The Secretary of Defense Performance-Based Logistics Awards Program

For

Excellence in Performance-Based Logistics
Life Cycle Product Support

Section 2

Summary of Criteria Accomplishments

Introduction: From its inception, the Joint STARS Total System Support Responsibility (TSSR) contract has been recognized as the pathfinder in the Air Force for Performance Based Logistics (PBL). Although the TSSR contract was implemented prior to the establishment of "Performance Based Logistics" policy, the tenets of PBL were in existence and were included in the development and implementation of the Joint STARS TSSR contract. Product support for the Joint STARS E-8C weapon system is provided by a TSSR contract that combined almost a dozen smaller contracts and established Northrop Grumman Corporation (NGC) as the Product Support Integrator (PSI). The current Joint STARS PBL Contract was awarded September 2000 with a six-year basic period and potential 22-year term. To date, Northrop Grumman has earned twelve additional years extending the contract out to 2018. Graph 1 is a summary of the history of the TSSR contract. Contract goals are to maximize aircraft availability and provide trained crews while reducing cost. The complexity of integrating the Joint STARS product support strategy into a functioning, integrated whole is considerable. The TSSR team brought together a tapestry of interwoven checks, balances and incentives to drive desired outcomes. (Graph 2) Incentivized performance metrics, detailed in Graph 3, were developed and incorporated in the two performance based agreements called the Award Fee Plan and the Award Term Plan.

Mission Success: Since the beginning of OEF/OIF more than 72,800 mission hours have been flown with a 96% mission effectiveness rate. There have been an additional 501 non-mission sorties flown for a total of 3,851 non-mission flight hours.

Materiel Availability: The Joint STARS PBL supports 6,141 total National Stock Numbers (NSNs). This current contract year, an average of 450 wholesale demands were processed monthly with an average mission capable (MICAP) delivery time of 30 hours. Stockage effectiveness for all contractor managed items from November 2000 to October 2010 averages 96.9% for the life of this contract. This past contract period, Not Mission Capable Supply Contractor (NMCS-C) was 1.4% against ACC standard of 4.9% and contract life average is 1.8%. Readiness Spares Packages (RSP) fill rates have consistently been at or above 96% for the life of the contract.

Materiel Reliability: Performance has been superior with 99.7% of scheduled OEF/OIF missions flown with a 96% mission effectiveness rate. Baseline flying hour projections are approximately 7,850 hours, but Joint STARS has experienced actual flying hours of nearly 14,000 for the past several years, yet still maintained superior reliability and performance supporting numerous contingency operations.

Ownership Cost Reduction: In 2007, the Air Force analyzed the business case for the PBL and determined significant savings had generated, most of which have been reinvested in the program. The Business Case Analysis (BCA) was validated by HQ AFMC/FM in November 2007. The TSSR contract contains incentivized financial goals to maintain cost at or below 98 percent of the annual contract total. As of TSSR Year 10, savings in the amount of $45.945M have provided funding for many unexpected requirements (i.e., unfunded software maintenance, Over and Above (O&A) requirements, drop-in maintenance, etc.). The existing TSSR contract

had the highest Benefit Score when compared to other alternatives and also had the least Cost per Unit of Benefit. It should also be noted the cost comparisons contained in the analysis did not include any penalty charges for terminating the contract for the years already earned by the contractor under the Award Term Incentive Strategy.

Public-Private Partnering: Program oversight is provided by the Joint STARS TSSR Program Management Team located at Warner Robins Air Logistics Center (WR-ALC). NGC is fully accountable for Original Equipment Manufacturer (OEM) and vendor tasks, depot performance under a work share agreement and management of platform unique items. Depot and depot-level repair work is executed via partnership agreement between the organic depot at WR-ALC and NGC. NGC performs periodic depot maintenance and modifications on Joint STARS and all software integration. Software maintenance activities are performed by both the WR-ALC organic depot and NGC, Melbourne FL, with a gradual transition from the contractor to the organic depot to ensure compliance with the Air Force core determination. Likewise, some Prime Mission Equipment (PME) repair is performed by WR-ALC under partnership, while other PME repair is handled by NGC. NGC also maintains Implementation Agreements with WR-ALC for back shop support, chemical lab support and Precision Measurement Equipment Laboratory support. Rather than the traditional approach to TSSR, which tended to be a platform-level agreement with broad scope provided to the PSI, the organic structure maintains an active and visible role in directing, managing and executing the product support strategy. It is an integrated approach bringing together core competencies across the breadth of the industrial base and tailoring the portfolio to meet the requirements of this strategic weapons system. The net effect is an active and valuable role for the depots.

