Audit Report

OFFICE OF THE INSPECTOR GENERAL

HOTLINE ALLEGATIONS PERTAINING TO AEROSTAT OPERATIONS

Report No. 94-136 June 16, 1994

Department of Defense

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Acronyms

ACC	Air Combat Command
CONS	Contracting Squadron
COTR	Contracting Officer's Technical Representative
O&M	Operation and Maintenance
OSS	Operations Support Squadron
PMD	Program Management Directive
RDT&E	Research, Development, Test, and Evaluation
TARS	Tethered Aerostat Radar System

INSPECTOR GENERAL
DEPARTMENT OF DEFENSE
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June 16, 1994

MEMORANDUM FOR ASSISTANT SECRETARY OF THE AIR FORCE
(FINANCIAL MANAGEMENT AND COMPTROLLER)

SUBJECT: Hotline Allegations Pertaining to Aerostat Operations
(Report No. 94-136)

We are providing this report for your review and comments. The report discusses DoD Hotline allegations of mismanagement of the Tethered Aerostat Radar System. Comments on a draft of this report were considered in preparing the final report.

DoD Directive 7650.3 requires that all recommendations be resolved promptly. As a result of management comments and discussions with Air Force officials, we modified two recommendations based on the current development stage of the Tethered Aerostat Radar System and expanded two recommendations to provide specific dollar amounts for adjustments and to require a broader investigation of the appropriateness of and the responsibility for the destruction of the High Rock, Bahamas, aerostat balloon. We also added one recommendation in case a violation of the Anti-Deficiency Act occurs as a result of the accounting adjustments. Therefore, we request that the Air Force provide comments on the final report by August 16, 1994.

The courtesies extended to the audit staff are appreciated. If you have any questions on this report, please contact Mr. Harrell D. Spoons, Audit Program Director, at (703) 604-9574 (DSN 664-9574), or Mr. Wayne B. Winkler, Audit Project Manager, at (703) 604-9582 (DSN 664-9582). The distribution of this report is listed in Appendix E. The audit team members are listed inside the back cover.

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Report No. 94-136
Project No. 3RF-8014

June 16, 1994

HOTLINE ALLEGATIONS PERTAINING TO AEROSTAT OPERATIONS

EXECUTIVE SUMMARY

Introduction. The Tethered Aerostat Radar System (TARS) supports an air sovereignty mission that includes detection of illegal drug trafficking and low-level surveillance used in controlling access to U.S. air space. Based on congressional direction in the Defense Appropriation Acts of FYs 1991 and 1992, the DoD was given overall responsibility for the TARS, and the Air Force was designated Executive Agent. The Office of the Inspector General, DoD, received allegations from multiple sources regarding the Air Force's management of the TARS.

Objective. The objective of the audit was to determine the validity of the allegations related to the operation of the TARS.

Audit Results. The audit showed that some of the allegations had merit and that management improvements were needed in acquisition planning and budgeting, control of Government property, and internal controls.

o Logistical support for the TARS was inadequate, and development of a replacement system was undertaken without proper acquisition planning. As a result, five TARS sites became nonoperational, the replacement system had design flaws that may preclude meeting system expectations, and Operation and Maintenance funds were improperly used (Finding A).

o The Contracting Officer's Technical Representative directed the destruction of the aerostat at High Rock, Bahamas, before completion of a repair-versus-replace analysis and an engineering assessment of the balloon's condition. As a result, the TARS will not be operational at that critical site for more than 2 years (Finding B).

Internal Controls. The audit identified no material internal control weaknesses; however, other weaknesses are discussed in the findings. The controls that were assessed are described in Part I of the report.

Potential Benefits of Audit. Implementing the audit recommendations should better define the TARS development and mission responsibilities, help ensure proper use of appropriated funds, enhance coordination with the mission data users and enforce accountability. In addition, security of Air Force assets should improve (see Appendix D). No monetary benefits are associated with this report.

Summary of Recommendations. We recommended establishing guidance to identify responsibilities in the development and operation of the most effective and efficient TARS available, developing procedures to improve accountability of the aerostat balloons, and adjusting obligations of appropriated funds. Also, we recommended that the actions of responsible officials, in relation to the destruction of the High Rock aerostat, be reviewed.

Management Comments. The Department of the Air Force concurred with the need to improve accountability of the aerostat balloons by categorizing the assets as investment items and partially concurred with the need to make appropriate accounting adjustments. However, the Air Force nonconcurred with the need to establish a Program Management Directive and to complete the development of the TARS based on the most promising system concept. The Air Force further nonconcurred with the need to review the actions of the Contracting Officer's Technical Representative relating to the destruction of the High Rock aerostat balloon. That official was promoted. A full discussion of the comments is in Part II of this report, and the complete text of management comments is in Part IV.

Audit Response. We consider management's comments partially responsive. Based on management comments and discussions with the Air Staff, we modified two recommendations to recognize the current stage of development of the TARS program. Also, we expanded Recommendation A.2.b. to identify actual dollar amounts needing adjustments and added Recommendation A.2.c. to cover Anti-Deficiency Act provisions. In addition, we expanded the recommendation in Finding B to determine the appropriateness of and the responsibility for the destruction of the High Rock aerostat balloon. The Air Force is requested to provide comments on the report by August 16, 1994.

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This report was prepared by the Readiness and Operational Support Directorate, Office of the Assistant Inspector General for Auditing, Department of Defense.

Part I - Introduction

Background

Tethered Aerostat Radar System. In 1985, the U.S. Customs Service (Customs) established the requirement for the Tethered Aerostat Radar System (TARS) network to counter the threat of illegal drug traffickers. The TARS was planned to evolve into a radar "fence" consisting of 16 sites along the southern border of the United States, the Bahamas, and Puerto Rico (see Appendix A). At the time of our audit, 11 of the TARS sites were being managed by the Air Force; 2 sites were managed by Customs, pending transfer to the Air Force; 2 sites were proposed but unfunded; and the site in Puerto Rico was being managed by the Puerto Rican Government.

Based on FYs 1991 and 1992 congressional direction, overall responsibility for the operation, maintenance, and support of the TARS program was transferred from Customs and the Coast Guard to the DoD. Management of the site in Puerto Rico transferred to the DoD on October 1, 1993. The Air Force had developed and deployed a TARS at Cudjoe Key and Cape Canaveral, Florida, for national defense purposes in 1974 and, as a result, was designated the Executive Agent for the TARS within DoD. The Air Force made the 4700th Operations Support Squadron (OSS), a component of the Air Combat Command (ACC), responsible for management of the TARS.

In an arrangement between DoD and Customs, the Air Force provided and continues to provide the appropriated funds to Customs for the procurement of new TARS sites. Once a new site meets contract specifications and is accepted by Customs, the responsibility for operating the site is turned over to the Air Force. TARS sites are Government owned and contractor operated.

The purpose of the TARS is to support an air sovereignty mission that includes detecting and monitoring illicit drug trafficking and low-level surveillance support to the North American Aerospace Defense Command, which monitors access to U.S. airspace.

A TARS system is comprised of radar and support equipment mounted on a lighter-than-air balloon linked to a ground station by a tether. The balloon is capable of extending to altitudes of about 15,000 feet above ground with a radar capability that can detect low-flying aircraft to distances of about 150 miles. A TARS site consists of a pad, a balloon with radar, a mooring/winch system and an operation center with administrative, logistics, and maintenance facilities.

Allegations concerning the TARS program were received by the Office of the Inspector General, DoD, from TCOM Limited Partnership (TCOM), an aerostat manufacturer and site operator; from Loral Aerospace Services (Loral), the current TARS operation and maintenance (O&M) contractor; and an anonymous source. Appendix B provides a list of the specific allegations and the results of our audit pertaining to each allegation.

Objective

The objective of this audit was to determine the validity of the Hotline allegations related to the operation of the TARS.

Scope and Methodology

We reviewed documentation relating to the TARS O&M contract award and the operation, maintenance, and support of the TARS. The TARS O&M contract was awarded on January 31, 1992, as a fixed price contract with cost reimbursable line items. The basic year with 4 priced option years totaled $106,087,544. Also, we reviewed official contract files, the program manager's records, and documents maintained by Loral. The DoD Coordinator for Drug Enforcement Policy and Support and the former O&M contractor, TCOM, provided additional data that we reviewed. The dates of most of the documentation ranged from December 1990 through September 1993. We interviewed contracting officers in the 4400th Contracting Squadron (CONS), the technical support representatives in the 4700th OSS, management at both squadrons, officials at both Loral and TCOM, and various DoD and law enforcement officials that use TARS data. At the time of the audit, the 4700th OSS was responsible for 11 TARS sites. We visited five of the sites and conducted interviews with personnel at those locations.

This economy and efficiency audit was made from April 1993 to September 1993 in accordance with auditing standards issued by the Comptroller General of the United States as implemented by the Inspector General, DoD. The Technical Assessment Division of the Audit Planning and Technical Support Directorate provided assistance in our audit of TARS acquisition planning and funding. The audit included such tests of internal controls as were considered necessary. We did not rely on computer-processed data to achieve the audit objectives. The organizations visited or contacted during the audit are listed in Appendix C.

Internal Controls

We evaluated internal controls relating to compliance with laws, regulations, and procedures governing contracting, funding, and budget execution. Also, we evaluated controls over the authorization of the destruction of Government property. Although we identified no material control weaknesses, we determined that budgeting and acquisition actions of ACC organizations responsible for the operation, maintenance, and support of the TARS were not in compliance with provisions of the O&M contract and the Federal Acquisition Regulation. Recommendation A.1.a., and the recommendation in Finding B.,

if implemented, will correct the weaknesses (see Appendix D). The audit showed that the 4700th OSS was not participating in the ACC's Internal Management Control Program. We brought this deficiency to the attention of management officials at the 4700th OSS and appropriate ACC officials. Corrective action was initiated within ACC; therefore, no recommendation is necessary. A copy of this will be provided to the senior official responsible for internal controls within the Department of the Air Force.

Prior Audits and Other Reviews

Inspector General, DoD, Audit Report No. 92-136, "Survey Report on Land-Based Aerostat Surveillance Systems used to Support Drug Interdiction," September 11, 1992, states that Government property at contractor locations was not properly accounted for and controlled and that quality assurance reviews of contractors' operations were not performed. As a result, contractor responsibilities, such as accountability over Government-furnished property and performance of preventative maintenance, were not monitored by Government representatives. The audit determined that the Air Force included contract clauses that would correct contract administration deficiencies upon transition of the TARS operations to the Air Force. Therefore, the report contained no recommendations.

Air Force Audit Agency Report No. 92051017, "Evaluation of the Air Force IMCP-Fiscal Year 1992 Air Force Statements," June 29, 1993, discusses the results of the Air Force's compliance with internal control evaluation and reporting requirements of the Federal Managers' Financial Integrity Act (the Act). The report concludes that about 40 percent of the Air Force's major commands did not participate in the Internal Management Control Program evaluation and reporting process. Specifically, Headquarters, ACC, had established an Internal Management Control Program, yet could not determine its components' involvement in the evaluation and reporting process. The report recommended that major commands provide all participating base program managers copies of the command's Internal Management Control Plan so compliance with the Act could be monitored.

The Assistant Secretary of the Air Force (Financial Management) concurred with the recommendations and stated guidance would be issued to require major commands to provide copies of the Internal Management Control Plan to base-level Offices of Primary Responsibility for purposes of internal management control implementation and monitoring.

We determined that a similar condition existed during our audit of the Hotline allegations in that the 4700th OSS was not participating in the ACC Internal Management Control Program. Corrective action was initiated when we brought the weakness to management's attention.

Other Matters of Interest

TARS Performance Measurement. Inspector General, DoD, Audit Report No. 91-124, "DoD's Support to U.S. Drug Interdiction Efforts," September 30, 1991, states that DoD had not developed a method for identifying accomplishments of the counterdrug program. We attempted to obtain performance measurement data on aerostat operations from Air Force, Customs, and Coast Guard operators and mission data customers. As of the completion of our audit field work, DoD still had no performance measurement system in place to quantify and document TARS accomplishments.

Real Property Records. The value of real property at the 11 TARS sites managed by the Air Force is estimated by ACC civil engineers to exceed $55 million. No official real property records exist. This internal control weakness was recognized by the 4700th OSS, and an effort to document and account for the real property at TARS sites was initiated before the start of the audit. That action, when completed by the 4700th OSS, should establish accountability over TARS real property.

