Audit Report

OFFICE OF THE INSPECTOR GENERAL

PROCUREMENT OF THE TARGET HOLDING MECHANISM, TANK GUNNERY, FROM COMBINED ARMS TRAINING SYSTEMS

Report No. 95-030 November 16, 1994

Department of Defense

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Acronyms

TACOM	Tank-automotive and Armaments Command
CATS	Combined Arms Training Systems
THM/TG	Target Holding Mechanism, Tank Gunnery

INSPECTOR GENERAL
DEPARTMENT OF DEFENSE
400 ARMY NAVY DRIVE
ARLINGTON, VIRGINIA 22202-2884

November 16, 1994

MEMORANDUM FOR AUDITOR GENERAL, DEPARTMENT OF THE ARMY

SUBJECT: Audit Report on the Procurement of the Target Holding Mechanism, Tank Gunnery, From Combined Arms Training Systems (Report No. 95-030)

We are providing this report for your review and comment. This report is the second in a series of reports in response to congressional concerns regarding procurement of the target holding mechanism, tank gunnery. This report discusses procurement of the target holding mechanism, tank gunnery, by the Tank-automotive and Armaments Command, Warren, Michigan, from Combined Arms Training Systems, Atlanta, Georgia. Comments on a draft of this report were considered in preparing the final report.

DoD Directive 7650.3 requires that all audit recommendations be resolved promptly. The Deputy Assistant Secretary of the Army (Procurement) and the Commander, Tank-automotive and Armaments Command, did not concur on a draft of this report. Also, we added Recommendation 2. for the Tank-automotive and Armaments Command and renumbered draft recommendations 2. and 3. accordingly. Therefore, we request that you provide additional comments on all of the recommendations by January 17, 1995. See the end of the finding for the details of the additional comments required.

We appreciate the courtesies extended to the audit staff. If you have any questions on this audit, please contact Ms. Kimberley A. Caprio, Audit Program Director, at (703) 604-9248 (DSN 664-9248) or Ms. Victoria C. Hara, Audit Project Manager, at (703) 604-9228 (DSN 664-9228). Appendix F lists the report distribution. The audit team members are listed inside the back cover.

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Report No. 95-030 **November 16, 1994**
(Project No. 3CD-5026.01)

PROCUREMENT OF THE TARGET HOLDING MECHANISM,TANK GUNNERY, FROM COMBINED ARMS TRAINING SYSTEMS

EXECUTIVE SUMMARY

Introduction. This report is the second in a series of reports responding to congressional concerns on the procurement for the target holding mechanism, tank gunnery. The target holding mechanism, tank gunnery, procurement and the personnel associated with the procurement were formerly assigned to the Army Armament, Munitions, and Chemical Command. The procurement discussed in this report and the personnel associated with the procurement are now assigned to the Army Tank-automotive and Armaments Command (the Command).

Objectives. The overall audit objectives were to determine:

o the adequacy of the contract award process for the target holding mechanism, tank gunnery,

o the Army responsiveness to requests for equitable price adjustments from target holding mechanism contractors,

o the impact on training and readiness of target holding mechanism, tank gunnery, shortages, and

o the adherence to DoD regulations by acquisition officials.

An additional audit objective was to evaluate internal controls over the procurement of target holding mechanisms, tank gunnery. This report discusses the contract award process, the Army responsiveness to the request for equitable price adjustment, and the Army adherence to DoD regulations. A summary report will discuss the overall objectives.

Audit Results. The Command awarded a firm-fixed-price contract to build 107 target holding mechanisms, tank gunnery, plus spares, to Combined Arms Training Systems, a contractor with financial difficulties, no prior experience, and limited technical ability. The Command terminated the contract for default for a failure to perform. In addition, the Command certified a flawed technical data package. As a result, the Command issued 720 notices of revision that impacted this contract.

Also, the Command was not responsive to the contractor's request for equitable price adjustment. As a result, the contractor considered its request denied and submitted a claim to the Armed Services Board of Contract Appeals. See the finding in Part II for details.

Internal Controls. The review of the procurement for target holding mechanisms, tank gunnery, was limited to a contract awarded to Combined Arms Training Systems.

For this contract, internal controls over the contract award process, configuration control, and responsiveness to requests for equitable price adjustments were not adequate at the Command; however, no reportable material internal control weaknesses were identified during the audit. A subsequent report will include our assessment of the implementation of the DoD Internal Management Control Program at the Command for the acquisition of target holding mechanisms, tank gunnery. See Part I for a summary of internal controls assessed.

Potential Benefits of Audit. Strengthening management controls over the contract award process will improve contracts and contract actions for contractors experiencing financial or technical performance difficulties. However, we could not quantify the potential monetary benefits from the audit. See Appendix D for a summary of all potential benefits resulting from the audit.