Systems Engineering Approach: Joint STARS weapon system engineering, including the PSI, integrates and coordinates processes and procedures for system evolution, testing and sustainment. The process objective is to plan and manage the modernization and sustainment of the Joint STARS weapon system by performing a structured and rigorous systems engineering analysis to define capability requirements and integrate and coordinate acquisition strategies and corresponding funding requirements submissions to support the Joint STARS strategic rhythm. This coordinated effort allows the weapon system to leverage opportunities to partner beyond maintenance and work industrial integration in a more holistic way based on best value and core competencies. This process ensures testing is comprehensive and includes all perspectives to verify the specified capability requirements have been met.

Footprint Reduction: NGC has management responsibility for all Joint STARS peculiar materiel and equipment and inventory is stocked, stored and issued by the F74 Contractor Inventory Control Point (ICP). Government On-Line Data (GOLD) is used for data interchange and allows for interface with Enterprise Solution-Supply (ESS). This provides a single-point interface with all government activities and ensures system interfaces with required government systems to ensure demand data is collected. Assets required at OCONUS locations are shipped worldwide using the fastest, most cost effective transportation available. Supply chain responsibilities are configured to permit sourcing of parts from commercial supply chains which allows for weapon system footprint reduction.

Obsolescence Management: NGC Joint STARS TSSR Diminishing Manufacturing Sources and Materiel Shortages (DMSMS) Team was recently recognized as a premier program when they were awarded the DOD DMSMS 2009 Annual Achievement Award. A working group

comprised of members from 577 ACSS, 116 Air Control Wing (ACW), 751 Electronics System Group (ELSG), Air National Guard (ANG), ACC and NGC meet bi-annually and proactively manage hundreds of solutions for mitigating and managing obsolescence for commercial aircraft assemblies using the applications of cost-effective Lean Six-Sigma principles. Since establishment of the Joint STARS TSSR DMSMS Program, more than 400 DMSMS issues have been identified and worked through to resolution. The team actively manages 16,000 components, 4,500 aircraft assemblies and 91 Commercial Off The Shelf (COTS) items. The DMSMS program ensures all parts and materiel needed to produce or repair the platform are available, reduces and controls Total Ownership Cost (TOC), minimizes and eliminates reactive DMSMS actions, evaluates design alternatives when necessary, provides for risk mitigation as it applies to DMSMS and evaluates more than one approach to resolve DMSMS issues and collects metrics to monitor process effectiveness. The DMSMS team saved $8M in redesign funds by initiating lifetime buys for Joint STARS prime mission equipment.

Reliability, Maintainability and Supportability Improvements: The Programmed Depot Maintenance (PDM) team recently recommended procedure changes for performing digital x-rays in lieu of a more time consuming and potentially damaging removal and replacement of fuel tank sealant to comply with the Supplemental Structural Inspection Document (SSID) visual inspection requirements. This alternate method will save thousands of labor hours on future PDM aircraft and is indicative of team efforts consistently pursued by entire team over the life of the TSSR contract to achieve superior weapon system support. The E-8C weapon system's number one critical item is the Vapor Cycle Machine (VCM). By working with their sub-vendor and providing solid guidance to the 116 ACW maintainers, they were able to reduce minor repairs by 26 days and major overhauls by 41 days. This open communication with the customer

reflects a good example of sound management effectiveness to address issues from all shareholder perspectives.

AWARD FEE/AWARD TERM SUMMARY OF PAST PERFORMANCE
(Graph 1)

Period	Percentage Earned	Points Earned	Number of Additional Years
01-1	96.00%		
01-2	98.00%	129.2	1
02-1	97.50%		
02-2	98.00%	160	1
03-1	100.00%		
03-2	98.00%	184	1
04-1	99.00%		
04-2	98.00%	200	2
05-1	98.90%		
05-2	99.00%	166.3	1
06-1	99.80%		
06-2	98.90%	205.7	1
07-1	98.70%		
07-2	99.90%	231.1	1
08-1	98.70%		
08-2	99.80%	279.3	2
09-1	96.80%		
09-2	98.70%	167.2	1
10-1	97.30%		
10-2	98.30%	236.7	1

* Requirement changed from 100 points equals one year to 125 points equals one year of term.

