
August 9, 2006



Logistics

Implementation of Performance-Based Logistics for the Joint Surveillance Target Attack Radar System (D-2006-105)

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Acronyms

BCA	Business Case Analysis
Joint STARS	Joint Surveillance Target Attack Radar System
NGC	Northrop Grumman Corporation
PBA	Performance-Based Agreement
PBL	Performance-Based Logistics
SPM	System Program Manager
SSM	System Support Manager
TSSR	Total System Support Responsibility
USD(AT&L)	Under Secretary of Defense for Acquisition, Technology, and Logistics



INSPECTOR GENERAL
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August 9, 2006

MEMORANDUM FOR UNDER SECRETARY OF DEFENSE FOR ACQUISITION,
TECHNOLOGY, AND LOGISTICS
ASSISTANT SECRETARY OF THE AIR FORCE
(FINANCIAL MANAGEMENT AND COMPTROLLER)
ASSISTANT SECRETARY OF THE AIR FORCE
(ACQUISITION)

SUBJECT: Report on Implementation of Performance-Based Logistics for the Joint
Surveillance Target Attack Radar System (Report No. D-2006-105)

We are providing this report for review and comment. We considered management comments on a draft of this report in preparing the final report.

DoD Directive 7650.3 requires that all recommendations be resolved promptly. The comments provided by the Military Deputy, Office of the Assistant Secretary of the Air Force (Acquisition) on behalf of the Assistant Secretary of the Air Force (Acquisition) were responsive on all but one recommendation. We request that the Assistant Secretary of the Air Force (Acquisition) provide comments clarifying his position on Recommendation 2.e. by August 25, 2006.

If possible, please send management comments in electronic format (Adobe Acrobat file only) to AudRLS@dodig.mil. Copies of the management comments must contain the actual signature of the authorizing official. We cannot accept the / Signed / symbol in place of the actual signature. If you arrange to send classified comments electronically, they must be sent over the SECRET Internet Protocol Router Network (SIPERNET).

We appreciate the courtesies extended to the staff. Questions should be directed to Mr. Robert F. Prinzbach at (703) 604-8907 (DSN 664-8907) or Mr. Keith A. Yancey at (703) 604-8774 (DSN 664-8774). See Appendix C for the report distribution. The team members are listed inside the back cover.

A handwritten signature in black ink that reads "Wanda A. Scott".

Wanda A. Scott
Assistant Inspector General
Readiness and Operations Support Directorate

Department of Defense Office of Inspector General

Report No. D-2006-105

August 9, 2006

(Project No. D2005-D000LH-0046.000)

Implementation of Performance-Based Logistics for the Joint Surveillance Target Attack Radar System

Executive Summary

Who Should Read This Report and Why? DoD personnel and Government contractors responsible for implementing performance-based logistics (PBL) should read this report. The report discusses implementation of PBL for the Joint Surveillance Target Attack Radar System (Joint STARS).

Background. PBL is the DoD-preferred approach for implementing product support. The approach is a strategy for weapon system life-cycle sustainment that links product support to weapon system performance. The goal of PBL is to optimize total system availability while minimizing cost and the logistics footprint. Logistics footprint is the amount of support required to deploy, sustain, and move a weapon system. PBL places accountability for product support on the program manager. The program manager may use organic (DoD) support, commercial sector support, or a partnership between organic and commercial providers. The PBL may involve arrangements between public and private sectors or between two public organizations. The Assistant Deputy Under Secretary of Defense (Logistics Plans and Programs) oversees implementation of PBL.

The Defense Planning Guidance for FY 2003 through FY 2007 required that each Military Department submit a plan that would identify its implementation schedule for applying PBL to any new weapon system as well as any Acquisition Category I and II fielded system. On June 25, 2004, the Air Force identified that it implemented PBL for Joint STARS.

The Joint STARS aircraft, which is an Acquisition Category I program, is a joint development project of the Air Force and the Army. The aircraft provides an airborne, stand-off range, surveillance and target acquisition radar and command and control center. Joint STARS conducts ground surveillance and helps commanders understand an enemy situation as well as supports attack operations and targeting. Joint STARS detects, locates, classifies, tracks, and targets hostile ground movements, communicating real-time information through secure data links between Air Force and Army command posts. The Joint STARS was first deployed in Operation Desert Storm in 1991 and began full rate production of 14 aircraft in September 1996. As of December 1, 2005, 17 aircraft are in the Air Force inventory.

Results. The Joint STARS System Program Manager did not fully implement PBL initiatives for the Joint STARS weapon system. As a result, the System Program Manager cannot support that the Joint STARS weapon system is achieving the desired outcomes of PBL, such as reducing life-cycle costs and increasing system availability. We recommend that the Assistant Secretary of the Air Force (Acquisition) distribute

DoD policy memorandums and guides for implementing performance-based logistics. We also recommend that the System Program Manager develop performance-based agreements with the warfighter, develop a strategy that implements performance requirements, and analyze Joint STARS cost and resource data and develop baselines. Further, we recommend that the System Program Manager develop a business case analysis based on warfighter requirements and baselines, develop performance measures that promote the goal of increased system readiness and reductions in life-cycle costs and logistics footprints for Joint STARS, and analyze transitioning the total system support responsibility contract to a firm-fixed price contract. (See the Finding section for the detailed recommendations.)

Management Comments and Audit Response. The Military Deputy, Office of the Assistant Secretary of the Air Force (Acquisition) provided comments on behalf of the Assistant Secretary of the Air Force (Acquisition). The Military Deputy partially concurred with our draft finding that the System Program Manager did not fully implement the PBL initiative for Joint STARS. The Military Deputy stated that the Joint STARS System Program Manager did not retroactively apply PBL principles as a result of the total system support contract, which was a model for sustainment approach before the PBL guidance.