Summary of Recommendations. We recommend that the Commander, Tank-automotive and Armaments Command, establish and implement procedures to provide management oversight of contracts and contract actions involving contractors experiencing financial or technical performance difficulties. We recommend that the Commander establish and implement procedures to require that revisions to the technical data package do not exceed 5 percent of the number of drawings at the time the solicitation is issued. We recommend that the Commander establish and implement the use of contract control logs to document revisions to the technical data package. We also recommend that the Commander establish and implement procedures to provide management oversight for responsiveness to contractor claims.

Management Comments. The Deputy Assistant Secretary of the Army (Procurement) and the Commander, Tank-automotive and Armaments Command, nonconcurred with the finding and the recommendations. The Army stated that the review was limited to one contract, and the results of the review should be specific to that contract. The Army stated that adequate procedures existed and were used for oversight of contracts and contract actions that experienced technical difficulties, tracking technical data revisions, and management oversight of responsiveness to contractor claims. A discussion of the responsiveness of management comments is in Part II and the complete text of management comments is in Part IV of the report.

Audit Response. We believe the report conclusions and recommendations remain valid. Although this report discusses one contractor, the overall audit will cover seven target holding mechanism, tank gunnery, contracts and three solicitations for the years 1985 through 1994. The Command response did not discuss what procedures were in place and why, because of the technical data package, there were delays for months at a time during the contract. To further clarify actions needed to ensure accuracy of technical data packages, we added a recommendation to the Command for controls to improve the quality of technical data packages and renumbered the recommendations accordingly. We request additional comments from the Army by January 17, 1995.

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This report was prepared by the Contract Management Directorate, Office of the Assistant Inspector General for Auditing, Department of Defense.

Part I - Introduction

Background

This is the second in a series of reports responding to congressional concerns regarding procurements of the target holding mechanism, tank gunnery (THM/TG). This report discusses one procurement from Combined Arms Training Systems (CATS), Atlanta, Georgia. The organizations involved with the THM/TG at Army Armament, Munitions, and Chemical Command, Rock Island, Illinois, became the Armament and Chemical Acquisition and Logistics Activity assigned to Tank-automotive and Armaments Command (TACOM), formerly the Tank-Automotive Command, Warren, Michigan.

This report discusses the contract award process, configuration management of the THM/TG, and TACOM responsiveness to the CATS request for an equitable price adjustment.

Contractor History. Johnson/Blane, Incorporated, purchased the assets of Blane Corporation on October 29, 1990, effective September 1, 1990. On January 7, 1992, Johnson/Blane, Incorporated, changed the company name to CATS.

Purpose of THM/TGs. The THM/TG is an electro-mechanical-hydraulic device that raises and lowers an attached target. THM/TGs are available in two versions: portable, radio controlled, with a receiver and not portable, not radio controlled, without a receiver. The THM/TG is used to train active-duty, Reserve, and National Guard tank gunners.

Congressional Interest in THM/TG Procurements. We received letters from two Senators and two Congressmen expressing concerns about the THM/TG procurements. The concerns included:

o unusual numbers of errors in the technical data packages,

o excessive delays or failures in correcting errors in the technical data packages,

o unusual delays in processing contractors' requests for equitable price adjustments, and

o potential shortages in the supply of THM/TGs that may affect readiness.

The congressional concerns identified a potential pattern of problems in the contract award and administration process, configuration management, and readiness of the THM/TG.

Objectives

The overall audit objectives were to determine:

- o the adequacy of the contract award process for the THM/TG,
- o the Army responsiveness to requests for equitable price adjustments from THM/TG contractors,
- o the impact on training and readiness of THM/TG shortages, and
- o the adherence to DoD regulations by acquisition officials.

An additional audit objective was to evaluate the adequacy of internal controls over the procurement of target holding mechanisms and management's implementation of the DoD Internal Management Control Program as it applies to the audit objectives. This report discusses the contract award process, the adequacy of the technical data package, the Army responsiveness to requests for equitable price adjustments, and the Army adherence to DoD regulations as they apply to CATS. A summary report will discuss the overall objectives.

Scope and Methodology

Audit Locations. We reviewed the procurement process for the THM/TG at TACOM and CATS. Appendix E lists the organizations visited or contacted during the audit.

Data Reviewed and Use of Computer-Processed Data. This report discusses one contract, DAAA09-89-C-0850, awarded to CATS for the procurement of THM/TGs, valued at $748,343. For a chronology of the CATS procurement action, see Appendix A. We reviewed the solicitation, the preaward documents, the technical data package, the pertinent laws and regulations, and other related documentation dated from 1989 to 1994. We developed a computer-processed data base to perform the audit. The data base was verified against source documentation and Army Armament Research, Development, and Engineering Center documentation.