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Part II - Findings and Recommendations

Finding A. Program Assessment and Planning

Logistical support for the TARS was not adequate, and a replacement system was being developed without proper acquisition planning. These conditions occurred because the Air Force did not fully assess the status of the TARS to determine the risks when it assumed responsibility for the operation, maintenance, and support of the program, and because the Air Force improperly determined that the TARS met Air Force criteria for an operational system and prematurely assigned management responsibilities to the 4700th OSS. As a result, provisioning problems caused five TARS sites to be nonoperational for up to 28 months. Also, the replacement system contained design deficiencies; there is no assurance that the replacement system is the most promising concept; and operation and maintenance appropriation funds were improperly used for development, procurement, and military construction costs.

Background

In April 1991, the U.S. Air Force assigned responsibility for the TARS program to the Tactical Air Command, now the ACC. At the same time, the ACC assigned responsibility for the TARS to the 4700th OSS, an organization that specializes in administering operation, maintenance, and support contracts. The 4700th OSS utilizes the services of the 4400th CONS, an ACC component that specializes in operation and maintenance contract preparation.

TARS Transition to the Air Force

TARS Program Assessment. Before assigning program management of the TARS to the 4700th OSS, the Air Force had not fully assessed the TARS program status. A program assessment could have identified the significant risks associated with the TARS operation and maintenance. Specifically, provisioning for spare parts was critically deficient, only minimal configuration management had been performed, and the most effective TARS system had not been identified.

A Program Management Directive (PMD) would have provided the opportunity to evaluate the status of the program and to assign roles and responsibilities to the appropriate organizations. A PMD, as defined by Air Force Regulation 800-2, "Acquisition Program Management," September 16, 1985, is used to provide direction to commands that participate in and implement a program and to satisfy documentation requirements. The need for a PMD is usually identified by the Air Force Office of the Assistant Secretary (Acquisition). The

PMD is utilized during the entire acquisition cycle to state requirements, request studies, and initiate, approve, change, transition, modify, or terminate programs. A PMD would provide guidance to a program manager for the acquisition of systems for unusual or contingency situations and is prepared for programs primarily in the developmental or procurement phase.

Transfers of programs from non-DoD agencies are relatively infrequent, and specific policy prescribing such transfers does not exist. A letter issued by the Program Division in the Directorate of Plans and Programs, Tactical Air Command (now the ACC), August 28, 1989, recognized the uniqueness of the TARS and requested that a procurement assessment be performed. The purpose of the assessment was to ". . . make recommendations concerning modifications to the acquisition process to meet USAF [U.S. Air Force] standards and requirements." The letter recommended that a team, consisting of personnel from the Electronic Systems Division (a component of the Air Force Materiel Command) and from the ACC, perform the procurement assessment. Neither the Air Force Materiel Command nor the ACC performed the requested procurement assessment. In addition, the Air Force Office of the Assistant Secretary (Acquisition) did not perform a program assessment or prepare a PMD. In being assigned to the 4700th OSS, the TARS program was treated as if it were fully developed and provisioned, requiring only operational and maintenance support. As a result, risks that would normally be disclosed by a program assessment and a PMD were not identified.

Provisioning of Spare Parts for Operation and Maintenance. At the time of the TARS transfer to the 4700th OSS, the TARS sites had various configurations. The TARS program was poorly provisioned under the management of the Customs and Coast Guard. We found no evidence that prior management maintained inventory records or historical consumption data to support the operation and maintenance of the TARS. A lack of technical data compounded the problem. Further, critical, long leadtime spare parts needed for radar and aerostat balloon operations were neither stocked nor ordered in a timely manner. Prior consumption data were critical since each site had modified its TARS and special parts required long procurement leadtimes.

The 4700th OSS assessment of the status of spare parts was neither comprehensive nor timely. Although the ACC was assigned operational responsibility for the TARS in April 1991, a detailed list of spare parts was not developed until July 1993. Without a comprehensive, prioritized list of critical spare parts, replacement needs for the TARS could not be determined. Further, $6.6 million in O&M funding was lost when the fiscal year ended because the 4700th had not planned for alternative uses for the funds in the event they could not be used to purchase support equipment. In late September 1992, the Air Force Office of the Assistant Secretary (Financial Management and Comptroller) determined that O&M funds could not be used to procure a large portion of needed support equipment.

New System Development

Acquisition Planning for TARS Sites. In an attempt to solve the TARS related problems, the 4700th OSS began developing an aerostat balloon, radar, and support equipment and modified the mooring system. In taking that piecemeal approach to TARS development, the 4700th OSS did not follow key steps required by both the Federal Acquisition Regulation, part 7,"Acquisition Planning," 1990 edition, and DoD Instruction 5000.2, part 3, "Acquisition Process and Procedures," February 23, 1991, when planning the development and acquisition of a new system.

Acquisition planning is the process by which the efforts of all personnel responsible for an acquisition are coordinated and then integrated into a comprehensive plan to ensure that the Government meets its needs in the most effective, economical, and timely manner. DoD Instruction 5000.2, part 3, and Federal Acquisition Regulation, part 7, require planning for all acquisitions and state that acquisition planning begins as soon as the agency need is identified and continues during the program's entire acquisition process.

The 4700th OSS had three options to maintain the operational condition of the TARS sites:

- o provide spare parts to each site,
- o procure an existing TARS, or
- o develop a new system.

The 4700th OSS elected to provide spare parts to the existing 71-meter TCOM systems and to develop a new Air Force system to replace the existing General Electric systems and eventually, the existing Air Force version. The new Air Force TARS was developed under an O&M contract instead of under an acquisition plan. The development of the new system contributed to the significant delay in provisioning of operational TARS sites. Furthermore, the 4700th OSS did not perform an analysis to determine whether the new development initiative was the most promising system concept.

Most Promising System Concept. DoD Instruction 5000.2, part 3, defines the most promising system as the system that is most likely to achieve mission objectives. The most promising system is determined by identifying all available system concepts and evaluating the development risks, life-cycle cost, and performance of each system concept. Three systems with various configurations were in inventory when the 4700th OSS assumed responsibility for the operation, maintenance, and support of the TARS:

o the 600K General Electric Government Services (General Electric) system,

o the 71-meter TCOM system, and

o the 275K Air Force system.

The General Electric system comprises a 600,000-cubic-foot (600K) balloon, L-88 radar system (16-transmitter), and a ground generator that provides power to the balloon through the tether. The configuration of the TCOM system is composed of a 71-meter balloon, a Westinghouse radar (TPS-63), and a ground generator that provides power to the balloon through the tether. The 275,000-cubic foot (275K) Air Force system is composed of a DPS-5 radar, and an on-board generator.

The General Electric system had been uniquely modified and was, therefore, difficult to support. Accordingly, on March 13, 1992, the 4700th OSS told the Commander, ACC, of plans to replace the General Electric 600K balloon system with a compatible, less expensive system that would improve standardization, maintainability, and reliability of the TARS.

The new system developed by the 4700th OSS comprises a 420,000-cubic-foot (420K) balloon, an L-88A radar system (8-transmitter), an on-board generator system, and a modified winch truck mooring system to maintain proper tension levels on the tether. However, neither the 4700th OSS nor the 4400th CONS evaluated the risks, cost, performance, and schedule of each possible system concept to justify that the 420K system was the most promising system concept.

Development Risk of the 420K System. Although the primary mission of the 4700th OSS and 4400th CONS is to support and maintain operational systems, the 4700th OSS initiated the development and procurement of the new 420K system. The 4400th CONS initiated contract procurement for the 420K system. The intent was to standardize the variously configured TARS sites with a lower cost, but comparable system for which the Air Force would own development rights to the balloon, support equipment, and a significant portion of the radar. However, the 4700th OSS and 4400th CONS underestimated the technical complexity of developing a system and were ill-prepared for the task because the contracting officers and program management officials were not familiar with system development.

Air Force Regulation 23-8, "Organization and Mission-Field, Air Force Systems Command," February 10, 1986, made the Air Force Systems Command (now Air Force Materiel Command [the Command]) responsible for planning system research, development, and acquisition. The Command's responsibilities include ensuring that reliability, maintainability, quality, and supportability objectives are met. The Command also ensures that a system's safety program is implemented and tests and evaluates each research and development program. We believe that the developmental problems of the TARS would have been avoided if proper oversight had been provided by the acquisition experts in the Command. Without that expertise, defective

technology was used to develop the balloon, life-cycle costs were not analyzed, and fair and open competition was circumvented. Therefore, there is no assurance that the most cost-effective and efficient system is being procured.

Life-Cycle Costs of the TCOM System Versus Costs for Alternative Concepts. Life-cycle costs are the total costs to the Government for a system over its full life, including the cost of development, procurement, operation, support and disposal. Life-cycle cost management is defined in DoD Instruction 5000.2. Life-cycle cost management should include acquisition streamlining, which ensures that only cost-effective requirements are included at the most appropriate time in the acquisition cycle. Accordingly, a logical and systematic approach should be taken in the design, development, and production of new systems.

Officials at the 4700th OSS stated that a TCOM system, although the most expensive, was the best performing system available. However, the 4700th OSS performed no life-cycle cost analysis of the TCOM system versus alternative concepts to support the decision to design a new balloon, support equipment, and radar system. Furthermore, the 4700th OSS did not follow a logical and systematic approach in designing the new 420K system. For example, the physical size of the radar system was not considered before designing the balloon. The effect of designing the balloon before considering all the changes to the radar is identified in a letter dated July 24, 1992, in which a 4700th OSS official states that the cost estimates for the development of the balloon rose because "Loral basically has to start from scratch." A larger than planned antenna was to be used on the radar, requiring significant changes to the original balloon design, including the windscreen, mooring and flying lines, ballonet (the lower hull chamber), and helium partition. After the 4700th OSS staff reevaluated the effect of the radar size on the balloon design, the original balloon design estimate of $75,000 rose to about $1.2 million- - a 16-fold increase.

Performance Affected by Defective Technology. The Air Force 420K balloon utilized portions of the existing Air Force 275K balloon technology; however, the 4700th OSS did not require an engineering assessment of the 275K balloon's technical specifications to ensure structural soundness. As a result, design deficiencies in a device called a fin spar, which helps maintain the aerodynamic shape of the balloon's fins, were incorporated in the 420K balloon. Furthermore, the 4700th OSS did not become aware of the fin spar defect until 9 months after starting development of the 420K balloon. The problem surfaced when two 275K balloons were destroyed during a March 1993 storm. The defective fin spar was a major contributing factor in the destruction of the balloons. The 4700th OSS authorized Loral to identify and resolve the causes of the fin spar defects at an estimated cost of $90,000. On October 20, 1993, Loral issued a letter, which stated the fin spar defect was corrected.

The design problems with the 420K balloon compounded by the untimely provisioning of the TARS sites caused five TARS sites to be inoperative for

10 to about 28 months (March 1992 to July 1994). The continuing O&M costs to maintain those sites in a caretaker (nonoperational) status is estimated to exceed $10 million.

Use of O&M Contract for Development. After the O&M contract award to Loral, the 4700th OSS requested that orders be placed against that contract without regard for limitations of scope in the Statement of Work. The Statement of Work permitted the modification of subsystems equipment and components, not system development. Specifically, the 4700th OSS established requirements to develop a system comprising a balloon, support equipment, and a radar system, totaling about $7.8 million, and circumvented competition by issuing contract modifications to Loral under the existing O&M contract to satisfy the requirements. Loral subcontracted the efforts and added about $615,000 of prime contractor fees to the total contract cost.

The effect of the questionable contracting approach can be seen, for example, in the development of the L-88A radar. The 4700th OSS established a requirement to develop four L-88A radar systems by utilizing components of two existing L-88 radar systems and fabricating four radar antennas.

The L-88 radar system has 16 transmitters with radar software that is proprietary to General Electric. Eight transmitters from each L-88 system, along with General Electric software and state-of-the-art components, will be used in the development of the L-88A system, and a larger antenna will be used for the L-88A system to preclude system degradation. The requirement to develop the L-88A radar system is outside the scope of the O&M contract awarded to Loral.