The Military Deputy concurred with our recommendation to distribute DoD policy memorandums and guides to each Product Center for implementing PBL and with our recommendation to analyze Joint STARS cost and resource data as well as develop baselines for developing a business case analysis. The Military Deputy also agreed with our recommendation to analyze the impact of transitioning the total system support contract from a cost-plus contract to a firm-fixed priced contract. No further comments are required.

The Military Deputy also partially concurred with our recommendation to develop performance-based agreements and a strategy that implements performance requirements from those agreements into the Joint STARS total system support responsibility contract. He stated that improvements will be made to the scope, objective, and performance of the performance-based agreement. The Military Deputy partially concurred with our recommendation to develop a business case analysis using baselines, stating a forward-looking business case analysis will be conducted in accordance with policy guidance and assess alternative solutions that will meet the objectives of the warfighter. The Air Force comments are responsive, and no further comments are required.

The Military Deputy partially concurred with our recommendation to develop performance measures for the Joint STARS contract that will promote the goal of increasing system readiness, reducing life-cycle costs, and reducing the logistics footprint. However, the Military Deputy stated that those goals were already in the memorandum of agreement. The Air Force comments were partially responsive. The memorandum of agreement was not clear that it contained established goals of increasing system readiness, reductions in total life-cycle costs, and reductions in the logistics footprints. We request that the Assistant Secretary of the Air Force (Acquisition) clarify his response to develop new performance measures in meeting those goals and provide additional comments to the final report by August 25, 2006. See the Finding section of the report for a discussion of management comments and the Management Comments section for the complete text of comments.

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Background

Performance-Based Logistics. Performance-based logistics (PBL) is the DoD-preferred approach for implementing product support. The approach is a strategy for weapon system life-cycle sustainment that links product support to weapon system performance. The goal of PBL is to optimize total system availability while minimizing costs and the logistics footprint. Logistics footprint is the amount of support required to deploy, sustain, and move a weapon system. PBL places accountability for product support with the program manager. The program manager has several options available for obtaining product support. Those options include areas such as organic (DoD) support, commercial support, or a partnership between organic and commercial providers.

Office of the Secretary of Defense Implementation of PBL. In September 2001, the Quadrennial Defense Review¹ mandated implementation of PBL for DoD acquisitions. The Under Secretary of Defense for Acquisition, Technology, and Logistics (USD[AT&L]) assigned the Assistant Deputy Under Secretary of Defense (Logistics Plans and Programs) with the responsibility of overseeing the DoD implementation of PBL.

Key Guidance for Implementing PBL. Since the 2001 Quadrennial Defense Review mandated implementation of PBL, the USD(AT&L) and the Air Force have issued policy memorandums, support guides, and instructions designed to facilitate implementing PBL for DoD acquisitions, both new and fielded. Guidance includes the following:

- USD(AT&L) memorandum, dated February 13, 2002, states that the FY 2003-07 Defense Planning Guidance requires that each Military Department submit a plan identifying its implementation schedule for applying PBL to all Acquisition Category I and II² new and fielded weapon systems. The memorandum provides guidelines for preparing PBL implementation schedules as well as information that further guidance for developing PBL strategies and implementation is contained in the November 2001 document, “Product Support for the 21st Century: A Program Manager’s Guide to Buying Performance.” The guide requires that Program Managers implement PBL on new systems and on Acquisition Category I and II fielded systems on the basis of a sound business case analysis that looks at alternative support strategies.
- DoD Directive 5000.1, “The Defense Acquisition System,” May 12, 2003, establishes policies for acquisition programs in DoD. The Directive states

¹ The Quadrennial Defense Review is the strategic planning document for DoD to transform its defense planning to a model capable of dealing with threats in the 21st century.

² The acquisition category determines an acquisition program’s level of review, decision authority, and applicable procedures. Acquisition Category I programs are acquisition programs with an estimated total expenditure for research, development, test, and evaluation of more than \$365 million or procurement of more than \$2.19 billion. Acquisition Category II programs have an estimated total expenditure for research, development, test, and evaluation of \$365 million or less but more than \$140 million or procurement of \$2.19 billion or less but more than \$660 million.

that Program Managers must develop and implement PBL strategies that optimize total system availability while minimizing cost and the logistics footprint.

- In November 2004, the “Performance Based Logistics: A Program Manager’s Product Support Guide” superseded the Program Manager’s Guide to Buying Performance. The Product Support Guide is designed to help managers develop product support strategies for new programs and help reengineer product support for existing fielded systems.
- Air Force Instruction 63-107, “Integrated Product Support Planning and Assessment,” November 10, 2004, contains the PBL guidance for the Air Force. The Instruction provides policy for integrated product support planning and assessment for implementation of PBL. The Instruction states that the program manager must ensure that logistics, as a process for weapon system support, serves two key objectives: (1) system readiness is increased through integrated logistics and (2) resources required to fulfill support requirements are minimized.