Universe Development. To review configuration management, we identified 720 notices of revision that impacted the CATS contract. Of the 720 notices of revision that impacted the CATS contract, the Command approved 712 notices of revision for the CATS contract. In addition, the Command sent CATS eight notices of revision that were not approved by configuration management for the CATS contract. We identified a universe of a total of 423 notices of

revision* received by CATS. We statistically selected 214 notices of revisions received by CATS for review. See Appendix B for details of the statistical sampling plan.

Use of Technical Staff. Personnel from the Quantitative Methods Division and the Technical Assessment Division, Office of the Inspector General, DoD, provided support for this audit. The Quantitative Methods Division assisted in the development of the sample of notices of revision reviewed and the statistical projections of the sample data. Engineers from the Technical Assessment Division evaluated the accuracy and completeness of the technical data package applicable to the contract.

Audit Period and Standards. We performed this economy and efficiency audit from June 1993 through April 1994 in accordance with auditing standards issued by the Comptroller General of the United States as implemented by the Inspector General, DoD. Accordingly, we included tests of internal controls that were considered necessary.

Internal Controls

Internal Controls Reviewed. We evaluated internal controls applicable to laws, regulations, and procedures for the acquisition of and configuration management of the THM/TG. In addition, we evaluated internal controls applicable to TACOM responsiveness to a request for equitable adjustment from CATS. Specifically, we reviewed TACOM compliance with the Federal Acquisition Regulation; with the Defense Federal Acquisition Regulation Supplement; with MIL-STD-973, "Configuration Management;" and with pertinent Army regulations. Our review was limited to the guidance as it was implemented with regard to the contract that TACOM awarded to CATS.

Adequacy of Internal Controls. The audit identified no material internal control weaknesses as defined by DoD Directive 5010.38, "Internal Management Control Program," April 14, 1987. A subsequent report will include our assessment of the implementation of the DoD Internal Management Control Program at TACOM for the acquisition of THM/TG.

*For the purpose of this count, multiple sheets, parts lists, and quality assurance provisions for one drawing within an engineering change proposal constitute only one notice of revision.

Prior Audits and Other Reviews

General Accounting Office Report GAO/NSIAD-92-23 (OSD Case No. 8891), "Improvement Needed in Technical Data Management," February 25, 1992, states that data quality problems inhibit contractors from competing for Government work or from completing the work after a contract is awarded. The General Accounting Office report made no recommendations that discussed issues in this report.

Inspector General, DoD, Report No. 94-170, "Quick-Reaction Report on the Audit of the Target Holding Mechanism, Tank Gunnery, Procurement" July 27, 1994, states that sole-source and competitive solicitations for the THM/TGs lacked reliable technical data packages. In addition, TACOM improperly issued the sole-source solicitation. As a result, both solicitations may result in production delays, delinquent deliveries, and requests for equitable price adjustments. Also, the sole-source solicitation unnecessarily restricted competition. TACOM did not evaluate the use of commercial target holding mechanisms, which might have eliminated the need for the development of a prototype. As a result, a $587,382 cost-plus-fixed-fee contract was awarded, which reduces the chances for procurement of commercial target holding mechanisms. We recommended that TACOM cancel the sole-source and competitive procurements and withhold any new requests for proposals until all of the issues pertaining to the technical data packages are resolved. We also recommended that TACOM determine whether requirements can be met with commercial target holding mechanisms before allowing further prototype development or production. The Army nonconcurred with the report findings and recommendations, stating that the technical data packages are suitable for competition, the requirements are urgent, and the sole-source procurement is justified. We believe the report conclusions and recommendations remain valid. This report is now in the mediation process.

Inspector General, DoD, Report No. 93-093, "Procurement Procedures Used By The Single Manager For Conventional Ammunition," April 28, 1993, states that contracts were awarded to financially distressed companies with high probability of bankruptcy despite the availability of adverse information on the contractors' financial conditions existing before contract awards. We recommended that TACOM provide written guidance requiring contracting officers to effectively use available internal and external information before making a determination of responsibility regarding a prospective contractor. TACOM agreed to provide formal guidance.

Part II - Finding and Recommendations

Procurement of the Target Holding Mechanisms, Tank Gunnery

TACOM inappropriately awarded a contract to build 107 THM/TGs to CATS, a contractor known to have financial difficulty, no prior experience, limited accounting controls, and limited technical skills. TACOM also provided CATS with a flawed technical data package. In addition, TACOM was not responsive to the CATS request for an equitable price adjustment. These conditions occurred because TACOM:

o disregarded adverse contractor information during the contract award process,

o certified a flawed technical data package and did not control subsequent configuration revisions, and

o did not provide CATS with a decision on the request for a equitable price adjustment by the self-imposed decision date.