Software is a vital part of the L-88A system. Since the software to be utilized from the L-88 radar system was proprietary to General Electric, it was the only viable source. However, instead of using a justifiable sole source contract to General Electric or at least allowing General Electric to compete for the development contract, the 4400th CONS directed Loral to satisfy the software requirement under the TARS O&M contract. Loral subcontracted the effort to General Electric and added prime contractor administration fees and profit of about $440,000.

Because the most promising system and most efficient procurement methods were not identified before contract solicitation, prime contractor administrative fees and profit were incurred in addition to subcontractor costs and profit for the development efforts.

Contract Budgeting and Funding

The contract budgeting and funding analysis as described by DoD Manual 7110-1-M (Budget Manual), "DoD Budget Guidance Manual," June 1992, describes how fund estimates are derived and, when properly implemented, assures that adequate funds of the proper categories are available when needed.

The lack of budgeting and funding expertise for system development in the 4700th OSS and lack of adequate review by the 4400th CONS resulted in the improper use of O&M funds. The proper appropriation for each phase of the development effort is listed in the following table.

Proper Appropriation for TARS Development Efforts

Purpose	Modification Number	Proper Appropriation	Amount
Development baseline for new lighter-than-air balloon, balloon support equipment, and four radar systems	17, 25, 33, 34, 35, and 36	RDT&E*	$6,317,642
Installation and testing of radars	33	RDT&E	482,761
Purchase system's equipment items (balloons and support equipment)	32	Procurement	8,217,936

* Research, Development, Test, and Evaluation

Budget officials in the office of the DoD Coordinator for Drug Enforcement Policy and Support stated that identification of funding categories, with the exception of Military Construction, is a matter of defining the purpose of the funds and notifying the DoD Coordinator for Drug Enforcement Policy and Support office of the appropriate fund category and the funds needed. Use of Military Construction funds for counternarcotics purposes still needs the approval of the Congress. Budget officials from the Office of the DoD Coordinator for Drug Enforcement Policy and Support emphasized that advance planning by fund recipients is necessary to ensure that the correct appropriation is requested to preclude the need to go to the Congress for a reprogramming action.

Development of Balloons, Support Equipment, and Radars. The DoD Budget Manual, and Air Force Regulation 172-1, "Research, Development, Test and Evaluation Appropriation," October 15, 1990, require that funds for RDT&E efforts be funded from the RDT&E appropriation to allow such developmental programs to be assessed from a priority standpoint. Specifically, the development, engineering, design, and testing of one-of-a-kind articles (including support equipment) are to be financed by the RDT&E appropriation. When doubt exists as to the proper assignment of cost between appropriations, the issue should be resolved in favor of using RDT&E. In addition, a

March 24, 1992, memorandum from the Air Force Office of Deputy Director of Budget Management and Execution to the 4700th OSS and 4400th CONS states, "It's important to note, however, O&M funds cannot be used if purchasing radar systems used in the aerostats."

Although the Procurement appropriation was properly used to acquire four L-88A antennas, O&M funds were improperly used for the development, engineering, design, and testing of the 420K balloon, balloon support equipment, and radar system. Obligated O&M funds for those efforts totaled about $6.6 million, accounting for more than 52,000 hours of engineering and support. The development of the balloon and balloon support equipment are one-of-a-kind items that require RDT&E funds. Using the DoD Budget Manual, we were unable to clearly determine whether the L-88A radar constituted the procurement of a system requiring Procurement funds or the development of a one-of-a-kind system requiring RDT&E funds. However, due to the significant engineering and support hours (more than 27,000), we believe that effort should have been funded by the RDT&E appropriation.

Purchasing System Equipment Items. The Air Force used O&M funds rather than Procurement funds to purchase balloon support equipment. According to DoD's Budget Manual, Procurement funds are to be used for equipment items that are not designated for centralized item management and asset control; that are to be used immediately as part of a system; and that will be used for spare or benchstock equipment costing $15,000 or more per item. That guidance was reiterated in the staff summary sheet accompanying the March 24, 1992, Air Force Deputy Assistant Secretary (Budget) memorandum to the 4400th CONS and the 4700th OSS.

A 4400th CONS memorandum, dated September 18, 1992, states that the 4700th OSS had an "immediate need to field six aerostats and spare two more." The 4700th OSS programmed and the 4400th CONS obligated about $3.1 million of Procurement funds and an estimated $1.2 million of O&M funds to satisfy the requirement for balloon support equipment. The $1.2 million of support equipment procured with O&M funds comprises about $1 million of line replaceable end units, costing $15,000 or more per item and about $200,000 of line replaceable end items costing under $15,000 per item.

Since equipment items, valued at $1.2 million, were to be used immediately as part of the 420K system, Procurement funds should have been used to purchase the equipment. In addition, even if the equipment would have been stocked as spare parts, Procurement funds should have been used for the items costing $15,000 or more each. Those items amounted to about $1 million of the $1.2 million expended.

Balloons as Investment Items. During September 1992, the 4400th contracting officer obligated more than $10 million of O&M funds to procure 10 aerostat balloons. The decision to use O&M funds was based on guidance in the March 24, 1992, memorandum from the Air Force Office of the Deputy Director of Budget Management and Execution, which states that O&M funds can be used to procure spare balloons because "the replacement/spare balloons are coded "expendable;" and . . .[a] precedence

[existed] in purchasing similar replacement balloons for the SEEK SKYHOOK system using O&M dollars." The SEEK SKYHOOK system originated in 1974, and the aerostat balloons, at that time, lasted about 18 months and had a warranty of 12 months. However, experience has shown that aerostat balloons have lasted much longer than 12 months and are repairable. The durability is evidenced by the FY 1992 contract requirement for a 5-year warranty on the 420K balloon material and the $1.2 million repair completed on the Fort Huachuca, Arizona, balloon. In addition, the Air Force guidance does not consider the fact that eight of the balloons, costing about $6.9 million, were part of an overall 420K system being developed and were not spare balloons.

The guidance from the Air Force Office of the Deputy Director of Budget Management and Execution overlooks the "system" concept that requires use of Procurement funds. In addition, the Budget Manual defines investment costs, stating, "costs that result in the acquisition of or addition to end-items are investments." The Budget Manual further states, "all equipment items that are not subject to centralized item management and asset control and that have a system unit cost equal to or greater than the currently approved expense/investment dollar threshold of $15,000" are investments. In our opinion, Procurement funds were required for the eight 420K balloons. In addition, the Air Force guidance is obsolete and should be reviewed based on performance and dollar value of aerostat balloons in inventory. Because of the current dollar value and state-of-the-art technology that has extended the lifespans of the aerostat balloons, we consider those assets to be investment items that should be purchased with Procurement funds.

After completion of our audit, the Deputy Chief Financial Officer, Office of the Comptroller of the Department of Defense, issued guidance on January 26, 1994, which clearly defines an investment item. The guidance states that "assets . . . will be capitalized when they have a useful life of two years or more and an acquisition value of $25,000 or more." This clarification of policy is consistent with our interpretation of how an aerostat balloon should be categorized for accounting purposes.

High Rock TARS Site

Military Construction of the High Rock Site. The Air Force used O&M funds for reconstitution of the TARS site at High Rock, Bahamas. The High Rock TARS site was deactivated in March 1992 and has been in a caretaker status since that time. Our visit to High Rock in May 1993, showed it was not a usable facility, and significant work was needed to bring the prior Coast Guard site up to Air Force standards. The 4700th OSS plans to reconstitute the site and commence operation during July 1994.

The TARS program manager told us that the 4700th OSS inquired about the possibility of reprogramming Military Construction funds that had been

approved for the Venice, Florida site for the High Rock reconstitution, but were advised by the Air Staff that Military Construction is approved by project and cannot be reprogrammed for another project. Documentation of the reprogramming request was not available for review.

A military construction project must be specifically authorized by law (10 U.S.C. 2802) in order to be carried out by a Secretary of a Military Department. Once a military construction project is authorized by law (generally in an act providing military construction appropriations), then the project must be funded from an appropriation available to pay for the cost of the project. In general, DoD appropriations are not available to finance military construction projects unless the funds are specifically made available for that purpose. In this regard, 10 U.S.C. 2805 provides authority for the respective Secretary, with amounts authorized by law for such purpose, to carry out unspecified minor military construction projects not otherwise authorized by law. Except as otherwise specifically provided, 10 U.S.C. 2805(c)(1) puts an upper limit of $300,000 on the use of funds appropriated for operation and maintenance to carry out a military construction project.

Title 10 of the U.S. Code contains other specific provisions that govern the ability of the Military Departments to complete military construction projects and how they can be funded. Section 2801 defines a "military construction project" as "all military construction work . . . , necessary to produce a complete and usable facility . . . ." Section 2801 further defines a "facility" as a "building, structure, or other improvement to real property."

The Comptroller General of the United States had pointed out in numerous cases, such as in case B-234326.15 (December 24, 1991), that the construction of a single "complete and usable facility" may involve the construction of several interrelated buildings, structures, or other improvements to real property. The key factor is whether a single building, structure, or other improvement can satisfy the need that justified the construction project. If multiple buildings, structures, or other improvements must be constructed to meet the need for a single "complete and usable" facility, then all such construction will typically constitute one military construction project to which the statutory funding limits apply.

The 4700th OSS Civil Engineer estimated construction and repair cost at about $1.4 million to reconstitute the High Rock TARS site to an operational state. The 4700th OSS coordinated with ACC's Assistant to the Civil Engineer to divide the work into 10 separate O&M funded minor construction projects with none to exceed $300,000. ACC tasked the Army Corps of Engineers to administer the contract to reconstitute High Rock. The Army Corps of Engineers questioned whether the total construction efforts should be construed to be "one minor construction project for installation modernization," but proceeded with the project based on assurance by the 4700th OSS that High Rock "is an existing site with multi-category code facilities, which stand alone in their function . . . ." The 10 O&M projects were submitted to industry for bid under one competitive solicitation. The operations project (building)

was limited to $300,000 to preclude exceeding the dollar threshold for minor construction. Although the auditors questioned the contracting strategy with both the ACC and 4700th OSS, the contract was awarded at the end of FY 1993.

All 10 projects were needed to achieve a complete and usable operational aerostat site at High Rock. Without approval and funding of a Military Construction project, dividing the High Rock site work into 10 projects was the only means to reconstitute the facility in the near term using available O&M funds. Treating the reconstitution of High Rock as a single project would have precluded the use of O&M funds. Since Military Construction funds are required for projects that exceed $1.4 million, we believe that the use of O&M funds in this instance was inappropriate. Furthermore, we believe that proper planning for restoring TARS service at High Rock before the site was deactivated could have avoided improper use of O&M funds.

Conclusion

Officials at Headquarters, U.S. Air Force, and the ACC did not properly assess the risk associated with the TARS program. Although the attempt to standardize the TARS was well-intentioned, the effort was beyond the scope of the O&M contract and outside the expertise of both the 4700th OSS and 4400th CONS personnel who were responsible for maintaining and supporting the TARS. An analysis of the operational effectiveness and availability of candidate systems was not performed, and a piecemeal approach versus a systems approach was used to develop a new 420K system. The development of a new 420K system proceeded although an inherent design flaw existed, and the design of the balloon required modifications to accommodate the size of the payload. Also, resources of the 4700th OSS were focused on development of a new system rather than on the need for spare parts to keep the existing system operational. As a result, the following acquisition planning deficiencies occurred:

- o critical spare parts were not available for about 18 months;
- o the 4700th OSS can provide no assurance that the most promising system was procured;
- o defective technology in the design of a balloon delayed reconstitution of some sites by as much as 12 months;
- o competition was circumvented; and
- o O&M funds were improperly obligated for RDT&E, Procurement, and Military Construction.

Management Comments and Audit Response on the Finding

Air Force Comments. The Air Force generally concurred with the finding and stated that a plan to correct the deficiencies in logistical support for the TARS had been outlined and agreed that a replacement TARS system was being developed without proper acquisition planning. The Air Force nonconcurred that operational responsibility was prematurely assigned to the 4700th OSS because the TARS was assumed to be capable of meeting the Air Force criteria for an operational system. Although the Air Force agreed that five TARS sites were nonoperational for up to 28 months as a result of provisioning problems, the Air Force stated that lack of documentation and consumption data and difficulties in certifying cost and pricing information contributed to the delay. The Air Force agreed that the TARS replacement system contained design deficiencies, that delivery was delayed in order to correct the design deficiencies, and that a promising concept analysis should have been done in accordance with standard acquisition procedures. The Air Force nonconcurred that Operation and Maintenance funds were improperly used for military construction costs. Further, the Air Force commented that if the Director (Budget Management and Execution) had been made aware of the major design and modification before the audit, the Air Force guidance would have discussed proper use of Procurement and RDT&E funds. Additionally, the Air Force stated that the use of O&M funds for the construction work at High Rock was fully researched, appropriate, and correct. The complete text of the Air Force comments is in Part IV.