Implementing PBL Initiatives for the Joint Surveillance Target Attack Radar System. The Joint Surveillance Target Attack Radar System (Joint STARS) aircraft is an Acquisition Category I program. The system is a joint development project of the Air Force and the Army that provides airborne, stand-off range, surveillance and target acquisition radar and command and control. It can conduct ground surveillance to help commanders understand the enemy situation and support attack operations and targeting. As of December 1, 2005, the Air Force had 17 operational Joint STARS aircraft in its inventory. The 116th Air Control Wing (warfighter), Robins Air Force Base, Georgia, is the primary user of the aircraft. The program management office for Joint STARS is the System Program Manager (SPM), located at the Electronic Systems Center, Hanscom Air Force Base, Massachusetts. The System Support Manager (SSM), Warner Robins Air Logistics Center at Robins Air Force Base, manages the Joint STARS sustainment responsibilities for the SPM.

In response to the FY 2003-07 Defense Planning Guidance requirement to submit a plan identifying a schedule for applying PBL to all new weapon systems and all Acquisition Category I and II fielded systems, the Air Force stated in June 2004 that the Joint STARS program implemented PBL initiatives. The Air Force made its decision based on the September 2000 award of a contract to Northrop Grumman Corporation (NGC) for total system support responsibility (TSSR). The Air Force supported its decision on several performance incentives in the TSSR contract. Under the TSSR contract, NGC is the weapon system integrator providing life-cycle sustainment support. The goals of the TSSR contract are to increase weapon system availability and decrease total ownership costs. The TSSR contract has a 6-year base period with a potential for NGC earning as many as 16 additional years for a maximum value of \$7 billion over the life of the contract.

Objectives

Our overall audit objective was to evaluate the effectiveness of the Air Force implementation of PBL for the Joint STARS. Specifically, we assessed the adequacy of the business case analysis (BCA) and determined whether implementation of PBL resulted in improvement of system availability, readiness, and cost. We also reviewed the management control program as it related to the overall objective. See Appendix A for a discussion of the scope and methodology. See Appendix B for prior coverage related to the objectives.

Management Control Program Review

DoD Directive 5010.38, "Management Control Program," August 26, 1996, and DoD Instruction 5010.40, "Management Control Program Procedures," August 28, 1996, require DoD organizations to implement a comprehensive system of management controls that provides reasonable assurance that programs are operating as intended and to evaluate the adequacy of the controls.

Scope of the Review of the Management Control Program. We reviewed the adequacy of Air Force implementation of PBL through our audit of the Joint STARS SPM and SSM processes and procedures for implementing PBL for the Joint STARS weapon system. We also reviewed management's self-evaluation of those processes and procedures.

Adequacy of Management Controls. The Air Force SPM and SSM did not know the processes and procedures USD(AT&L) issued for PBL. The processes and procedures the SPM and the SSM used were insufficient to ensure full implementation of PBL for Joint STARS. USD(AT&L) issued PBL policy memorandums and guidance to the Air Force. Because the SPM and the SSM stated they did not receive USD(AT&L) PBL documentation from the Air Force and were unaware of its requirements, we provided them copies of those documents. We do not consider this weakness in issuing policies and procedures a material weakness as DoD Instruction 5010.40 defines. We discussed the weakness with personnel from USD(AT&L) and Air Force, who stated that reiteration of the policies and procedures for implementing PBL were needed. The recommendation, if implemented, will correct the management control weakness cited (see Recommendation 1). A copy of the report will be provided to the senior official responsible for management controls in the Air Force.

Adequacy of Management's Self-Evaluation. Neither the SPM nor SSM identified initiatives of PBL to include the development of a BCA, performance baselines, performance outcomes, and performance-based agreements with the warfighter, as an assessable unit. Therefore, the program office did not identify or report the control weakness.

Implementation of Performance-Based Logistics on the Joint STARS Weapon System

The Joint STARS SPM did not fully implement PBL initiatives for the Joint STARS weapon system. The lack of full implementation occurred because the SPM did not reassess the Joint STARS support strategy and incorporate USD(AT&L) guidance for implementing PBL. As a result, the SPM cannot support that the Joint STARS weapon system is achieving the desired outcomes of PBL, such as reducing life-cycle costs and increasing system availability.

Applying PBL Initiatives to DoD Weapon Systems

“Performance Based Logistics: A Program Manager’s Product Support Guide” (Product Support Guide), November 2004, states that PBL uses a performance-based acquisition strategy that is developed, refined, and implemented during the systems acquisition process for new programs. The Product Support Guide further states that the strategy is **the result of an assessment of performance and support alternatives for fielded systems**. The Product Support Guide describes the essence of PBL as buying performance outcomes, not the individual parts and repair actions. Such a major shift from the traditional approach to product support emphasizes what level of support program managers buy, not who they buy from. In a memorandum issued by the Acting USD(AT&L), “Performance Based Logistics: Purchasing Using Performance Based Criteria,” August 16, 2004, it stated that application of the PBL concept may take place at the system, subsystem, or major assembly level depending on program unique circumstances.

The Product Support Guide presents a 12-step methodology for implementing PBL that is applicable to new, modified, or fielded systems. Those 12 steps are:

1. Integrate requirements and support
2. Form the PBL team
3. Baseline the system
4. Develop performance outcomes
5. Select the product support integrator
6. Develop a workload allocation strategy
7. Develop a supply chain management strategy
8. Perform a PBL business case analysis
9. Establish performance based agreements
10. Award contracts
11. Employ financial enablers
12. Implement and assess

According to the Product Support Guide, the PBL implementation process is not intended as rigid. In fact, the Product Support Guide states that the order in which steps are taken can be flexible and allows for omission of some steps. Our review of PBL implementation for the Joint STARS weapon system focused on four of the key steps to implementing PBL: establishing performance-based agreements with the warfighter; baselining the system; developing a BCA; and developing performance outcomes.