As a result, TACOM revised the flawed technical data package for the contract with 712 notices of revision. CATS completed no production THM/TGs, and TACOM terminated the contract for default. The TACOM nonresponsiveness resulted in CATS submitting a claim to the Armed Services Board of Contract Appeals.

Contract Award Considerations

TACOM disregarded adverse information about contractor financial condition, accounting controls, and experience during the contract award process. In addition, TACOM knew or should have known that a reasonably detailed specification for the THM/TG, a portion of the technical data package, did not exist. TACOM inappropriately awarded a firm-fixed-price contract to CATS to build 107 THM/TGs. As a result, TACOM terminated for default the CATS contract for failure to perform after almost 3 years.

Determination of Contractor Responsibility. Under Federal Acquisition Regulation 16.202, "Firm-Fixed-Price Contracts," and Federal Acquisition Regulation 9.105-1, "Obtaining Information," a contracting officer should not award a firm-fixed-price contract unless an affirmative determination of responsibility of the contractor is made.

The contracting officer must possess or obtain sufficient information to be satisfied that a potential contractor is responsible. To establish contractor responsibility, the contracting officer must determine that a prospective contractor:

o has adequate financial resources to perform the contract or the ability to obtain them and

o has the necessary experience, accounting controls, and technical skills or the ability to obtain them.

An adverse financial condition could affect performance on Government contracts. Information that indicates solvency problems or raises a question about the continued existence of the contractor must be considered before the contracting-officer makes a determination of responsibility.

Assessment of Contractor Financial Capability. On July 19, 1989, TACOM requested a preaward survey of CATS. The preaward survey, dated August 24, 1989, provided a ratio of current assets to current liabilities; a ratio of cash, accounts receivable, and short term investments to current liabilities; and a ratio of total liabilities to net worth to TACOM to use as part of the determination of responsibility.

o A ratio of current assets to current liabilities is a test to determine the ability of a company to liquidate its current obligations and to finance operations in the immediate future. A ratio considered acceptable by most industries is 2-to-1. The preaward survey stated that CATS ratio of current assets to current liabilities was 0.4-to-1.

o A ratio of cash, accounts receivable, and short-term investments to current liabilities is a test to determine the ability of a company to liquidate current liabilities without interrupting the normal business cycle. A typical satisfactory ratio is 1-to-1. The preaward survey indicated that the CATS ratio was 0.21-to-1.

o A ratio of total liabilities to net worth provides an idea of the company's ability to withstand losses without impairing the interests of creditors. The higher this ratio is, the more overextended a company is, and the greater likelihood of insolvency. The preaward survey indicated a ratio of 12.7-to-1 for CATS. This ratio showed CATS in a negative net worth position, which is an indication of potential insolvency.

Assessment of Contractor Experience, Accounting Controls, and Technical Skills. The lack of contractor experience, accounting controls, and technical skills could adversely affect contractor performance on Government contracts and should be considered before making a determination of responsibility.

o CATS had never produced a THM/TG nor any item similar to the THM/TG.

o CATS proposed an accounting system that was tentatively approved by the Defense Contract Audit Agency during the preaward survey. Later, the Defense Contract Audit Agency determined the accounting system to be inadequate for the accumulation and reporting of contract costs.

o CATS was planning on assembling, priming, and painting of the THM/TG only. CATS did not plan to do any manufacturing in-house.

o CATS had no engineer in its employ.

THM/TG Contract Type. Federal Acquisition Regulation 16.202-2, "Application," states that a firm-fixed-price contract is suitable for acquiring supplies or services on the basis of reasonably detailed specifications. Specifications are a part of a technical data package.

The September 22, 1989, business clearance memorandum stated that contract DAAA09-89-C-0850 would be awarded as a firm-fixed-price contract because adequate specifications were available. Between November 30, 1988, the as-of date of the technical data package, and September 29, 1989, the date that the contract was awarded, 73 notices of revision were made to the technical data package. In August 1989, another THM/TG manufacturer submitted 22 notices of revision, 16 of which were later approved and submitted to CATS for incorporation in its technical data package. The many notices of revision, coupled with the deficiencies found with the technical data package, made the technical data package unsuitable for a firm-fixed-price procurement.

Reliability of the Certified Technical Data Package

TACOM provided a flawed technical data package for a competitive firm-fixed-price contract to build THM/TGs and spares. TACOM did not control configuration revisions and their related documentation. As a result, TACOM did not provide the contractor with a reliable technical data package.