TECHNICAL PERFORMANCE MEASURES USED FOR AWARD FEE/AWARD TERM OF TSSR CONTRACT
(Graph 2)

Technical Performance Measures

	DEPOT POSSESSED AIRCRAFT	NOT MISSION CAPABLE SUPPLY(C) (%)	AVERAGE MICAP DELIVERY (HOURS)	RSP FILL RATE (%)	IFT SORTIE EFFECTIVENESS		COLOR RATING
WEIGHT	20	8	4	2	10		
91-100	3.0 - 3.6	4.9 - 5.3	36.0 - 39.9	94.7 - 95.0	95 - 100	Objective	BLUE
76-90	3.7 - 4.6	5.4 - 6.2	40.0 - 49.9	92.2 - 94.6	91 - 94.9		LT BLUE
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
0-50	5.9 - 6.5	7.1 - 8.0	66.0 - 102.1	80.0 - 86.1	83.1 - 84.9	Threshold	GREEN
0	>6.5	8	102.1	80	<83		RED

Technical Performance Measures (cont'd)

	TRAINER AVAILABILITY	AFTO FORM 22 INCORPORATION	FLIGHT MANUAL CONF REVIEW TASKS	SOFTWARE PRODUCTIVITY	PDM AIRCRAFT QUALITY		COLOR RATING
WEIGHT	2	2	2	6	4		
91-100	97.1 - 98.0	96.1 - 98.0	96.1 - 98.0	96.1 - 98.0	0.8 - 0.9	Objective	BLUE
76-90	94.1 - 97.0	93.1 - 96.0	93.1 - 96.0	93.1 - 96.0	1.0 - 1.2		LT BLUE
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
0-50	85.0 - 89.1	79.9 - 88.0	79.9 - 88.0	79.9 - 88.0	1.8 - 2.7	Threshold	GREEN
0	<85	<79.9	<79.9	<79.9	>2.7		RED

EVALUATION CRITERIA FOR TSSR CONTRACT
(Graph 3)

EVALUATION AREA	WEIGHT
TECHNICAL PERFORMANCE	**60%**
Depot Possessed Aircraft	20%
Not Mission Capable Supply (C) (%)	8%
Average MICAP Delivery (Hours)	4%
RSP Fill Rate (%)	2%
IFT Sortie Effectiveness (%)	10%
Trainer Availability	2%
AFTO Form 22 Incorporation	2%
Flight Manual Conference Review Tasks	2%
PDM Aircraft Quality	4%
Software Productivity	6%
COST PERFORMANCE TO CONTRACT ESTIMATE	**20%**
CUSTOMER SUPPORT	**20%**
Training Effectiveness	6%
Weapon System Support, Field Service Representatives (FSRs), and Supply Chain Management (SCM)	5%
Engineering Support	3%
Technical Data Management	1%
Program Control and Management Effectiveness	4%
Quality	1%

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Section 4

Achievements

Joint STARS is a complex suite of technology riding on a very antiquated airframe, the Boeing 707. Yet, despite these challenges this platform has consistently met all requirements. The Joint STARS TSSR team has brought together a tapestry of interwoven checks, balances and incentives to drive desired outcomes.

Initially awarded with a six-year base period, the Joint STARS contract was configured to allow up to two additional years of contract extension, based solely on performance, during each year. Eighty percent (80%) of the award fee recommendation is driven by specific and defined performance outcomes, and it is clear the platform is performing. There is also a defined protocol for making award term decisions. Once Award Terms are considered, the Joint STARS TSSR Contract contains powerful incentives to both perform and to make life cycle decisions across a long horizon. At the end of 2010, Northrop Grumman had already earned contract extensions through 2018.

Following Business Clearance Approval on the morning of 8 April 2011, the TSSR Team, including the Navy Price Fighters, spent thirteen days of tough negotiations with a large cadre of Northrop Grumman personnel at the local contractor facility. While the Government fact-finding efforts had already reduced the contractor's proposal nearly 5%, the Government's initial counter-offer trimmed another 15%, sending a strong message the TSSR team was serious about achieving cost reductions. The Contractor and Government teams worked tirelessly for nearly two weeks, averaging 12-14 hours per day, trading offers with significant detailed explanations via an electronic workbook process, before finally reaching an agreement on 21 April. In the

end, the Government team achieved more than 12% ($74.5M) savings off the original proposal. From its inception, the Joint STARS TSSR program has been recognized as a pathfinder in the Air Force. First awarded September 15, 2000, the Under Secretary of Defense for Acquisition, Technology and Logistics selected the Joint Surveillance Target Attack Radar System (JSTARS) Future Support Team to receive the David Packard Excellence in Acquisition Award. At the time, the Defense Contract Management Agency said, "This innovation sets a benchmark for partnering with industry and leverages that relationship to increase weapons system availability while reducing operating costs."