Audit Response. As indicated in the discussion of the finding, we agree that the circumstances of the TARS program transfer were unusual and guidance was lacking. Nevertheless, the congressional direction for DoD to assume responsibility for operations, maintenance, and support of the TARS network did not preclude the Air Force from assessing the status of the TARS program. On the contrary, an assessment of the network was warranted because the Air Force recognized the inadequate condition of logistical support existing at the time the TARS was transferred from Customs to the Air Force. The TARS was simply not ready for assignment to an operation and maintenance unit with insufficient expertise in handling systems fielded in the state that the TARS was in at the time. Regarding the use of O&M funds for the construction work at High Rock, the Air Force did not respond to the audit position that multiple improvements were required to make High Rock a usable facility and that the combined efforts should constitute one military construction project. We ask that the Air Force reconsider its position, because the $2.1 million effort (original estimate was $1.4 million) to reconstitute the High Rock site is clearly a single construction project to make the site a "complete and usable" facility.

Recommendations, Management Comments, and Audit Response

Changes to Recommendations for the Final Report. We expanded Recommendations 2.b.(1) and 2.b.(2) in the final report to reflect the exact amounts needing adjustments in each funding category. In addition, after completion of the audit field work, information related to the reconstitution of the High Rock site was made available. Therefore, Recommendations 2.b.(3) and 2.b.(4) were added to identify any improper use of Operation and Maintenance funds that occurred after completion of audit field work. Recommendation 2.c. was added to require compliance with Air Force procedures if an Anti-Deficiency Act violation occurs as a result of the accounting adjustments.

1. We recommend that the Assistant Secretary of the Air Force (Acquisition):

a. Assess the Tethered Aerostat Radar System requirements and establish guidance that identifies responsibilities of all organizations involved in development, funding, and operations for the Tethered Aerostat Radar System.

Air Force Comments. The Air Force nonconcurred with the draft report recommendation and proposed an alternative. Although the recommendation is sound, in lieu of requiring a Program Management Directive, the Air Force proposes assessing the current requirements of the TARS system to determine whether a Program Management Directive is warranted. If tasked with the acquisition responsibility for any future TARS sites, a Program Management Directive would be developed.

Audit Comments. We agree with the Air Force that a complete Program Management Directive is not warranted based on the late stage of development of the TARS program. However, we maintain that certain aspects of a Program Management Directive are needed to improve operational performance of the TARS. At a minimum, contingency procedures to replace TARS assets destroyed as a result of unplanned events (for example, weather conditions or accidents) need to be identified. In addition, roles and responsibilities affecting the management and operation of the TARS need to be defined to include all organizations with a vested interest in the TARS. Therefore, we revised the recommendation to provide guidance relating to operational matters in lieu of a detailed Program Management Directive. We request that the Air Force comment on the revised recommendation.

b. Complete development of the Tethered Aerostat Radar System based on a comparison of cost, performance, and availability of other comparable systems.

Air Force Comments. The Air Force nonconcurred with the draft report recommendation to base the TARS development on the most promising system analysis and stated that trying to choose an alternative, most promising system at this point would dramatically increase program risk and cost.

Audit Comments. In lieu of a comprehensive "most promising system" assessment that may significantly disrupt ongoing development and increase program cost, we have revised the recommendation to require a comparison of all TARs based on cost, performance, and availability. Therefore, we ask that in response to the final report, the Air Force comment on the revised recommendation.

2. We recommend that the Commander, Air Combat Command:

a. Categorize the aerostat balloon as an investment item.

Air Force Comments. The Air Force concurred, stating that all existing aerostat balloons and all future purchases will be categorized as investment items.

b. Make the appropriate accounting adjustments to deobligate the incorrect FY 1992, FY 1993, and FY 1994 Operation and Maintenance obligations and obligate the correct appropriations as follows.

(1) Deobligate $6,800,403 of FY 1992 Operation and Maintenance funds and obligate $6,800,403 of FY 1992 Research, Development, Test, and Evaluation funds.

(2) Deobligate $8,217,936 of FY 1992 Operation and Maintenance funds and obligate $8,217,936 ($1,293,152 for support equipment and $6,924,784 for eight aerostat balloons) of FY 1992 Other Procurement, Air Force, funds.

(3) Determine whether FY 1993 and FY 1994 Operation and Maintenance funds used for the reconstitution of the High Rock site after September 30, 1993, the cutoff date of the audit field work, exceeded statutory thresholds of $300,000 for minor construction.

(4) Identify all other Operation and Maintenance funds improperly used in funding actions for the Tethered Aerostat Radar System, after September 30, 1993, and make the appropriate corresponding adjustments.

c. Follow procedures in Air Force Regulation 177-16, "Administration Control of Appropriations," to report any Anti-Deficiency Act violations, and initiate disciplinary action against the responsible officials if actions taken to implement Recommendation 2.b. should cause an overobligation in the appropriation accounts.

Air Force Comments. The Air Force concurred with the draft report recommendation to make accounting adjustments due to the incorrect use of O&M funds, stating that the changes to the 420K design were modifications and agreed to review the effort and make appropriate funding adjustments.

Audit Comments. The Air Force comments discuss only the modification to the 420K aerostat, and are, therefore, not fully responsive. The inappropriate use of O&M funds included the military construction effort at the High Rock site. For the reasons previously discussed, we expanded Recommendation 2.b. and added Recommendations 2.b.(3) and 2.b.4(e). Therefore, in the response to the final report, we ask that the Air Force comment on the expanded and new recommendations.

Finding B. Destruction of the High Rock Aerostat Balloon

The aerostat balloon located at the High Rock, Bahamas, site was destroyed without an engineering analysis of its condition and coordination with the law enforcement officials who used the TARS data. In addition, the 4700th OSS did not develop a contingency plan to replace the High Rock balloon after destruction. These conditions resulted from actions taken by the Contracting Officer's Technical Representative (COTR) that were contrary to contract terms and provisions of the Federal Acquisition Regulation. As a result, vital radar coverage has been interrupted for a minimum of 2 years and a potentially repairable asset, with a replacement cost of $1.7 million, was destroyed without documented justification and without assurance that the balloon was beyond repair.

Background

The High Rock TARS site is located on Grand Bahama Island. That site, the Georgetown and Great Inagua sites also in the Bahamas, and the Lajas site in Puerto Rico will comprise the TARS coverage in the Caribbean Basin. The data obtained from those radar systems is electronically linked with the Command, Control, Communications and Intelligence, East, facility in Miami, Florida, a joint U.S. Customs and Coast Guard operation that analyzes the data collected and coordinates with other concerned drug enforcement agencies to interdict smuggling activities.

Aerostat Balloon Destruction

The balloon at High Rock had been flown in Nigeria for about 1 year then was deflated and stored for about 5 years. In January 1985, the balloon was reinflated for use at High Rock, deflated again in November 1988 for repair, and reinflated in December 1988. In February 1992, the previous O&M contractor (TCOM) downhauled the aerostat balloon and moored it to the stationary tower after determining that the mooring drum shaft, used to downhaul the aerostat balloon, was cracked. On March 1, 1992, Loral assumed O&M responsibility for the TARS including the site at High Rock. On March 26, 1992, Loral destroyed the High Rock balloon and subsequently dismantled the site.

Flight Safety. The 4700th OSS justified the destruction of the balloon at High Rock based on a flight safety hazard. However, the 4700th OSS did not perform an analysis documenting a comparison of the balloon's condition to

accepted safety standards to demonstrate a potential safety hazard. The 4700th OSS stated that the low level of helium purity and high level of helium loss exhibited by the High Rock balloon constituted a flight safety hazard, although no standards for acceptable helium purity or helium loss were in place at the time of the balloon's destruction. A 90-percent purity level and a 100-pound-per-day, lift-loss standard was established in June 1993. If those standards are not met, the contractor is to notify the 4700th OSS and recommend corrective action.

Helium Purity and Airworthiness. Helium purity is an important element of the airworthiness of the balloon. The helium provides the "lift" that allows the balloon to stay aloft. If the helium purity is too low, the balloon's altitude cannot be maintained and its flight safety is jeopardized. Aerostat balloons typically lose some helium on a continual basis, but it is normally replaced at a rate that compensates for the loss.

Based on interviews with members of the 4700th OSS and Loral representatives, we determined that both the COTR and senior Loral officials claimed that the helium purity within the balloon had fallen to 80 percent. That purity ratio was referenced by Loral in its May 13, 1992, and June 22, 1992 (60- and 90-day), deficiency reports on the High Rock site. However, the flight logs at the site showed that the helium purity did not fall below 90.5 percent and that the helium purity was at 91 percent at the time of destruction.

High Level of Helium Loss From Aerostat. The 4700th OSS cited the high daily lift loss (the amount of helium that a balloon loses per day) as another reason why the balloon at High Rock was considered a flight safety hazard. According to flight logs, the High Rock balloon was losing 150 pounds of helium per day and had a helium purity of 91 percent. Representatives from the 4700th OSS and Loral told us that those two factors weighed heavily on the decision to destroy the balloon at High Rock in March of 1992, yet, in the same year, balloons at two other sites that experienced worse helium purity and higher lift loss rates continued to fly. For example, the balloon at the Marfa, Texas, site was losing 213 pounds of helium per day, and the balloon at the Cape Canaveral, Florida, site had a helium purity of 86 percent and was losing 338 pounds of helium per day.

According to the Site Operations Reports from January 1991 to January 1992 (when the site was under TCOM management), the operational availability of the TARS at High Rock was in excess of 95 percent. During that same time, according to the daily Site Operations Reports, the aerostat balloon was down due to helium-related problems for a total of only 5 hours and 20 minutes. Site Operation Reports from prior years do not support the contention that the High Rock aerostat balloon experienced excessive helium loss or suffered poor helium purity levels.

Actions of the COTR. On March 18, 1992, the 4700th OSS COTR at Langley Air Force Base, Virginia, directed Loral, via an electronic facsimile message to deflate the balloon at High Rock. Based on our discussions with

both the COTR and senior Loral representatives, it was understood by both Loral and the COTR that the COTR's direction to deflate would result in destruction of the balloon.

During normal balloon deflation, equipment such as a "high reach" vehicle and other vehicles, usually on site, are used to secure the balloon. Also, a net may be used to cover and stabilize the balloon so that orderly deflation can be safely completed. According to the 4700th OSS TARS program manager, that equipment was at the site, but was not operational and lacked safety certification. Instead of making provisions to get the equipment operational, the COTR decided to order a rapid or "catastrophic" deflation, which required cutting holes in the balloon and consequently, its destruction.

A March 20, 1992, letter from the Loral Operations Supervisor directed the establishment and deployment of the "inflation/deflation team" to High Rock and directed the High Rock site manager to prepare the balloon "for catastrophic deflation." Additionally, Loral employees stated that a special tool was fabricated to be used by the "inflation/deflation team" to aid in cutting the skin of the balloon.

Maintenance Actions Taken Before Balloon Destruction. In 1991, the Coast Guard initiated an upgrade to the High Rock aerostat balloon. That upgrade consisted of replacing the electronic housekeeping equipment within the balloon. Additionally, in February 1992, 1 month before the balloon was destroyed, the 4700th OSS contracted to repair the mooring system storage drum and shaft at a cost of about $37,000. A 4700th OSS officer stated that the drum and shaft were being repaired specifically to be returned to High Rock.

The maintenance and repair actions taken in 1991 and 1992 appear inconsistent with the decision to destroy the balloon and dismantle the site based on their deteriorated condition. Further, no 4700th OSS or Loral documentation exists that indicates the balloon could not be repaired or that destruction of the balloon was the most cost-effective solution. Also, no records indicate that an effort was made to conduct a "repair versus replace" analysis before destruction, which is an Air Force business practice in arriving at a decision to destroy Government property with a high-dollar value.