Purpose of Technical Data Packages. A technical data package defines and documents an engineering design of a product to allow for duplication of the product. An inaccurate or incomplete technical data package results in additional Government contract administration costs and Government engineering costs to process revisions needed to correct the technical data package. An inaccurate or incomplete technical data package can also result in contract terminations and in additional costs to reprocure the product. For the contractor, an inaccurate or incomplete technical data package can result in an improperly prepared proposal, an increased contractor learning curve, an inferior product, delayed deliveries, and requests for equitable price adjustments.

Management of Technical Data Packages. MIL-STD-973, "Configuration Management," applies to DoD organizations and contractors who are tasked with configuration management. Configuration management should ensure an adequate and reliable technical data package by controlling revisions to products and their related documentation and recording and reporting information needed to manage the product effectively, including the status of proposed revisions and implementation status of approved revisions.

Army technical data package review guidelines require that, before procurement, all known design deficiencies are eliminated from the technical data package and that the technical data package is reviewed and certified that it is adequate for procurement purposes. The technical review is to assure, among other things, that design problems are identified and corrected.

Inspector General, DoD, Assessment of Technical Data Package. Inspector General, DoD, engineers and auditors evaluated the THM/TG technical data package provided by TACOM to CATS.

Engineer Review. Inspector General, DoD, engineers reviewed the THM/TG technical data package and identified a number of revisions that would have affected the ability of CATS to meet the contract schedule. The engineers concluded that the revisions in the following table resulted in serious deficiencies in the technical data package, which would result in production delays to the contractor. However, the deficiencies would not have prevented CATS from performance of the contract.

The engineers reviewed 214 of the 423 notices of revisions that CATS received. The table summarizes and categorizes the 214 notices of revisions we reviewed. The notices of revision were categorized as having major impact, minor impact, or no impact. Notices of revision determined to have major impact could result in a schedule delay greater than 2 weeks. Notices of revision determined to have minor impact could result in a schedule delay of up to 2 weeks. Notices of revision determined to have no impact would not individually affect contractor cost or schedule. Although the notices of revision had no individual impact, the aggregate of the notices of revision would impair the ability of CATS to meet the delivery schedule.

Categories of Notices of Revision to the Technical Data Package

Type of Revisions	Number of Revisions	Impact of Revision		
		Major	Minor	None
Administrative	83	2	11	70
Dimension, tolerance, and specification	36	4	6	26
Drawings	6	2	2	2
Material	18	2	2	14
Parts	32	5	4	23
Testing	4	3	1	0
Value engineering change proposal	24	0	24	0
Other	11	1	2	8
Total	214	19	52	143

The opinion of the engineer was based solely on the content of the drawing package and did not consider the affect of the notices of revision in the context

of the contractor's schedule. Therefore, the impact could be greater than or less than the impact indicated, depending on the type of notice of revision and the manufacturing schedule of the contractor.

Based on our sample, we projected that 40 notices of revision were made that had a major impact on the contract. These 40 notices of revision could result in an almost 2-year schedule delay, because each notice of revision can result in a schedule delay of more than 2 weeks. Additionally, we projected that CATS also had to contend with 108 notices of revision with minor impact. Each of the 108 notices of revision could result in a schedule delay of up to 2 weeks. We projected another 275 notices of revision individually had no impact.

The 423 notices of revision received by CATS caused an adverse impact on the contractor. For example, the 275 notices of revision that individually had no impact could cause the contractor to lose confidence in the reliability of the technical data package. As a result, performance on this contract was more difficult than necessary.

Component Review. We also reviewed the 457 notices of revision approved by TACOM to 6 components of the THM/TG. The six components were the hit sensor, receiver, battery box, hydraulic unit assembly, circuit card, and electronic control unit. Of the nonmandatory notices of revision to the 6 components, 20 should have been mandatory notices of revision because the notices of revision were necessary for the THM/TG to operate efficiently and safely. The TACOM Configuration Control Board Directives state that the contractor could incorporate these notices of revision only if the revisions were incorporated at no cost to the Government.

Hit Sensor. We identified a total of 75 notices of revision to the hit sensor. CATS received 65 of the 75 notices of revision. TACOM identified the 10 notices of revision not received by CATS as nonmandatory. One of these engineering change proposals, D1I9000, identified by TACOM as nonmandatory, was to develop a more reliable hit sensor. This engineering change proposal was issued as a result of numerous complaints received from the field users concerning reliability and repairability of the hit sensor. The users complained that hit sensors shorted out because of water, which resulted in inconsistent hit detection. The new design required that the hit sensors pass a moisture test to ensure that the hit sensor would function in a moist environment, which the old hit sensor did not.