Establishing Performance-Based Agreements with the Warfighter

The Joint STARS sustainment strategy lacks support of fully developed PBAs with the warfighter.

DoD Instruction 5000.2, "Operation of the Defense Acquisition System," May 12, 2003, states that, "the program manager shall work with the users to document performance and support requirements in performance agreements specifying objective outcomes, measures, resource commitments and stakeholder responsibilities."

In addition to the Instruction, the Product Support Guide states that a PBA creates a clear understanding of the outcomes and the commitments required for achieving those outcomes among stakeholder parties. Typically, a PBA identifies the warfighter's expected performance goals and objectives, such as availability and cost, and establishes a target price based on the desired level of performance. Documentation of a completed, approved, and funded PBA with a targeted price based on the desired outcome is a critical step in any PBL implementation.

The Joint STARS SSM identified two memorandums of agreement with the warfighter as PBAs. Those memorandums, one dated June 11, 1998, and the other dated September 15, 2004, did not incorporate the warfighter's expected performance goals, objectives, and target price based on the desired level of performance. For example, an Air National Guard official stated that having only three aircraft in scheduled depot maintenance at any given time is a goal of the warfighter. However, this goal was not documented in a PBA or an updated memorandum of agreement. In addition, the goal was not included as a performance measure in the TSSR contract. Our review of the records for the Joint STARS scheduled depot maintenance showed the average number of aircraft in scheduled maintenance per month for FY 2004 was 5.4 aircraft. Had the warfighter goal of three aircraft in scheduled depot maintenance been met in FY 2004, at least two additional aircraft would have been available to the warfighter. Developing PBAs or updating the existing memorandums of agreement based on current warfighter requirements will help ensure the attainment of warfighter goals through the TSSR contract.

Baselining Costs and Performance

The Joint STARS SPM did not develop cost and performance baselines for the Joint STARS weapon system before the August 2000 approval by Air Force acquisition officials. In addition, when the Product Support Guide was issued, the Joint STARS SPM did not reassess performance baselines.

The Product Support Guide states that to develop an effective support strategy, a program manager should identify differences between existing and desired performance requirements. Therefore, the program manager identifies and documents the current performance and cost baselines. For existing systems, baseline assessments form the basis for the BCA of PBL approaches being considered. Determination of the sustainment and readiness performance history and associated operations and support cost is essential. Therefore, actual data, when available, should be used for fielded systems.

The Defense Acquisition University Web site contains a Toolkit to assist a program manager when creating and implementing PBL. One section of this Toolkit describes baselines as the starting point for measuring progress in the quality or quantity of work or performance related to either a product or service. **The section also states that baselines are not necessarily set only at the beginning of a program but should be reset as the program evolves so the program manager can document where they are at various milestones over the life cycle.**

The Joint STARS program office began developing the sustainment strategy in 1998. The original strategy called for a consolidation of up to 11 contracts into 2 major contracts—one sole-source and one competitive. The strategy was revised and the new strategy called for NGC being in charge of sustainment, which led to the integration of sole-source, competitive, and depot efforts. Several acquisition and weapon system personnel questioned the revised strategy because, according to acquisition personnel, officials needed a full understanding of the proposed costs and performance compared with the current baseline. Although questions about the baselines for Joint STARS were asked, acquisition officials determined that baselines were not necessary and none were documented. As of November 29, 2005, the Joint STARS SPM has not reassessed the Joint STARS sustainment strategy originally approved in August 2000. Now that production of Joint STARS aircraft is complete and more than 5 years of cost and performance data are available, an accurate baseline should be established and used in the development of a BCA and measurement of the sustainment strategy's performance.

Developing a Business Case Analysis

The Joint STARS SPM did not prepare a BCA to provide analysis of potential alternative support strategies.

The Product Support Guide states a PBL BCA is an expanded cost and benefit analysis created to help determine a best-value solution for product support. The warfighter's stated performance requirements, which are documented in a PBA, form the basis for a BCA. Development of a PBL BCA should determine at a minimum: (1) the relative cost versus benefits of different support strategies; (2) methods and rationale used for quantifying benefits and costs; (3) impact and value of performance, cost, schedule, and sustainment trade-offs; (4) data required to support and justify the PBL strategy; and (5) a recommendation and summary of the implementation plan for proceeding with the best value alternative.

The Product Support Guide further states that a BCA should be updated at appropriate decision points when sufficient cost and performance data are available for validating the assumptions used, including the costs of alternative approaches, projected cost savings, and expected performance levels. **The Product Support Guide also concludes that the BCA must stand on its own and be able to withstand the rigorous analysis and review of any independent audit agency.**

The Acting USD(AT&L) issued policy memorandum "Performance Based Logistics (PBL) and the Business Case Analysis (BCA)," on March 20, 2004. The memorandum states that the Strategic Planning Guidance requires that the Services complete a BCA by September 30, 2006, on all new and fielded Acquisition Category I and II programs for application of PBL sustainment strategies. Further, the memorandum states that the assessment should be conducted through a two-step process, with Step 2 the development of a formal BCA.

Although the TSSR contract predates formal PBL BCA requirements, DoD guidance at that time required that DoD evaluate alternative support strategies. DoD Instruction 7041.3, "Economic Analysis for Decisionmaking," November 7, 1995, requires that alternatives be evaluated and that the cost and benefits associated with each alternative under consideration be quantified and ranked when possible. Our review of the TSSR contract files showed that, although alternative sustainment support strategies were under consideration, senior Air Force acquisition officials determined that the TSSR sustainment approach would be chosen and a cost benefit analysis was not necessary.