The decision to destroy the balloon was inconsistent with the actions taken in the preceding year to repair and upgrade the balloon and site, and a perceived urgency to destroy the balloon was not justified by the documentation on the balloon's flight safety. In addition, the decision was inadequately planned and coordinated. The effects of the balloon's destruction are significant, considering the importance of the High Rock TARS location.

Actions to Destroy the Balloon. Loral personnel deflated the High Rock balloon based on the March 18, 1992, facsimile message from the COTR. The contracting officer's designation letter, dated February 7, 1992, made the COTR responsible for verifying Government property was properly maintained and accounted for and for advising the Government Property Administrator of any adverse conditions.

The designation letter also instructed the COTR to keep the contracting officer informed of the progress of work and potential problems. Since deflation was acknowledged to be synonymous with destruction, the COTR should have coordinated the action with the contracting officer. Based on elapsed time for Loral to notify and assemble a destruction team, ample opportunity existed for the COTR to notify the contracting officer and document the condition of the balloon. Loral notified the contracting officer 10 days after destruction of the balloon.

The TARS contract, through provisions of Federal Acquisition Regulation, part 52, requires the contractor to notify the contracting officer of receipt of Government property not suitable for the intended use. After notification, the contractor would be authorized by the contracting officer to repair, modify, return, or otherwise dispose of the item. Loral did not notify the contracting officer before the balloon's destruction and acted entirely on the COTR's direction. That action was contrary to the provisions of the contract and precluded the contracting officer from determining an alternative course of action, which could have minimized the effects on the TARS mission. The actions of both the COTR and Loral were not properly authorized and based on the limited documentation available, not justified.

Air Force and Contractor Actions Based on Balloon's Condition. In response to our request for all documentation relevant to the decision to destroy the High Rock balloon, the 4700th OSS and Loral gave us two assessments regarding the condition of the High Rock site. The first assessment, a site survey, was prepared by Headquarters, Tactical Air Command (now ACC), on January 13 through 16, 1992. That survey assessment states, "Both sites [High Rock and Georgetown] meet their operational requirements well." In addition, the report suggests increased preventative maintenance and some improvements to substandard facilities, but did not mention necessary upgrades or repairs to the balloon or the mooring system.

When Loral assumed responsibility of the High Rock site, it also assessed the site's condition and sent three notices to the 4400th CONS regarding the condition of the High Rock site. According to the first notice of February 26, 1992, Loral reported problems, such as balloon helium leakage, and a warped mooring rail, which Loral believed needed repair as soon as possible. Loral recommended, "the Cariball I [High Rock] site be placed in an inactive status for 30 to 60 days (depending on weather conditions) effective March 1, 1992." During that period, Loral planned to repair the deficiencies discovered at the site. In the second notice of March 4, 1992, Loral suggests that, "a joint Air Force/Loral inspection of the Cariball I [High Rock] site may be in order." In the third notice of March 13, 1992, Loral commented it was "presently making plans and taking the necessary actions to deflate the Aerostat at Cariball I [High Rock] and begin corrective actions at the site."

The 4700th OSS did not initiate an inspection, although Loral asked for a "Joint Air Force/Loral inspection." In addition, no engineering assessment was performed on the site before the balloon was destroyed, and the site was dismantled. According to site personnel, once Loral assumed management of the site from TCOM, no engineer visited the site to determine the balloon's

condition. Ultimately, according to senior 4700th OSS representatives, it was on the basis of the balloon's flight safety record that the COTR instructed Loral to destroy the balloon.

Need for Planning and Coordination Before Destruction of Aerostat

Alternative Actions Available. Several options were available when the 4700th OSS decided to destroy the High Rock balloon and dismantle the site. Those options included repairing the balloon and site in a manner that would not significantly disrupt the mission, replacing the system with a similar 71-meter system, or replacing the existing system with the Air Force 420K system that is under development.

In January 1991, TCOM submitted a $3.3 million proposal to the Coast Guard to provide a new balloon and upgrades to the mooring/winch system and the airborne support equipment at High Rock. That proposal would have provided the major upgrades and improvements necessary to the site, and High Rock would have been, according to the TCOM proposal, fully operational within 5 months.

In March 1992, the 4700th OSS decided to dismantle and rebuild the site at an estimated cost of $9.2 million. That decision would delay operations at least 28 months.

The importance of the High Rock site in providing critical counterdrug surveillance was recognized by the 4700th OSS in its January 1992 document to justify other than full and open competition. In that document, the 4700th OSS stated that "it is imperative that the services of TCOM continue at Cariball I [High Rock] without interruption" and that "without Cariball I, the effectiveness of radar coverage and its associated air and marine data from adjacent TARS is greatly diminished."

Although 4700th OSS senior managers could provide no formal planning study or documentation, they stated the balloon at Cape Canaveral was planned to replace the High Rock balloon until the 420K system was available. However, after the High Rock balloon was destroyed, an engineering assessment of the Canaveral balloon determined that the planned replacement balloon could not withstand the stress that would be encountered in the deflation and reinflation process.

The 4700th OSS intended to use the 420K system at High Rock without benefit of a life-cycle cost analysis or a repair versus replace analysis as required by Federal Acquisition Regulation part 7. As a result, the 4700th OSS did not ensure that the most cost-effective solution was used or that the effects on the TARS mission were minimized.

After destruction of the High Rock balloon, 22 out of 34 Loral employees remained on site for maintenance and security purposes. Costs incurred for personnel at High Rock during the estimated 28 months that the site will not be operational will exceed $3.3 million. In addition to the contractual costs of about $54,000 associated with the dismantling of the site, surveillance information will be lost during the 28 months in what has been described by the Air Force as a high-risk drug trafficking area. Furthermore, neither the destruction of the High Rock balloon nor the reduction in coverage was coordinated with users of the surveillance data before deactivation of the site.

Air Force Actions Needing Coordination with Customs Officials. The 4700th OSS did not coordinate the planned destruction of the balloon at High Rock with Customs or any other law enforcement agency that used TARS surveillance information. In 1991, the 4700th OSS had established a "quarterly program review" within the TARS community, with the primary purpose of giving the TARS customer an opportunity to discuss requirements, solutions, and schedules. Nonetheless, senior Customs officials told us that they received no prior notice of the demise of the High Rock TARS balloon and the suspension of the site's mission either formally or through the quarterly program review process. The lack of coordination prevented surveillance data users from identifying the importance of the High Rock mission and from suggesting alternatives that could have extended the operations of the site. In November 1992, Customs ranked reconstituting the High Rock site as second only to maintaining operation of functioning sites in its list of priority funding actions for FY 1993, demonstrating the importance of the High Rock TARS. After the experience with the High Rock aerostat and subsequent concerns raised by Customs officials regarding the lack of notification, 4700th OSS officials developed written procedures that specify operationally related actions requiring coordination. Those procedures were agreed to by officials at Customs, Coast Guard, and ACC. Those procedures should provide for advance notice of planned mission interruptions.

Conclusion

Aerial surveillance coverage has been lost for a high-risk drug trafficking sector. Actions of the 4700th OSS to deactivate the High Rock site were neither justified nor accomplished in accordance with terms of the contract or provisions of the Federal Acquisition Regulation. Further, the contractor's actions were contrary to the provisions of the Federal Acquisition Regulation. The decision to destroy the balloon at High Rock was based on erroneous performance data that overstated the severity of the balloon's deteriorated condition.

The lack of documentation supporting the decision to deactivate the site indicates failure to exercise due care on the part of the 4700th OSS. In addition, alternatives were not considered in an attempt to minimize the negative impact on the TARS mission resulting from the loss of the High Rock balloon.

The significance of the High Rock mission was not considered when the decision was made to deactivate the site. At a minimum, a repair versus replace assessment was warranted. Additionally, the condition of the balloon at Cape Canaveral to meet the relocation requirements should have been determined before destruction of the High Rock balloon. Finally, the schedule for the destruction of the balloon at High Rock should have been coordinated with the supported law enforcement agencies in order to permit the establishment of contingency and alternate support plans.

Management Comments and Audit Response on the Finding

Air Force Comments. The Air Force agreed that a formal engineering analysis was not performed before the destruction of the High Rock aerostat balloon, and in retrospect, should have been accomplished. The balloon's excessive use of helium just before its destruction evidenced the balloon's poor condition. The Air Force concurred that the High Rock aerostat balloon was destroyed without full coordination with all users and that Air Force's inexperience in the counterdrug arena inadvertently resulted in Customs not being consulted on the decision. Regarding the lack of a contingency plan to replace the High Rock balloon, the Air Force stated that a contingency plan slated the TARS depot engineering and test aerostat for deployment to High Rock; however, unforeseen problems arose, and the depot aerostat could not be relocated to High Rock. The Air Force nonconcurred that the COTR acted contrary to provisions of the Federal Acquisition Regulation. The COTR did exceed his authority, but did not literally violate Federal Acquisition Regulation part 52.245.2(e)(3) as the Government representative directing the destruction of the High Rock aerostat. Although the Air Force concurred that vital radar coverage was interrupted for a minimum of 2 years, the contingency plan to provide radar coverage for the destroyed High Rock balloon would have included 70 percent of the original surveillance area. However, the destruction of additional assets due to a winter storm resulted in coverage not being available. The Air Force nonconcurred that a potentially repairable asset was destroyed without documented justification and assurance that the balloon was beyond repair. Ample evidence showed a badly deteriorated site to include a mooring system that was beyond repair and unsatisfactory for continued operation and an aerostat that was not safe to fly. The complete text of the Air Force comments is in Part IV.

Audit Response. The Air Force comments were partially responsive. A critical ingredient to the successful implementation of the Air Force contingency plan to replace the High Rock balloon after destruction, was the use of an existing depot aerostat; however, after destruction of the High Rock balloon, it was determined that the depot aerostat could not be relocated to High Rock. This significant oversight in planning and the absence of radar coverage of a vital location demonstrates the lack of a viable contingency plan. The Air Force referenced to Federal Acquisition Regulation part 52.245-2(e)(3), which describes what to do when damage occurs to Government property. The audit finding concerns Federal Acquisition Regulation part 52.245-2(a)(3) [not (e)(3)]

as cited in the finding discussion. The Federal Acquisition Regulation states that only the contracting officer may direct the repair, modification, return, or disposition of Government-furnished property received by the contractor in a condition not suitable for the intended use. The direction given by the COTR resulted in the balloon's destruction, which was predictable. The Air Force's nonconcurrence with the finding statement that the potential repair of the balloon had not been assessed and that there was no assurance that the balloon was beyond repair is inconsistent with the admission that no engineering analysis of the balloon's condition had been undertaken. The Air Force referenced National Aeronautics and Space Administration documents for shipments of helium to the site. The amount of helium shipped to the site is difficult to correlate to the balloon's performance. For audit purposes, we used actual balloon flight logs to assess the flight safety of the High Rock balloon. When compared with other sites, the High Rock balloon's lift loss and helium purity were not the worst of all the TARs yet it was the only balloon designated for a catastrophic destruction.

Recommendation, Management Comments and Audit Response

Change to Recommendation for the Final Report. The recommendation has been revised to specifically identify responsibility for the balloon's destruction.

We recommend that the Commander, Air Combat Command, review the performance of the Commander, 4700th Operations Support Squadron, and the Contracting Officer's Technical Representative related to the destruction of the aerostat balloon at the High Rock site and take appropriate action.

Air Force Comments. The Air Force nonconcurred with the draft report recommendation to review the COTR's performance related to destroying the balloon and stated the COTR's actions were consistent with previous actions affecting High Rock aerostat operations. The Air Force believes the issue to be one of procedure, and although adequate documentation did not exist to support the COTR's actions, events leading up to the destruction of the High Rock aerostat were justified and inevitable.