Receiver. We identified 51 notices of revision that were made to the receiver. CATS received 19 notices of revision. Of the 32 notices of revision not received by CATS, 4 notices of revisions were approved prior to TACOM terminating the receiver portion of the contract. TACOM approved 28 notices of revisions for this contract after the receiver portion of the contract was terminated. On August 15, 1991, 685 days after contract award, TACOM acknowledged in a memorandum that the receiver was not suited for its intended use.

Battery Box. We identified 47 notices of revision that were made to the battery box. CATS received 32 notices of revision. Of the 15 notices of revision not received, 2 notices of revision were identified by TACOM as mandatory. The original technical data package called for a steel battery box, which was sealed and watertight. Users reported numerous incidents of battery box explosions over the years. When hydrogen gases from the battery accumulated in the steel battery box, the box would explode, creating a safety hazard. In addition, when the box was moved, the battery terminals could touch the steel lid, causing a spark that could cause an explosion. As an interim solution to this problem, users in the field were directed to remove the battery box lid.

Subsequently, an engineering change proposal added a vent collar to the battery box to vent explosive gases. With the addition of the vent collar, the battery box was no longer water tight. As a result of this action, TACOM deleted the waterproof requirement for the box.

TACOM replaced the requirement for a steel battery box with a plastic battery box because it would be vented so gas build up would not occur and sparks from the battery terminals touching the steel lid would not result in explosions.

Hydraulic Unit Assembly. We identified 80 notices of revision that were made to the hydraulic unit assembly. CATS received 34 notices of revision. Of the 46 notices of revision not received, none were identified by TACOM as mandatory. One of the engineering change proposals was initiated to correct the parts listed on the hydraulic unit assembly. The washers called for on the drawing were too small to fit over the motors power stud, and the fuse was incorrectly listed. This engineering change proposal corrected the technical data package.

Electronic Control Unit. We identified 204 notices of revision that were made to the electronic control unit. CATS received 117 notices of revision. Of the 87 notices of revision not received, none were identified by TACOM as mandatory. An engineering change proposal was initiated to allow for a larger cable size to provide for adequate wiring lengths. TACOM stated the revisions were necessary because only one wire could be soldered per terminal, and as of August 6, 1991, multiple wires per terminal were specified in the technical data package.

Circuit Card. We identified 34 notices of revision that were made to the circuit card. The circuit card is a component of the electronic control unit. CATS received 17 notices of revision. Of the 17 notices of revisions not received, none were identified by TACOM as mandatory. One of the engineering change proposals was initiated to correct the silkscreen artwork for the circuit card. The proposal for the circuit card changed the soldering requirement to ensure the proper manufacture of the circuit card.

TACOM Configuration Control of the THM/TG

TACOM procurement and TACOM configuration management did not maintain adequate tracking procedures for revisions to technical data packages. Procurement and configuration management lacked control over the technical data package provided to CATS. TACOM could not demonstrate that it knew what was provided to and formally or informally accepted by CATS on this build-to-print contract.

Configuration Control of the Technical Data Package. TACOM did not properly control configuration of the THM/TG. The technical data package contained 339 product drawings.

We reviewed supporting documentation at TACOM; Army Armament, Research, and Development Center; and CATS. Based on supporting documentation, we determined the following:

o The Configuration Control Board approved 712 notices of revision to the CATS technical data package.

o The 712 notices of revision consisted of 150 mandatory notices of revision and 562 nonmandatory notices of revision.

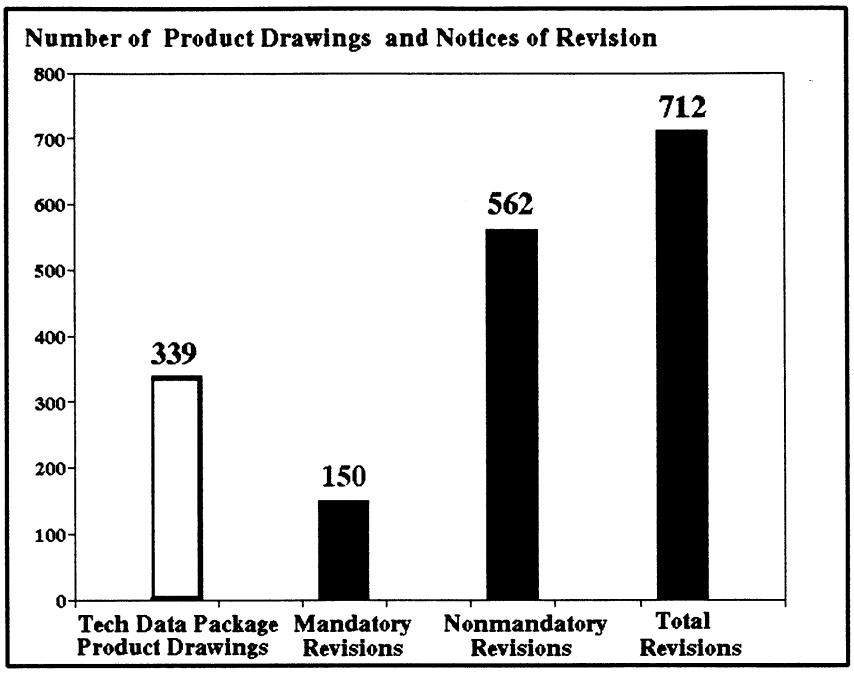
o Of the 712 approved notices of revision, the Configuration Control Board approved 43 notices of revision during the solicitation period and approved 669 notices of revision after contract award.