When asked whether a BCA was developed for the Joint STARS weapon system based on PBL BCA guidance at the time, the SPM provided a series of briefing charts that included several charts described as the BCA. However, the SPM could not provide support for any of the projected savings for supply chain management, depot maintenance, or support response contained in the charts and did not include an analysis of alternatives.

Because the TSSR contract is more than 5 years old, sufficient cost data are available for the SPM to reassess the support strategy. To ensure that the TSSR contract is the optimum support strategy and meeting warfighter performance and cost requirements, increasing system availability, and reducing costs, the Joint STARS SPM should answer the USD(AT&L) requirement and complete a BCA for the Joint STARS weapon system by September 30, 2006.

Developing Performance Outcomes

While the TSSR contract contains several performance measures, it does not contain performance metrics that promote the PBL goal of increasing system readiness, reducing total ownership costs, and reducing the logistics footprint.

The Product Support Guide states that at the top level, performance outcomes and corresponding metrics should focus on warfighter needs: a system that is operationally available, reliable, and effective, with minimal logistics footprint and a reasonable cost.

An August 16, 2004, memorandum from the Acting USD(AT&L), “Performance Based Logistics: Purchasing Using Performance Based Criteria,” states that for PBL, performance is defined in terms of military objectives using operational availability, operational reliability, cost per unit usage, the logistics footprint, and logistics response time. PBL metrics should support that criteria. In addition, the memorandum provides guidance that states PBL contracts should be fixed price. In another USD(AT&L) memorandum dated November 22, 2005, the criteria from the August 16 memorandum was reiterated and directed the criteria’s use as the standard set of metrics for evaluating overall total life-cycle systems management.

For FY 2003 and FY 2004, Joint STARS was below the warfighter’s mission capability requirement. According to the SSM, factors impacting the ability of the warfighter to meet mission capability rates were engines, fuels, airframe, and flight control. The components, referred to as “bad actors,” are organically maintained through Service-level agreements between NGC and Air Force depots. DoD and Air Force guidance both include increased mission capability as a PBL goal. Furthermore, NGC did not have the responsibility for the “bad actors” and therefore, did not have total control over Joint STARS mission capability under the TSSR contract.

In October 2004, an Air Force Logistics Management Agency report entitled, “Performance Based Logistics Partnerships: Assessment of Implementation Methodologies for Selected Acquisition Category 1 and 2 Systems,” stated that Air Force systems, including Joint STARS, were not using high-level performance metrics. The report cited mission capability rate, improved product affordability, system reliability, and logistics footprint as examples of high-level metrics that measure success in meeting PBL performance goals.

Officials from the Air Combat Command and Air Force National Guard stated that the Air Force is studying mission capability rates as a performance driver. The Air Force is also looking into ways that will incorporate the Joint STARS mission capability rate into the TSSR contract.

Management Comments on the Finding and Audit Response

The Military Deputy, Office of the Assistant Secretary of the Air Force (Acquisition) provided comments on behalf of the Assistant Secretary of the Air Force (Acquisition). The Military Deputy partially concurred with our draft finding that the SPM did not fully implement PBL initiatives for Joint STARS, stating that the Joint STARS SPM did not retroactively apply PBL principles because the TSSR contract was a model for sustainment approach before PBL guidance. He also stated that the SPM agreed to rebaseline the sustainment cost using the TSSR contract data collected over the last 5 years, which will form the basis for a BCA for Joint STARS sustainment. The Military Deputy provided other comments on the draft finding which mirror their comments on each recommendation. Therefore, we discuss each of these in the Recommendation, Management Comment, and Audit Response section of the report.

Recommendations, Management Comments, and Audit Response

1. We recommend that the Assistant Secretary of the Air Force (Acquisition) ensure that DoD policy memorandums and guides are distributed to each Product Center for use in implementing performance-based logistics.

Management Comments. In responding for the Assistant Secretary of the Air Force (Acquisition), the Military Deputy concurred, stating that the Air Force will validate that policy memorandums and guidance for PBL are available to each Product Center, Program Executive Offices, and SPMs.

Audit Response. The Air Force comments are responsive, and no further comments are required.

2. We recommend that the System Program Manager for the Joint Surveillance Target Attack Radar System:

a. Develop performance-based agreements in conjunction with the 116th Air Control Wing based on warfighter performance requirements.

b. Develop a strategy that implements into the total system support responsibility contract performance requirements obtained from the performance-based agreements.

Management Comments. In responding for the Assistant Secretary of the Air Force (Acquisition), the Military Deputy partially concurred with Recommendations 2.a. and 2.b., stating that the Joint STARS program office memorandum of agreement specifies the level of support for warfighter requirements. Further, the Task Description Document, an attachment to the memorandum of agreement, integrates the negotiated support required from the contractor to manage system impacts. The Military Deputy also stated that plans were underway to revise the BCA in conjunction with the planned improvements to the scope, objectivity, and performance of their performance-based agreements.

The effort will provide an avenue for the SPM to improve warfighter support and overall weapon system performance for Joint STARS.

Audit Response. Although the Military Deputy partially concurred, the memorandum of agreement was not clear in specifying warfighter requirements. Therefore, the Task Description Document did not clearly specify the warfighter requirements for the Defense contractor. However, the Military Deputy's stated actions to revise the BCA in conjunction with the planned improvements to the scope, objectivity, and performance of their PBL agreements are responsive. No further comments are required.

c. Analyze current Joint STARS cost and resource data and develop baselines for use in developing a business case analysis.