Audit Response. We consider management's comments nonresponsive. The establishment of policy and procedures, as suggested by the Air Force, to preclude future actions similar to the High Rock incident is of value. However, during the audit, Commander, 4700th OSS, told us that the COTR had received a letter of reprimand. As a result, we believed the overall disciplinary issue involving the COTR was being handled within Air Force channels. However, after issuance of the draft audit report, we learned that the Air Force expunged the unfavorable information from the personnel file and promoted him. Based on those Air Force actions, we believe the following information regarding the COTR's performance in the aerostat operations supports the recommendation. The COTR had:

o unsuccessfully sought employment with TCOM before the destruction of the High Rock balloon;

o participated as a member of a source selection panel that disqualified TCOM's bid for the TARS O&M contract;

o directed the destruction of the TCOM-manufactured balloon at High Rock; and

o attempted to thwart TCOM's efforts to sell aerostats to the government of Kuwait by communicating, on official 4700th OSS stationery, derogatory information to the Deputy Chief of Staff, Ministry of Defense in Kuwait.

Given those facts, we cannot accept the Air Force position that the issue is one of procedure regarding adequate documentation. Since the Commander, 4700th OSS, knew of the COTR's questionable actions, we have expanded the recommendation to include review of the performance of the Commander, 4700th OSS. While the exact type of action to be taken is the prerogative of the chain of command, accountability is at issue and simply reminding personnel to document matters better in the future is clearly an inadequate response. We request that the Air Force reconsider its position and provide comments on the revised recommendation.

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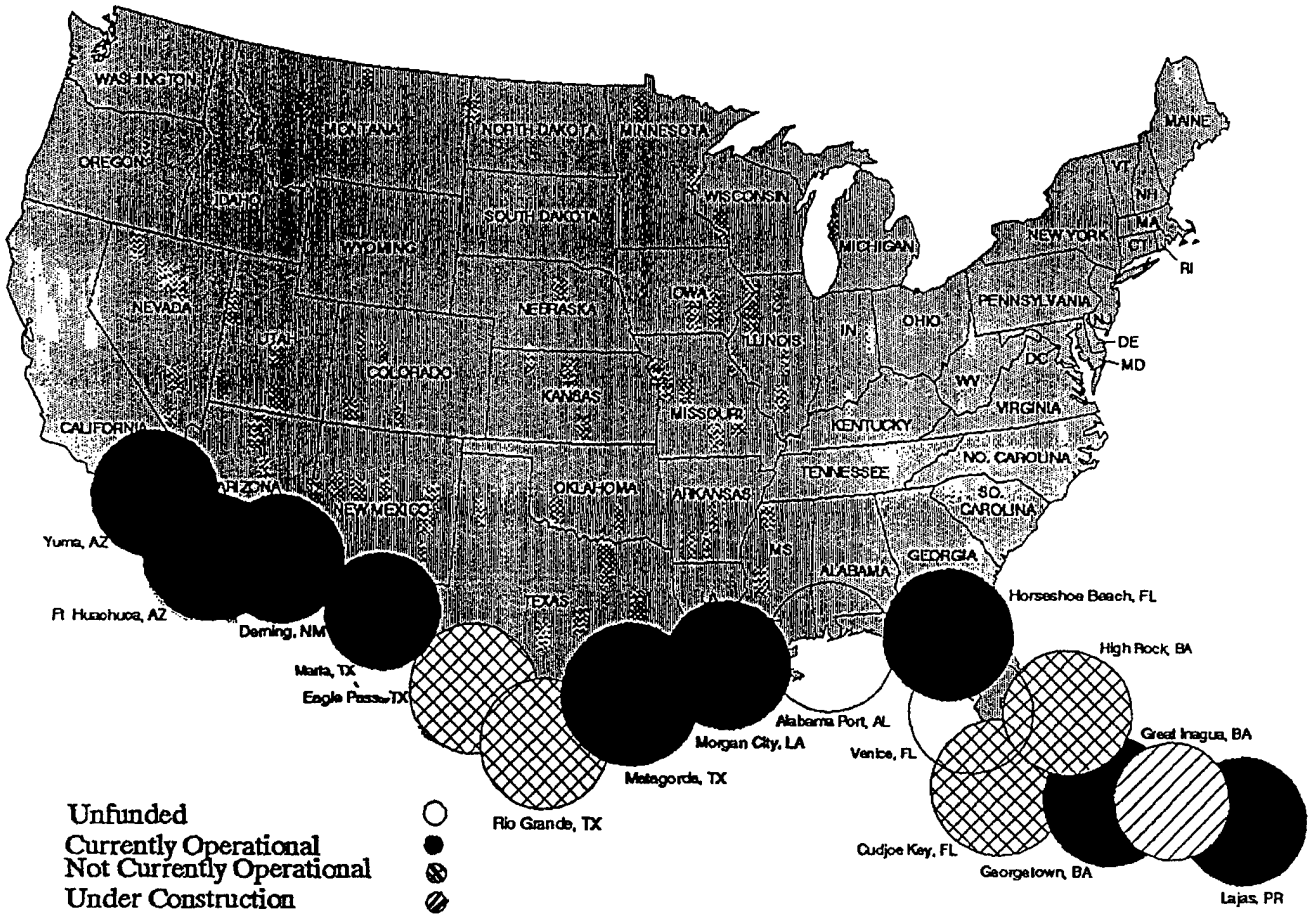
Part III - Additional Information

Appendix A. TARS Configuration

(As of September 30, 1993)



NOTE:
Cape Canaveral site was deactivated in March 1993.

Appendix B. Hotline Allegations and Applicable Audit Results

The TCOM, Loral, and anonymous allegations concerning the Air Force's management of the TARS are itemized below with a description of the audit results pertaining to each allegation.

TCOM Allegations

Allegation. Existing, proven, and cost-effective technology was not used. Instead, the Air Force chose to develop its own TARS design, which was riskier and more costly.

Audit Result. The allegation was substantiated and is discussed in Finding A.

Allegation. The Air Force improperly used Operation and Maintenance funds for the Research, Development, Test and Evaluation efforts and to procure radars and aerostat balloons.

Audit Result. The allegation was substantiated and is discussed in Finding A.

Allegation. In March 1992, the Air Force destroyed the aerostat balloon at High Rock, Grand Bahamas, before determining remaining useful life.

Audit Result. The allegation was substantiated and is discussed in Finding B.

Allegation. TCOM proposed an upgrade of the High Rock site that would have cost approximately $3 million versus the Air Force estimate of more than $9 million.

Audit Result. The allegation was partially substantiated and is discussed in Finding B.

Allegation. The Air Force defines aerostat balloons as "consumables" to justify the use of Operation and Maintenance funds for procurement.

Audit Result. The allegation was substantiated and is discussed in Finding A.

Allegation. The Air Force is not interested in a 5-year warranty because it believes the balloons "crash every year and a half."

Audit Result. The allegation was not substantiated. The 420K balloon under development has a 5-year warranty.

Allegation. TCOM proposed to correct the problem of winch trucks destroying tethers. The proposal would have restored site operations by December 1992 at

a cost of $10 million. The Air Force chose instead to develop a new aerostat balloon and support equipment with a downgraded radar, which will not be in operation before August 1993.

Audit Result. The allegation was not substantiated. TCOM did not submit a formal proposal to the Air Force for consideration.

Allegation. Destruction of the operation at High Rock was contrary to agreements with the Bahamian Government.

Audit Result. The allegation was not substantiated. The audit found no evidence of such agreements.

Allegation. The Air Force ordered the complete destruction of the High Rock mooring system to preclude a TCOM aerostat balloon from being flown there.

Audit Result. The alleged motive was not substantiated. Although it is true that the Air Force approved the destruction of the mooring system, the destroyed mooring system was not compatible with the planned replacement system. Finding B discusses the system replacing the TCOM aerostat balloon.

Allegation. The Air Force was not meeting the congressional task DoD had received to support Federal law enforcement agencies.

Audit Result. The allegation was not substantiated. The audit found no criteria to measure the level of support needed and no evidence that the law enforcement agencies included TARS support in their attempts to assess performance.

Loral Allegations

Allegation. Efforts were carried out to stop the Government's efforts to develop an integrated, single-contractor, O&M program. Additionally, Federal Acquisition Regulation procedures regarding the provision of technical data and logistics support were not followed by TCOM.

Audit Result. The allegation was not substantiated. The audit found no evidence that TCOM's intent was to stop the Government's efforts to develop an integrated, single-contractor, O&M program. In addition, auditor discussions with senior personnel from the 4400th CONS and the 4700th OSS showed that TCOM complied with the Air Force provisions on technical data and logistics support.

Allegation. An instruction to remove site files was carried out so thoroughly that some Government-owned files were removed.

Audit Result. The allegation was substantiated; however, the Government contributed to the condition by not promptly definitizing letter contracts for the purchase of technical data. Corrective action had been completed before our audit, and the audit disclosed no degradation to mission performance as a result of TCOM employees removing files.

Allegation. A program of intimidation against site employees was attempted.

Audit Result. The allegation was not substantiated. TCOM employees are required to sign a document pledging not to release TCOM proprietary information. The audit found no evidence that the requirement was intimidating.

Allegation. The location and status of critical spare parts could not be determined, causing a serious detriment to successful operations.

Audit Result. The allegation was not substantiated. Loral was unable to provide documentation supporting the allegation.

Allegation. The Air Force has not been able to obtain certain pricing and availability information for spare parts.

Audit Result. Discussions with senior Loral officials could not substantiate the allegation. All required significant information had been provided.

Allegation. Missing technical documentation created serious problems in the establishment of a required maintenance program.

Audit Result. Although technical documentation was inadequate when the Air Force took over management of the TARS from the U.S. Customs Service and the U.S. Coast Guard, the 4700th OSS procured about $10 million in proprietary data to correct the shortfall. The TARS was not adequately assessed when transferred to the 4700th OSS, adding to the need for technical documentation. This matter is discussed in Finding A.

Allegation. Acquired documentation packages did not highlight major site configuration differences.

Audit Result. The allegation was not substantiated. Senior Air Force officials in the TARS program management office stated that the documentation packages contained only minor deficiencies, which had been corrected.

Allegation. Snow and ice removal equipment was modified without Air Force approval.

Audit Result. The allegation was substantiated, but corrective action had been completed before the audit.

Anonymous Allegations

Allegation. Cable deficiencies have caused tethers to snap.

Audit Result. A review of accident reports did not substantiate the allegation.

Allegation. The radar "sends false [ghost] targets." The radar system is defective and unreliable.

Audit Result. The allegation was not substantiated. Discussions with officials of the 84th Radar Evaluation Squadron of the Air Combat Command indicated that although some minor ghosting occurs, it causes no degradation to system performance.

Allegation. "At Yuma, AZ, in January, February and March 1993, four aerostats have snapped. The aerostats have not been found."

Audit Result. The allegation was not substantiated.

Appendix C. Organizations Visited or Contacted

Office of the Secretary of Defense

DoD Coordinator for Drug Enforcement Policy and Support, Washington, DC

Department of the Air Force

Office of the Assistant Secretary of the Air Force
(Financial Management and Comptroller), Washington, DC
Deputy Chief of Staff, Logistics, Washington, DC
Air Combat Command, Langley Air Force Base, VA
4700 Operations Support Squadron, Langley Air Force Base, VA
4400 Contracting Squadron, Langley Air Force Base, VA
TARS Site, Cudjoe Key, FL
TARS Site, Fort Huachuca, AZ
TARS Site, High Rock, Bahamas
TARS Site, Georgetown, Bahamas
TARS Site, Marfa, TX
TARS Depot, Patrick Air Force Base/Cape Canaveral Air Force Station, FL
84th Radar Evaluation Squadron, Hill Air Force Base, UT

Unified Commands

Atlantic Command, Norfolk VA
Caribbean Regional Operations Center, Key West, FL
North American Aerospace Defense Command, Peterson Air Force Base, CO
Southeast Sector Operational Control Center, Tyndall Air Force Base, FL

Non-Defense Federal Organizations

U.S. Coast Guard, Washington, DC
U.S. Customs Service, Washington, DC
Customs National Aviation Center, Oklahoma City, OK
Command, Control, Communications and Intelligence East, Miami, FL

Non-Government Organizations

Loral Aerospace Services, Horsham, PA
TCOM Limited Partnership, Columbia, MD

Appendix D. Summary of Potential Benefits Resulting from Audit

Recommendation Reference	Description of Benefit	Type of Benefit
A.1.a.	Internal Control and Program Results. Establish guidance that will assign aerostat responsibilities.	Nonmonetary.
A.1.b.	Program Results. Complete TARS development based on comparison of cost, performance, and availability of various systems.	Nonmonetary.
A.2.a.	Compliance. Aerostat balloons will be treated and accounted for as investment items.	Nonmonetary.
A.2.b.	Compliance. Deobligates inaccurate FYs 1992, 1993, and 1994 O&M obligations, including expenditures subsequent to completion of audit field work.	Nonmonetary.
A.2.c.	Compliance. Reports any over-obligation of an appropriation account as an Anti Deficiency Act violation.	Nonmonetary.
Finding B. Recommendation	Internal Control and Compliance. Responsible officials should be accountable for their actions.	Nonmonetary.

