work stoppages due to lack of material, improving or maintaining maintenance cycle times, reducing inventory investment, ensuring proper use of approved sources of Navy Critical Safety Items (CSI), and utilizing best industry practices. Since contract inception, this initiative has resulted in a 59% reduction in Issue Priority Group (IPG) I unfilled requisition orders greater than 30 days.

Material Availability: Material availability is calculated as a percentage, by deducting backorders from total orders received and dividing the result by total orders received. It is tracked on a monthly basis and is applied annually to calculate incentives/disincentives. The contractual acceptable range is 90 – 95% for 2,477 consumable items. Since contract award the average material availability rate has been 93%. In addition to material availability, GEAE is also responsible for forecasting, managing obsolescence, and coordinating and synchronizing the supply chain for all of the items.

Material Reliability: The contractor manages configuration and process improvements on an accelerated basis to propose configuration or other output product changes, which enhances the overall life cycle performance of the items listed in the contract. This contract allows GEAE to consistently perform reliability analysis, recommend reliability enhancements, develop bills of material, and bring these enhancements to fleet implementation. GEAE, as the Original Equipment Manufacturer (OEM), develops and controls the GE F404 Engine and associated manufacturing specifications that are necessary to forecasting, planning, manufacturing, and

developing fleet management plans for life-cycle and reliability events. These events include reduction of allowable operating life of inferior parts (life step-downs).

Ownership Cost Management: The contractual approach of just-in-time delivery continues to reduce DLA's inventory while maintaining an average of 93% material availability to the warfighter. Reduction of inventory and holding costs are paramount to ownership cost management. This initiative allows GEAE to calculate requirements, coordinate production and shipping schedules, obtain pricing and scheduling advantages, and eliminate duplication of costs that multiple contracts with multiple contractors would incur. DLA has realized cost savings of $53.4 million in the areas of product-pricing levels, inventory reduction and holding costs, operational infrastructure reductions, and reduced labor costs. For instance, since General Electric performs collaborative forecasting with DLA and the Navy, a DLA Demand Planner is not required.

SUSTAINMENT OF WARFIGHTER CAPABILITIES

Public-Private Partnering: The F404 S2C PBL has been able to increase the worldwide supportability of the F404 Engine through working together in a public-private partnership with GEAE. The partnership enables GEAE to provide optimum support by leveraging commercial best practices into the DLA logistics processes. Relationship management of OEM and suppliers is critical to ensure successful support of the F404 Engine. DSCR awarded the F404 S2C PBL to General Electric Aircraft Engines (GEAE) on September 16, 2005, and final expiration is September 15, 2010. The firm-fixed price contract consists of a three-year base period and one two-year option period. The common goal of the Government and contractor is successful development, implementation, and execution of the F404 S2C PBL contract to achieve the highest level of warfighter operational readiness. The contractor is expected to maximize the

subcontracting opportunities for small business. Currently, there is an increase of 18% in small business participation compared to the pre-contract situation.

Systems Engineering Approach: The F404 S2C identifies opportunities for supportability improvements through the Engineering Change Proposal (ECP) process. Since General Electric has full management of the material, it strives to expedite introductions of new designs. As an example, General Electric proposed a design change through an Engineering Change Proposal for improved durability of a #5 Carbon Seal. The #5 Carbon Seal had previously developed cracks and leaks during engine operation, making it one of the top two causes of unscheduled engine removals and catastrophic failure. Other examples of ECPs include a new version of MAG Plugs which establish new oil contamination limits and the introduction of a Royal Australian Air Force (RAAF) Oil Pressure Transmitting Bracket. This improved bracket eliminated the vibration of the pressure transmitter. Prior to this enhancement, complete engine removals were necessary to correct the problem.

Footprint Reduction: This initiative has successfully accomplished the focus on increasing inventory turn rates by decreasing safety stock levels, while at the same time increasing material availability and decreasing backorder requisitions. DLA continues to hold inventory due to DLA's lower material management cost and existing infrastructure. For 28% of the item population, the Administrative Lead Time (ALT) has been reduced from 120 days to 7 days. The ALT reduction results from elimination of duplicative procurement processes and price negotiations.

Obsolescence Management: The contractor has a robust Configuration Management Plan in process to control configuration management activities that include procedural routines and disciplines in the fundamental elements dealing with configuration identification, change control,

configuration audits, and change management. These processes allow a streamlined approach to the coordination with the Engineering Support Agency (ESA) for any configuration changes to the material supported in this contract. GEAE coordinates closely with the Navy on Engineering Change Proposal (ECP) schedules to balance fleet readiness and obsolete inventory. Over the course of the F404 S2C, there were eleven design changes that were completed or introduced, and the S2C Team worked vigorously to ensure the supply of old parts was adequate to support requirements while simultaneously working to ensure the taxpayer was not paying for inventory that was no longer useful.

Reliability, Maintainability, and Supportability Improvements: Reliability, Maintainability, and Supportability have all improved under this initiative due to GEAE's ability to have oversight of the depot maintenance and supply chains under this PBL. The S2C Team integrated with the Navy's Fleet Support Team (FST) to respond to an 18% increase in F404 Engine overhauls. Utilizing data from the Navy's Readiness Based Forecasting Model (RBFM), the S2C Team increased production of critical engine parts to ensure material was available when needed. When overhauls in the first quarter of FY09 spiked 34% greater than planned, the S2C Team quickly coordinated with vendors throughout the supply chain to expedite deliveries. As a result of the S2C Team's pro-active approach, the Navy was able to maintain its planned engine production and the fleet remained supportable as the ready spares level was achieved. The PBL offers economies of scale and an integrated approach that gives the contractor leverage to manage resources and information needed to perform at the required contractual levels. This leverage and informational insight allows General Electric to manage the production cycles to anticipate requirements and coordinate production and shipping schedules; obtain pricing and scheduling advantages that are unavailable to individual parts suppliers; decrease the level of

investment in inventory; and eliminate duplication of costs that multiple contracts with multiple contractors would incur.

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

Section 4

Achievements

The DLA F404-Synchronized Supply Chain (S2C) Performance-Based Logistics (PBL) Team, comprised of personnel from Aviation, Land, Maritime, and Construction and Equipment Supply Chains, has a common goal for successful implementation and execution of the contract. The objective is to achieve the highest level of warfighter operational readiness. This contract has been extremely important to the warfighter by increasing material availability, improving reliability and obsolescence management. The partnerships between GEAE, DLA, DCMA and the Navy, established in implementing and executing this PBL contract, are paramount and evident in the successful outcomes of the performance and metrics. This partnership shows success by insuring the proper configuration and parts availability to the warfighter, and has maintained an average 93% material availability, cost savings of $53.4 million and an 18% in small business participation. As a result of this innovative contractual arrangement, targeted performance outcomes and collaborative partnerships between industry and the government, support to the F404 engine community and weapons system readiness continues to improve.