Management Comments. In responding for the Assistant Secretary of the Air Force (Acquisition), the Military Deputy concurred and stated that the planned revision to the BCA will encompass accumulated contract performance data over the last 5 years in rebaselining the cost and performance history, which will shape the scope and content of future options for Joint STARS. The expected completion date for the action is September 30, 2006.

Audit Response. The Air Force comments are responsive, and no further comments are required.

d. Develop a business case analysis using baselines developed in Recommendations 2.a. and 2.c. above that would meet the deadline of September 30, 2006, that the Under Secretary of Defense for Acquisition, Technology, and Logistics established. The business case analysis should include an evaluation of alternative sustainment support strategies and cost benefits for the Joint STARS.

Management Comments. In responding for the Assistant Secretary of the Air Force (Acquisition), the Military Deputy partially concurred, stating that even though the Joint STARS program meets the intent of the USD(AT&L) implementation guidance, the Air Force will develop a forward-looking BCA. The Military Deputy further stated that he will assess alternative solutions that meet performance objectives of the warfighter and conduct an analysis that will consider quantifiable and nonquantifiable factors that support an optimum investment decision. The expected completion date for the action is March 31, 2007.

Audit Response. Although the Military Deputy partially concurred, the BCA it had in place did not meet the intent of the guidance that the USD(AT&L) issued. However, the Military Deputy's agreement to develop a BCA is responsive. Although the expected date of completion does not meet the USD(AT&L) required date, we accept the Air Force's actions to develop a forward-looking BCA in accordance with the policy guidance. No further comments are required.

e. Develop performance measures for the Joint STARS total system support responsibility contract that will promote the goal of increasing system readiness, reducing total life-cycle costs, and reducing the logistics footprint.

Management Comments. In responding for the Assistant Secretary of the Air Force (Acquisition), the Military Deputy partially concurred and stated that performance measures that promote the goal of system readiness, reduction in total life-cycle costs, and reduction of logistics footprint were already in the memorandum of agreement. Further, the Military Deputy stated that the Air Force uses a continuous improvement process that is based on warfighter requirements and experience. The impending revision to the BCA in conjunction with PBAs will provide avenues for the SPM to improve warfighter support and overall weapon system performance.

Audit Response. The Military Deputy's comments were partially responsive. The memorandum of agreement was not clear that they had in place goals of increasing system readiness, reduction in total life-cycle costs, and reductions in logistics footprint. Although their efforts to revise the BCA in conjunction with PBAs will assist in promoting those goals, we request that the Assistant Secretary of the Air Force (Acquisition) provide clarification on his actions to develop new performance measures in meeting these goals and provide additional comments in response to the final report.

f. Analyze the impact of transitioning the total system support responsibility contract from a cost-plus contract to a firm-fixed priced contract.

Management Comments. In responding for the Assistant Secretary of the Air Force (Acquisition), the Military Deputy concurred and stated the expected completion date for this action is March 31, 2007.

Audit Response. The Air Force comments are responsive, and no further comments are required.

Appendix A. Scope and Methodology

We performed the audit at the Joint STARS Joint Program Office located at the Electronic Systems Center, Hanscom Air Force Base, Massachusetts and at Warner Robins Air Logistics Center, Robins Air Force Base, Georgia. We also conducted audit work at the Defense Contract Management Agency in Melbourne, Florida. We contacted personnel at the Office of the USD(AT&L); the office of the Assistant Secretary of the Air Force (Acquisition); the office of the Assistant Secretary of the Air Force (Installation and Logistics); the Air Combat Command; the Air National Guard; and the Defense Logistics Agency. We reviewed documents dated from November 1995 to November 2005.

We assessed the adequacy of the Joint STARS program office implementation of PBL by reviewing DoD and Air Force policies and regulations regarding responsibilities and procedures for implementing PBL. We also reviewed the Quadrennial Defense Review and DoD directives pertaining to PBL. We reviewed the adequacy of the BCA by reviewing DoD and Air Force guidance. We assessed the TSSR contract for PBL provisions.

We interviewed program office officials pertaining to the various aspects of implementing PBL and incorporating PBL requirements in the TSSR contract. Discussions included the sustainment approach for Joint STARS, development of PBAs, baselines, and performance outcomes as well as the use of both fixed-price and cost plus fixed-fee contracts to conduct scheduled depot maintenance. Further, we interviewed officials at Defense Contract Management Agency to inquire about their monitoring of the TSSR contract and their reporting to the program office.

We performed this audit from October 2004 through February 2006 in accordance with generally accepted government auditing standards.

Use of Computer-Processed Data. We did not use computer-processed data to perform this audit.

Use of Technical Assistance. We did not rely on the assistance from the members of the Quantitative Methods Division and the Technical Assessment Division of the OAIG-AUD.

Government Accountability Office High-Risk Area. The Government Accountability Office (GAO) has identified several high-risk areas in DoD. This report provides coverage of the Defense Weapon Systems Acquisition high-risk area.

Appendix B. Prior Coverage

During the last 5 years, GAO, the DoD Inspector General (IG), and the Navy issued 14 reports related to implementing PBL. Unrestricted GAO reports can be accessed over the Internet at <http://www.gao.gov>. Unrestricted DoD IG reports can be accessed at <http://www.dodig.mil/audit/reports>.