Appendix E. Report Distribution

Office of the Secretary of Defense

Assistant Secretary of Defense, (Command, Control, Communications and Intelligence)
Comptroller of the Department of Defense
Assistant to the Secretary of Defense (Public Affairs)
DoD Coordinator for Drug Enforcement Policy and Support
Assistant to the Secretary of Defense (Intelligence Oversight)
Director, Joint Staff

Department of the Army

Auditor General, Department of the Army

Department of the Navy

Auditor General, Naval Audit Service

Department of the Air Force

Secretary of the Air Force
Assistant Secretary of the Air Force, (Financial Management and Comptroller)
Auditor General, Air Force Audit Agency

Unified Commands

Commander in Chief, U.S. Atlantic Command
Commander in Chief, North American Aerospace Defense Command

Defense Agencies

Director, Defense Contract Audit Agency
Director, Defense Logistics Agency
Director, National Security Agency
Inspector General, Central Imagery Office
Inspector General, Defense Intelligence Agency
Inspector General, National Security Agency
Director, Defense Logistics Studies Information Exchange

Department of State

Assistant Secretary of State, Bureau of Intelligence and Research
Assistant Secretary of State, International Narcotics Matters
Inspector General

Department of Transportation

Commandant, United States Coast Guard
Inspector General

Department of Treasury

Commissioner, U.S. Customs Service
Inspector General

Other Federal Organizations

Office of Management and Budget
Office of National Drug Control Policy
U.S. General Accounting Office
National Security and International Affairs Division, Technical Information Center
Operation Alliance, Senior Tactical Coordinator

Congressional Committees and Subcommittees

Chairman and Ranking Minority Member of each of the following Congressional Committees and Subcommittees:

Senate Committee on Appropriations
Senate Subcommittee on Defense, Committee on Appropriations
Senate Subcommittee on Treasury, Postal Service and General Government, Committee on Appropriations
Senate Committee on Armed Services
Senate Subcommittee on Force Requirements and Personnel, Committee on Armed Services
Senate Subcommittee on Regional Defense and Contingency Forces, Committee on Armed Services
Senate Committee on Governmental Affairs
Senate Select Committee on Intelligence
House Committee on Appropriations
House Subcommittee on Defense, Committee on Appropriations
House Committee on Armed Services
House Subcommittee on Military Personnel and Compensation, Committee on Armed Services
House Subcommittee on Readiness, Committee on Armed Services

Congressional Committees and Subcommittees (Cont'd)

House Committee on Government Operations
House Subcommittee on Legislation and National Security, Committee on Government Operations
House Permanent Select Committee on Intelligence
House Subcommittee on Program and Budget Authorization, House Permanent Select Committee on Intelligence
House Subcommittee on Oversight and Evaluation, House Permanent Select Committee on Intelligence

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Part IV - Management Comments

Department of The Air Force Comments

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON DC

28 APR 1994

MEMORANDUM FOR ASSISTANT INSPECTOR GENERAL FOR AUDITING
OFFICE OF THE INSPECTOR GENERAL
DEPARTMENT OF DEFENSE

FROM: HQ USAF/XO
1630 Air Force Pentagon
Washington DC 20330-1630

SUBJECT: Draft Audit Report on Hotline Allegations Pertaining to Aerostat Operations (Project No. 3RF-8014) - INFORMATION MEMORANDUM

This memorandum (with attachment) responds to your 11 Feb 94 request for the Assistant Secretary of the Air Force (Financial Management and Comptroller) to provide Air Force comment on the subject audit. As the office of primary responsibility, HQ USAF/XO developed and coordinated the attached response. The information provided reflects the coordinated Air Force position on the allegations pertaining to aerostat operations. If your staff has any questions concerning the information provided, my action officer for this issue is Maj MacAloon, AF/XOOOD, Ext 70815.

LARRY L. HENRY, Maj Gen, USAF
Acting Deputy Chief of Staff
Plans and Operations

Attachment:
USAF Response to the DoD IG Draft Audit Report

cc: SAF/FM

AIR FORCE RESPONSE TO THE DOD/IG DRAFT AUDIT REPORT ON HOTLINE ALLEGATIONS PERTAINING TO AEROSTAT OPERATIONS

PROJECT # 3RF-8014

DATED 11 February 1994

FINDING A

Logistical support for the TARS was not adequate, and a replacement system was being developed without proper acquisition planning. These conditions occurred because the Air Force did not assess the status of the TARS to determine the associated risks when it assumed responsibility for the operation, maintenance, and support of the program, and because the Air Force improperly determined that the TARS met Air Force criteria for an operational system and prematurely assigned management responsibilities to the 4700th OSS. As a result, provisioning problems caused five TARS sites to be non operational for up to 28 months. Also, the replacement system contained design deficiencies; there is no assurance that the replacement system is the most promising concept; and operation and maintenance appropriation funds were used for development, procurement, and military construction costs.

FINDING A1 ***"Logistical support for the TARS was not adequate,"***

RESPONSE: Concur

COMMENT: The Air Force outlined a comprehensive plan to correct deficiencies in logistical support as well as those in facilities, environmental, operations and safety. Program management briefed this plan to COMACC (Mar 92) and received approval for implementation. ACC's approach was to use funds previously programmed in FY92 and FY93 to pay for these corrective actions using the savings netted through consolidation of separate TARS contracts into one contractual vehicle. However, $25 million in budget cuts in FY93 and FY94 precluded effective implementation of planned corrective measures. Additionally, the ongoing acquisition of sites by USCS and subsequent turnover to USAF exacerbated the number of deficiencies and further diluted available funding. .

FINDING A2. ***"...and a replacement system was being developed without proper acquisition planning."***

RESPONSE: Concur

COMMENT: Product improvements, as outlined in AFR 172-1 Vol 1, are handled as either a modification to an existing system, or as a new system acquisition. AFR 57-4 states that "a modification program is an acquisition program" and as such must comply with the acquisition process. Federal Acquisition Regulation subpart 207.1 states that "military departments and agencies shall prepare written acquisition plans for: acquisition for development...when the total cost of all contracts for the acquisition program is established at $5M or more." Total contract value for the replacement aerostat system was approximately $21.8M, and therefore, an acquisition plan should have been accomplished (see recommendation 1a.)

FINDING A3. ***"...These conditions occurred because the Air Force did not assess the status of the TARS to determine the associated risks when it assumed responsibility for the operation, maintenance, and support of the program, and because the Air Force improperly determined that the TARS met Air Force criteria for an operational system and prematurely assigned management responsibilities to the 4700th OSS."***

RESPONSE: Nonconcur.

COMMENT: Neither the Air Force nor ACC had an option to accept or reject TARS. With little advance notice, Congress directed DoD assume responsibility for operations, maintenance and support (OM&S) for the network acquired and fielded by USCS. As previously stated, the Air Force concurs that logistical support for the TARS network was inadequate at the time of the transfer. Thus, the Air Force inherited an operational network of TARS sites for which numerous deficiencies were documented in comprehensive USAF site survey reports undertaken during 1991. After turnover was directed, standard USAF procedures were followed in delegating operational responsibility to the operational command, in this case to ACC.

The draft audit report references a 28 August 1989 TAC letter that recommended a procurement assessment, and states that this assessment was not performed. The TAC letter was written during a period when Air Force believed that DoD would be assuming operational responsibility for all land based aerostats. Assessment actions were initiated at that time. However, based on Apr 90 SECDEF giudance that DoD would not assume operational control of TARS, aerostat transfer actions were suspended In the fall of 1990, a Defense Appropriations Bill delegated OM&S responsibility for TARS to DoD. Air Force, as executive agent, assumed program responsibility despite risks and existing deficiencies. At turnover, the Air Force accepted six fully operational southwest border sites from USCS; some had been operational for up to four years. Later, other operational sites were subsequently turned over to DoD. Still later, DoD accepted, four USCS acquisition sites, but only after they had been fully accepted by USCS and declared FOC. Therefore, Air Force never assumed responsibility for any aerostat site in any stage of acquisition.

FINDING A4 ***"As a result, provisioning problems caused five TARS sites to be non operational for up to 28 months."***

RESPONSE: Concur with comment.

COMMENT: Provisioning problems did cause additional sites to be nonoperational, but not as a result of USAF action. As identified in the draft audit report, at turnover to DoD, the TARS network lacked critical spares. As a result, network performance degradation was inevitable. When the USAF TARS contract began, in Mar 92, the network already had two nonoperational sites and one site in need of major refurbishment. Provisioning problems were exacerbated by lack of documentation, lack of consumption data and the unresponsiveness of the Original Equipment Manufacturer (OEM) in certifying cost and pricing information. These factors

significantly degraded the Air Force's ability to purchase spares even though there was almost $6.6M available in FY92 funds.

Notwithstanding network status at turnover, one key USAF cornerstone of the TARS recovery plan was to procure necessary documentation and routine and attrition spares to reduce and eventually eliminate long lead time for these spares. These efforts continue, and when completed will significantly reduce the vulnerability of the network.

FINDING A5. ***"Also, the replacement system contained design deficiencies;"***

RESPONSE: Concur.

COMMENT: Taken at face value this comment is correct. However, these design deficiencies were detected in the early stages of the 420K Class IV effort. A portion of the nine month delay in delivery of the first 420K balloon was directly due to measures taken to ensure any problems detected in other Class IVs were corrected and field tested. This was accomplished and the referenced design deficiency was never incorporated into the 420K balloon. As a result, the modified Class IV (420K) aerostat has no design deficiencies in any version of its production.

FINDING A6. ***"...there is no assurance that the replacement system is the most promising concept;"***

RESPONSE: Concur.

COMMENT: This should have been a new system acquisition and a most promising system concept should have been done in accordance with standard acquisition procedures.

FINDING A7. ***"...and operation and maintenance appropriation funds were used for development, procurement, and military construction costs."***

RESPONSE: Nonconcur.

COMMENT: With respect to the design of the 420K aerostat, L-88 radar and equipment items the Air Force concurs with this finding. For development and procurement of both the 420K aerostat, and the supporting radar, 3600 funds should have been used for the RDT&E effort.

Air Force does not concur on this finding with respect to Balloons as Investment Items. Based on limited consumption data provided by USCS and USCG, and our own experience with the short life span of the Air Force aerostat at Cudjoe Key, SAF/FMBM advised TAC/FMA in Mar 92, that replacement and spare balloons were expendables and O&M funds could be used. This was based on our understanding that the balloons to be procured were available off-the-shelf items with a short life span. Now it is known the balloons have an extended life span, they are properly classified as investment items and procurement funds will be used to obtain future replacements. Air Force concurs on categorizing the 420K balloons as investment items. It was

Final Report Reference

not known until this audit that the balloons being discussed above were undergoing major design and modification to create the 420K Had this information been made available, SAF/FMBM's response would have addressed the use of procurement and RDT&E funds for the 420K balloons

The Air Force does not concur with respect to MILCON. The use of O&M funds vice MILCON for High Rock was fully researched. Title 10 of the U.S. Code, Section 2801, through 2805, and AFR 86-1, Chapters 2, 5 and 6, provide definition, guidance and procedure for the programming and funding of military construction work to include the requirements for the use of MILCON versus O&M appropriations The Air Force complied with these references, followed all DoD guidance in defining, programming and funding the Class R (Repair) and MC (Minor Construction) military construction work at the High Rock TARS. In addition, exhaustive reviews by engineering and legal representatives from both, the Major Command (MAJCOM) and Army Corps of Engineers (ACOE) Division Headquarters concluded that the programming and funding avenue used for the High Rock TARS military construction work was appropriate and correct

FINDING A

RECOMMENDATION 1. FOR CORRECTIVE ACTION: We recommend that the Assistant Secretary of the Air Force (Acquisition):

1a. Assess the Tethered Aerostat Radar System requirements and establish a Program Management Directive that identifies responsibilities of all organizations involved in development funding and operations for the Tethered Aerostat Radar System.