o CATS received 415 approved notices of revision and 8 notices of revision that were not approved for CATS by the Configuration Control Board.

o CATS did not receive 297 notices of revision approved by the Configuration Control Board.

o Of the 297 notices of revision not received by CATS, 3 were mandatory notices of revision to the THM/TG.

The following figure shows that the number of notices of revision approved for incorporation into the CATS technical data package exceeded the total number of product drawings in the technical data package.



Number of Notices of Revision More Than Twice the Number of Technical Data Package Product Drawings

The Government cost of $868,663 to process the 712 notices of revision approved for incorporation into the CATS technical data package was $120,320 more than the original contract price. The portion of the Government cost to process the 423 notices of revision that CATS received was $689,730.

Adequacy of Contract Management. TACOM procurement was unable to provide a complete and accurate list of revisions to the technical data package applicable to the contract. On August 16,1993, Inspector General, DoD, personnel met with TACOM procurement and requested a list of THM/TG engineering revisions sent to CATS. When TACOM was not able to provide the list, we reviewed the contract files and developed the list independently using source documentation, including the amendments to the solicitation, modifications to the contract, and the actual letters sent to CATS requesting review and potential incorporation of revisions to the technical data package.

Maintaining Adequate Control Logs. The contracting officer did not maintain adequate control logs from 1989 to 1993 that documented notices of revision to the technical data package applicable to this contract. The control

logs did not identify by revision to the technical data package:

- o what the purpose of the revision was,
- o whether the revision was mandatory or nonmandatory,
- o whether and when TACOM submitted the revision to CATS,
- o whether and when CATS accepted or rejected the revision,
- o whether TACOM incorporated the revision into the contract, and
- o the estimated cost to incorporate the revision into the contract, if any.

TACOM should establish and implement control logs that document notices of revision to the technical data package applicable to an individual contract. At a minimum, the control logs should identify the six elements listed above.

Identifying Engineering Change Proposals. TACOM could not identify the notices of revision applicable to the CATS procurement. We met with TACOM configuration management personnel on August 18, 1993, and requested a list of THM/TG engineering revisions from 1985 through August 13, 1993, applicable to the CATS procurement. TACOM configuration management personnel had to physically search the configuration management files from 1985 through 1993 to develop the requested list. This list was provided in June 10, 1994, 10 months after it was requested. The TACOM list and the Inspector General, DoD, list were reconciled August 10, 1994.

Management Oversight of Contractor Performance

Technical Performance. In 1989, when CATS submitted its offer to the Government to produce THM/TGs, CATS did not plan to include any manufacturing. Between the September 29, 1989, contract award and the July 15, 1992, contract termination, CATS:

- o lacked an engineering manager for 41 percent of the life of the contract,
- o lacked a production manager for 69 percent of the life of the contract,
- o lacked a purchasing manager for 51 percent of the life of the contract, and
- o lacked an electronic technician for 53 percent of the life of the contract.

From October 11, 1991, through July 15, 1992, the last 9 months of contract performance, CATS did not employ a production manager, nor did anyone perform the production manager function. In addition, from January 24, 1992, through July 15, 1992, the last 6 months of contract performance, CATS did not employ a production engineer. The quality assurance manager functioned in both a quality assurance and an engineering capacity.

On January 30 and 31, 1991, TACOM representatives conducted a plant visit at CATS to determine progress being made under the contract. As a result of the plant visit, TACOM unanimously concluded that CATS did not have the technical expertise to produce the receiver even if the technical issues were resolved. At that time, CATS still had to evaluate more than 200 notices of revision. CATS had made no progress toward the manufacture of the first article units 16 months after contract award.

Financial Performance. From 1989 through 1991, CATS continued to be in financial difficulty. During this time, CATS received two progress payments, totaling $125,087.