GAO

GAO Report No. GAO-05-966, "Defense Management: DoD Needs to Demonstrate That Performance-Based Logistics Contract Are Achieving Expected Benefits," September 9, 2005

GAO Report No. GAO-04-715, "Defense Management: Opportunities to Enhance the Implementation of Performance-Based Logistics," August 16, 2004

GAO Report No. GAO-02-1049, "Contract Management: Guidance Needed for Using Performance-Based Service Contracting," September 23, 2002

GAO Report No. GAO-02-306, "Defense Logistics: Opportunities to Improve the Army's and the Navy's Decision-making Process for Weapons Systems Support,"
February 28, 2002

GAO Report No. GAO-01-618, "Defense Logistics: Air Force Lacks Data to Assess Contractor Logistics Support Approaches," September 7, 2001

DoD IG

DoD IG Report No. D-2005-037, "Implementation of Performance Based Logistics for the Javelin Weapon System," March 7, 2005

DoD IG Report No. D-2004-110, "The Military Departments' Implementation of Performance-Based Logistics in Support of Weapon Systems," August 23, 2004

DoD IG Report No. D-2004-021, "Effectiveness of Maintenance Work Performed Under Contract FA4452-01-C-0001 at Andrews Air Force Base,"
November 19, 2003

DoD IG Report No. D-2003-120, "F/A-18E/F Integrated Readiness Support Teaming Program," August 8, 2003

DoD IG Report No. D-2002-112, "Industrial Prime Vendor Program at the Air Force Air Logistics Centers," June 20, 2002

DoD IG Report No. D-2000-180, "Commercial Contract for Total Logistics Support of Aircraft Auxiliary Power Units," August 31, 2000

Navy

Naval Audit Service Report No. N2003-0050, "Contractor Logistics Support Oversight," May 15, 2003

Naval Audit Service Report No. N2003-0024, "Contractor Logistics Support at the Naval Air Systems Command," January 29, 2003

Naval Audit Service Report No. N2002-0069, "Contractor Logistics Support at the Space and Naval Warfare Systems Command," August 8, 2002

Appendix C. Report Distribution

Office of the Secretary of Defense

Under Secretary of Defense for Acquisition, Technology, and Logistics (Acquisition Technology and Logistics)
Under Secretary of Defense (Comptroller)/Chief Financial Officer
Deputy Chief Financial Officer
Deputy Comptroller (Program/Budget)
Director, Program Analysis and Evaluation
Director, Defense Procurement and Acquisition Policy

Department of the Army

Assistant Secretary of the Army (Financial Management and Comptroller)
Auditor General, Department of the Army

Department of the Navy

Naval Inspector General
Auditor General, Department of the Navy

Department of the Air Force

Assistant Secretary of the Air Force (Financial Management and Comptroller)
Assistant Secretary of the Air Force (Acquisition)
Auditor General, Department of the Air Force
Director, Air Combat Command
Director, Air National Guard
Commander, Program Executive Office, Electronic Systems Center, Hanscom AFB
System Project Manager, Joint Surveillance Target Attack Radar System, Hanscom AFB
System Support Manager, Warner Robins Air Logistics Center

Other Defense Organizations

Director, Defense Contract Audit Agency
Director, Defense Contract Management Agency

Non-Defense Federal Organization

Office of Management and Budget

Congressional Committees and Subcommittees, Chairman and Ranking Minority Member

Senate Committee on Appropriations
Senate Subcommittee on Defense, Committee on Appropriations
Senate Committee on Armed Services
Senate Committee on Governmental Affairs
House Committee on Appropriations
House Subcommittee on Defense, Committee on Appropriations
House Committee on Armed Services
House Committee on Government Reform
House Subcommittee on Government Management, Finance, and Accountability,
Committee on Government Reform
House Subcommittee on National Security, Emerging Threats, and International
Relations, Committee on Government Reform

Department of the Air Force Comments



DEPARTMENT OF THE AIR FORCE
WASHINGTON DC

OFFICE OF THE ASSISTANT SECRETARY

JUL 19 2006

MEMORANDUM FOR DEPARTMENT OF DEFENSE INSPECTOR GENERAL
ATTN: DEPUTY INSPECTOR GENERAL FOR AUDITING

FROM: SAF/AQ

SUBJECT: Draft Audit Report, Dated 16 March 06, Project No. D2005-D000LH-0046.00
Implementation of Performance-Based Logistics (PBL) for the Joint Surveillance
Target Attack Radar System (Joint STARS)

Thank you for the time and effort your team invested in examining the Joint STARS implementation of PBL. I also appreciate the opportunity for the Air Force to review the draft audit report. Air Force comments are summarized below:

- a. Finding 1 – The Air Force partially concurs with the finding that the Joint STARS System Program Manager (SPM) did not fully implement PBL initiatives for the Joint STARS weapon system. The Joint Stars SPM did not retroactively apply PBL principles given the Total System Support Responsibility (TSSR) contract, which was in place before the PBL audit, and was an accepted and model sustainment approach prior to official PBL guidance. In accordance with Air Force and OSD policy guidance, the SPM has agreed to re-baseline the program sustainment cost using the TSSR contract data collected over the past five years. This will also form the basis for the business case analysis (BCA) of PBL approaches for use in future sustainment strategy development.
- b. Finding 2 – The Air Force partially concurs with the finding that the Joint STARS sustainment strategy lacks support of fully developed Performance Based Agreements (PBA) with the warfighter. The current Memorandum Of Agreement (MOA) meets the minimum intent of a PBA. The MOA specifies the level of product support and warfighter requirements. The Task Description Document, which is an attachment to the MOA, integrates the negotiated support required from Northrop Grumman Corporation to manage system impacts throughout the life cycle; development, production, and sustainment with the successful achievement of the warfighter's product support requirements. The impending revision to the BCA in conjunction with the planned improvements to the scope, objectivity and performance of their PBL agreements will continue to provide avenues for the SPM to improve warfighter support and overall weapon system performance.
- c. Finding 3 – The Air Force partially concurs with the finding that the Joint STARS SPM did not develop cost and performance baselines for the Joint STARS weapon

system before the August 2000 approval by the Air Force acquisition officials for the overall Joint STARS sustainment strategy. Limited fleet size impacted the SPM's ability to ensure that an adequate cost and performance baseline was accomplished in August 2000 prior to the TSSR contract award. Now that all 17 aircraft have been delivered, and a statistically significant number of flying hours logged, the SPM plans to develop an updated cost and performance baseline from the past five years of accumulated data.