Revised (Page 20)

RESPONSE: Nonconcur as written.

PROPOSED RECOMMENDATION: Assess the current requirements of the TARS system and determine if a Program Management Directive (PMD) is warranted.

COMMENT: Although the recommendation is sound, the proposed recommendation allows the Air Force to assess whether a PMD is needed to support the fielded and operational TARS network. Additionally, the Air Force will examine if responsibility for future TARS acquisition can be transferred from USCS to the Assistant Secretary of the Air Force for Acquisition Should this responsibility be given to the Air Force, a PMD will be developed for the acquisition of new TARS requirements such as the currently unfunded sites at Venice, Florida and Alabama Port, Alabama Estimated Completion Date (ECD): Six months from date of final report

1b. Complete the development of the Tethered Aerostat Radar System based on the most promising system concept.

Revised (Page 20)

RESPONSE: Nonconcur

Final Report Reference

COMMENT: A most promising system concept is based on the concepts of program cost, schedule and performance, and is normally conducted at the beginning of the procurement process. Conducting a most promising system review at this stage would require current contracts to be terminated or delayed at considerable cost to the government. Of the total $21.8M in contracts currently obligated to complete the project, $14 2M could be lost due to termination costs. The current replacement program meets or exceeds all performance criteria, is scheduled to start delivery in July 94, and requires only $7.6M of already obligated funds for completion. Trying to choose an alternative most promising system concept at this point would dramatically increase program risk and cost. Schedule delays inherent in this approach will increase program costs and negatively impact operations.

RECOMMENDATION 2. FOR CORRECTIVE ACTION: We recommend that the Commander, Air Combat Command:

2a. Categorize the aerostat balloon as an investment item.

RESPONSE: Concur.

COMMENT: With the five year warranties and the new Air Force guidance effective Jan 94, all aerostats procured in the future will be purchased as investment items and all existing aerostats will be recategorized as investment items. ECD: Complete.

Expanded Recommendation and added Recommendations 2.b.1. through 2.b.4. and 2.c.

2b. Make the appropriate accounting adjustment to deobligate the incorrect FY 1992 and FY 1993 Operation and Maintenance obligations and obligate the correct appropriations as necessary.

RESPONSE: Concur.

COMMENT: Changes in the 420K design improved the operational capabilities of the Class IV aerostat in relation to safety, effectiveness, and efficiency. As such, this effort should have been treated as a modification and ACC will review the 420K effort making appropriate funds adjustments ECD: Six months from date of final report.

FINDING B

The aerostat balloon located at the High Rock, Bahamas, site was destroyed without an engineering analysis of its condition and coordination with the law enforcement officials who use the TARS data. In addition, the 4799th OSS did not develop a contingency plan to replace the High Rock balloon after destruction. These conditions resulted from actions taken by the Contracting Officer's Technical Representative (COTR) that were contrary to contract terms and provisions of the Federal Acquisition Regulation. As a result, vital radar coverage has

been interrupted for a minimum of 2 years and a potentially repairable asset, with a replacement cost of $1.7 million, was destroyed without documented justification and without assurance that the balloon was beyond repair.

FINDING B1: ***The aerostat balloon located at the High Rock, Bahamas, site was destroyed without an engineering analysis of its condition***

RESPONSE: Concur with comment.

COMMENT: A formal engineering analysis, as described in the draft audit report, was not performed and, in retrospect, should have been accomplished. However, the balloon's poor state of health (flight safety), design, history, site condition, and equipment status provided ample justification for deflation of the balloon. Air Force did not have accurate historical data documenting the balloon's history (such as an AFTO 95), however, previous OEM and USCG actions and additional research determined that the fourteen-year-old 365K cruciform tail aerostat balloon (no longer in production and first flown operationally in 1979 in Nigeria) had reached the end of its useful life.

In 1991, OEM expressed major concern as to the viability of this out-of-production aging balloon and made an unsolicited $3.3M proposal to USCG to replace it with a new 71M balloon. USCG supported this action but lacked adequate funding to pursue the new balloon option. Instead, they initiated procurement of airborne and ground electronic support equipment uniquely compatible only with a new 71M replacement balloon, clearly indicating a recognized need to replace the balloon. Of equal importance was the method of replacement being pursued which would render the old balloon useless for repair as there would be no mooring system capable of accepting it. Also, available documentation revealed a rapid increase in helium consumption further verifying the balloon's poor state of health.

The balloon's poor health was underscored in December 1991 when the O&M contractor elected to perform an emergency helium shipment to the site at their own expense, despite their contention that there was enough helium on site to keep the aerostat airborne until well after the arrival of the next scheduled government shipment. Although documentation on helium consumption was not provided by either the previous O&M contractor nor the USCG, records kept by the helium suppliers at Kennedy Space Center - NASA document High Rock helium consumption for 1990 and 1991 as 328,000 and 320,000 cubic feet respectively. These figures are extremely important because they indicate that the High Rock balloon's helium consumption had dramatically increased to 238,000 cubic feet during the first quarter of 1992 alone. At this rate, helium consumption would have been in excess of 950,000 cubic feet in 1993--three times that in previous years. These helium figures, the OEM's unsolicited proposal to replace the balloon and USCG procurement actions toward a replacement balloon confirm the balloon's poor state of health for the Air Force and justified destroying the site

In reference to the unsolicited $3.3M OEM proposal to the USCG, it should be noted this proposal did not address known facility, vehicle, tether, and radar deficiencies which would have prevented normal operations at the site. Although aware of this proposal to the USCG, a similar proposal was never formally submitted to the Air Force. Additionally, the 4700 OSS chose to address the High Rock site in context of a larger TARS network recovery. The estimate of

$9.2M for the USAF High Rock recovery not only included the provisions of the unsolicited TCOM proposal but also addressed the required facility, vehicle, tether, and radar improvements. When these known requirements are factored into the TCOM proposal, more than $12.1M (instead of the stated $3.3) would have been required to recover the site to the same state as the USAF $9.2M effort. By maximizing the use of existing assets, the Air Force has since reduced the total that will be spent on recovering High Rock to $6.5M.

FINDING B2: ***The aerostat balloon located at the High Rock, Bahamas, site was destroyed without ...coordination with the law enforcement officials who use the TARS data.***

RESPONSE: Concur.

COMMENT: The decision to temporarily suspend flight operations at High Rock and implement the larger network recovery plan was fully coordinated IAW normal DoD methods. The plan was coordinated within ACC as well as NORAD and 1st AF, the using command and OPCON agency respectively. Additionally USCG played an active role in developing dismantle and recovery plans for High Rock. The only law enforcement player excluded was the USCS, whose requirements usually flow through NORAD. The coordination process should have consolidated all user inputs The Air Force's inexperience in the counterdrug arena inadvertently resulted in USCS not being consulted in this decision.

FINDING B3: ***In addition, the 4700th OSS did not develop a contingency plan to replace the High Rock balloon after destruction.***

RESPONSE: Nonconcur

COMMENTS: NORAD, HQ USAF, OSD DEP&S, HQ ACC, 4700 OSS, the O&M contractor, USCS and USCG participated in numerous technical exchanges and/or briefings that resulted in a workable contingency plan and several alternatives. This contingency plan included a three phased approach. During the first (short term) phase, ground radar units were deployed to Texas sites to replace the aerostats lost due to weather related accidents. Also, the USAF TARS depot engineering and test aerostat was slated for deployment to High Rock. In the second (mid term) phase, existing Air Force spare assets were refurbished and deployed to two Texas sites to provide surveillance coverage until the final plan could be implemented. The third (long term) phase will affect a network wide recovery while producing maintainable, documented, and logistically supportable assets. This final phase involves fielding 420K Class IV aerostats (420K) and improved L-88 radars. However, unforeseen problems arose during the execution of phase one Specifically, the depot assets could not be relocated to High Rock, requiring an alternate solution Consultation between USCG, USCS, NORAD and the State Department resulted in a decision to make the depot aerostat an operational site, covering 70 percent of High Rock's previous surveillance area Other adjustments, including extending the deployment of various ground radars, were made after inputs were received from the TARS community. Details of the

above contingency plan and the status of its implementation have been previously provided to you in the form of briefings and memos.

FINDING B4: ***...These conditions resulted from actions taken by the Contracting Officer's Technical Representative (COTR) that were contrary to contract terms and provisions of the Federal Acquisition Regulation.***

RESPONSE: Nonconcur as written.

PROPOSED RECOMMENDATION: ...these conditions resulted from actions taken by the Contracting Officer's Technical Representative (COTR) that were contrary to the contract terms and the COTR designation letter.

COMMENT: You referenced FAR part 52.245-2 (a) (3) for this finding. This reference deals with initial delivery of equipment to a contractor. In this instance, the equipment had been on site and operational for an extended period of time. A more pertinent reference is be FAR part 52.245-2 (e) (3) which states that "If damage occurs to government property, the risk of which has been assumed by the Government under this contract, the Government shall replace the items or the Contractor shall make repairs as the Government directs." Since the Government's representative was the COTR, he did not literally violate this provision of the FAR. However, he did exceed his authority as COTR, by giving direction to the contractor directly. Only the contracting officer had authority to direct the contractor to take an action of that nature.

FINDING B5: ***As a result, vital radar coverage has been interrupted for a minimum of 2 years...***

RESPONSE: Concur with comment

COMMENT: Radar coverage was lost for a minimum of two years at High Rock but not because of the decision to deactivate the existing site. The Air Force, in coordinating with all affected agencies, had received approval for an alternative means to replace High Rock coverage until new assets could be deployed. When testing determined the Cape Canaveral asset could not withstand another inflation and deflation, a decision to activate the Cape site was approved. This plan provided coverage for approximately 70 percent of High Rock's original surveillance area The Cape site functioned in this operational role for several months until a winter storm destroyed an aerostat at Key West and the Cape asset. The Air Force discussed operational priorities with TARS users including NORAD, State Department, USCS and USCG who reached consensus that replacing the Key West site took priority over High Rock. Therefore interruption of coverage was not caused by deactivation of the High Rock site, but by damage from an unforeseen storm. It should also be noted that had TARS been adequately spared prior to turnover, the gap in coverage would have been prevented . The Air Force recovery plan includes attrition spares to prevent such weather damage related impacts in the future.

Final Report Reference

FINDING B6: ***...a potentially repairable asset, with a replacement cost of $1.7 million, was destroyed without documented justification and without assurance that the balloon was beyond repair.***

RESPONSE: Nonconcur

COMMENT: The decision to deflate the High Rock balloon and continue with USCG and OEM plans to replace it with a newer asset was not fully documented. However, Air Force had ample evidence of a badly deteriorated site to include a mooring system that was beyond repair and unsatisfactory for continued operation, and that the aerostat was not safe to fly. Air Force elected to address these problems in the context of a coordinated effort to field a lasting fix by addressing all the problems which impaired or prevented nominal network performance. Once the decision to permanently ground the balloon was made, there were only two possible courses of action--deflate it on the tower or on the deflation pad. A non-catastrophic (on the deflation pad) deflation would have cost $150K more, diverting critical funds and manpower from the overall network recovery. Therefore, the COTR agreed with the contractor's recommendation to proceed with a catastrophic (on the tower) deflation

FINDING B

RECOMMENDATIONS FOR CORRECTIVE ACTION: ***We recommend that the Commander, Air Combat Command, review the performance of the Contracting Officer's Technical Representative related to the destruction of the aerostat balloon at the High Rock site and take appropriate action.***

RESPONSE: Nonconcur as written.

Expanded Recommendation (Page 30)

PROPOSED RECOMMENDATION: We recommend that the Commander, Air Combat Command, task the 4700 OSS to ensure policy and procedures are established to preclude future undocumented incidents or actions which exceed the authority of the COTR.

COMMENT: Air Force believes that the COTR's actions were consistent with previous USCG and OEM actions. Experts involved in the High Rock action including the CO and the Command Staff Judge Advocate unanimously agree that the events leading up to the destruction of the High Point aerostat were justified and inevitable However, as you clearly established, there was a definite lack of appropriate and adequate documentation support the COTR's actions. The only issue is one of procedure The 4700 OSS has included this item in the unit training program for all program managers and quality assurance evaluators, and will publish a unit regulation covering policy and procedures in this area by 29 April 94.

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