- d. Finding 4 – The Air Force partially concurs with the finding the Joint STARS SPM did not prepare a BCA to provide analysis of potential alternative support strategies. The BCA, prepared in May 2000, predates formal PBL BCA requirements. Utilizing the TSSR contract data gathered over the past five years, the SPM is preparing to revise the BCA and PBL approach to ensure optimization of the support strategy in meeting all of the warfighters performance and cost requirements.
- e. Finding 5 – The Air Force partially concurs with the finding that while the TSSR contract contains several performance measures, that it does not contain performance metrics that promote the PBL goal of increasing system readiness, reducing total ownership costs, and reduction in the logistics foot print. The TSSR contract has several parameters that reflect a close collaborative relationship between the Program Office and the warfighter that demonstrates an effective support of improved system readiness, system cost reduction and reduction in logistics footprint. The impending revision to the BCA in conjunction with the planned improvements to the scope, objectivity and performance of their PBL agreements will continue to provide avenues for the SPM to improve warfighter support and overall weapon system performance.
- f. Recommendation 1. – The Air Force concurs with the recommendation to ensure that pertinent DoD policy memorandums and PBL guidance is made available to each product center for use in implementing PBL. We will validate that pertinent guidance documents are available to all Program Executive Offices and SPMs.
- g. Recommendation 2a. – The Air Force partially concurs with the recommendation that the Joint STARS program develop PBAs in conjunction with the 116th Air Control Wing based on warfighter requirements. The MOA specifies the level of product support and warfighter requirements. The Task Description Document, which is an attachment to the MOA, integrates the negotiated support required from Northrop Grumman Corporation to manage system impacts throughout the life cycle: development, production, and sustainment with the successful achievement of the warfighter's product support requirements. The impending revision to the BCA in conjunction with the planned improvements to the scope, objectivity and performance of their PBL agreements will continue to provide avenues for the SPM to improve warfighter support and overall weapon system performance.
- h. Recommendation 2b. – The Air Force partially concurs with recommendation to develop a strategy that implements into the TSSR contract performance requirements

obtained from the PBAs. The current MOAs do account for the warfighter performance requirements. The Task Description Document, which is an attachment to the MOA, integrates the negotiated support required from Northrop Grumman Corporation to manage system impacts throughout the life cycle: development, production, and sustainment with the successful achievement of the warfighter's product support requirements. However, the impending revision to the BCA in conjunction with the planned improvements to the scope, objectivity and performance of their PBL agreements will continue to provide avenues for the SPM to improve warfighter support and overall weapon system performance.

- i. Recommendation 2c. - The Air Force concurs with the recommendation to establish new baselines to reflect the extensive data and experience gained during the first five years of the TSSR contract. The scheduled revision to the current BCA will use the TSSR data accumulated over the past five years to re-baseline the cost and performance of the Joint STARS weapon system and confirm the efficacy of the current TSSR contract to shape the scope and content of future options. Estimated Completion Date (ECD): 30 Sep 06.
- j. Recommendation 2d. - The Air Force partially concurs with the recommendation to develop a BCA using baselines developed from recommendations 2a and 2c. Even though the Joint STARS program meets the intent of the USD (AT&L) implementation guidance, a forward-looking BCA will be conducted in accordance with the policy guidance. This BCA will assess and determine possible alternative solutions in terms of their ability to meet the logistics performance objectives of the warfighter. It will be a best-value analysis that will consider not only cost but also other quantifiable and non-quantifiable factors supporting an optimum investment decision. To avoid any impact to the TSSR contract, the SPM's ECD for this action is 31 Mar 07.
- k. Recommendation 2e. - The Air Force partially concurs with the recommendation to develop performance measures for the Joint STARS TSSR contract promoting the goal of increasing system readiness, reduction in total life-cycle costs, and reduction of logistics foot print given they are already in place. The Air Force uses a continuous improvement process based on warfighter requirements and operational experience. The MOA specifies the level of product support and warfighter requirements. The Task Description Document, which is an attachment to the MOA, integrates the negotiated support required from Northrop Grumman Corporation to manage system impacts throughout the life cycle: development, production, and sustainment with the successful achievement of the warfighter's product support requirements. The impending revision to the BCA in conjunction with the planned improvements to the scope, objectivity and performance of their PBL agreements will continue to provide avenues for the SPM to improve warfighter support and overall weapon system performance.

1. Recommendation 2f. – The Air Force concurs with the recommendation to analyze the impact of transitioning the TSSR contract from a cost-plus to a firm fixed priced contract. To avoid impact on the current TSSR contract, the SPMs ECD for this action is 31 Mar 07.

The SAF/AQ staff stands ready to assist in any way to ensure all concerns are addressed prior to the final report publication. My point of contact is Mr. Mark Humphrey, mark.humphrey@pentagon.af.mil, 703-588-7105.



DONALD J. HOFFMAN, Lt Gen, USAF
Military Deputy, Office of the Assistant Secretary
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