During the January 1991 visit by TACOM representatives, CATS stated that, because of financial difficulties, the company was considering abandoning the contract to minimize expected losses. CATS had net losses from operations and had an accumulated deficit that raised doubt about its ability to continue operations.

Based on TACOM documentation, TACOM knew or should have known since August 1989 that CATS lacked the financial ability to complete the contract, that CATS lacked the technical ability to complete the contract with the receiver, and that CATS had not made any significant progress on the basic THM/TG without the receiver. Despite this, TACOM did not try to negotiate an equitable contract termination. TACOM informed CATS that, if the company abandoned the contract, TACOM would terminate the contract and hold the company responsible for reprocurement costs. According to a TACOM official, TACOM still felt a possibility existed that CATS would produce the basic THM/TG without the receiver.

On March 7, 1991, 35 days after the January 1991 visit, the Government signed a novation agreement to recognize Johnson/Blane (now CATS) as the contractor. This novation agreement was signed despite the knowledge that CATS was in financial difficulty and despite the knowledge that CATS had not manufactured any THM/TGs for first-article testing.

Twenty-five months after the January 1991 visit, when CATS had still not manufactured any THM/TGs for first-article testing, the Government terminated CATS for default. In total, TACOM took 3 and one-half years to determine that the contractor was not performing in a responsible manner.

We could not document TACOM management involvement above the contracting-officer level after contract award but before CATS initiated a claim. According to a TACOM official, issues related to contractor financial and technical difficulties are resolved at the contracting-officer level.

TACOM Responsiveness to Contractor Claim

TACOM was not responsive to CATS request for equitable price adjustment. TACOM did not follow established procedures in processing the CATS claim. As a result, CATS considered its request denied and submitted a claim to the Armed Services Board of Contract Appeals.

Contractor Disputes. The Contract Disputes Act of 1978, United States Code, title 41, sections 601 through 613, as amended by the Administrative Disputes Resolution Act, establishes procedures and requirements for asserting and resolving claims subject to the Contract Disputes Act of 1978.

Federal Acquisition Regulation 33.211, "Contracting Officer's Decision," requires the contracting officer to decide on the contractor's claim within 60 days. If a decision is not possible, then the contracting officer should, within the 60 days, state when a decision will be issued.

Contractor Claim. On January 28, 1992, CATS submitted a certified claim to TACOM for damages of $406,203 based on a defective technical data package and $25,438 based on the termination of the receiver portion of the THM/TG. TACOM received the certified claim on February 3, 1992.

TACOM Responsiveness to Contractor Claim. TACOM stated that it would issue a decision on the CATS claim by May 3, 1992 (90 days).

o On March 26, 1992, 38 days before a decision was due, TACOM returned the claim to CATS to correct the certification, with the understanding that the 90-day response period would not start over.

o The contractor returned the corrected claim on April 6, 1992, 11 days later.

o On June 2, 1992, 30 days after a decision was due, TACOM extended the date for the contracting-officer's decision to July 30, 1992.

o On June 15, 1992, 43 days after the original TACOM decision date, CATS informed TACOM that CATS demanded a final decision within 10 days of receipt of its letter or CATS would consider the claim denied and would appeal to the Armed Services Board of Contract Appeals.

To issue a decision, TACOM needed to request an audit and technical evaluation of the claim. TACOM did not request the audit and technical evaluation until July 2, 1992, 60 days after the original planned decision date and 150 days after receipt of the certified claim. TACOM could not explain the delay in requesting the audit and technical evaluation of the claim.

TACOM requested the audit report and technical evaluation to be completed within 60 days, or 120 days after the original decision date. On July 10, 1992,

158 days after its original claim to TACOM, CATS submitted a claim to the Armed Services Board of Contract Appeals, stating that the contracting officer failed to issue a decision.

Management Oversight of Contractor Claim. We could not document management oversight of responsiveness to contractor claims. We did not locate any mechanism that tracked whether and when the contractor was notified that the claim was received; whether and when the audit, technical evaluation, and legal review were requested; and whether and when a decision was made and the contractor was notified of the decision.

Resolution of Contractor Claim. Since January 28, 1992, the contractor revised its claim from $436,641 to $1.3 million. The claimed amount exceeded the contract value by $560,346. The Defense Contract Audit Agency audit report, March 2, 1994, questioned $588,177 of the claimed amount of $1.3 million, or 45 percent of the claim. The Defense Contract Audit Agency also concluded that the cost or pricing data submitted by CATS were inadequate for direct labor, indirect factory expenses, and general and administrative expenses. In addition, the claim was not prepared in accordance with regulations. The Defense Contract Audit Agency considered the impact of the inadequacies and noncompliances on the cost or pricing data submitted by CATS to be insignificant.

Conclusion

CATS did not meet the definition of responsible as required in the Federal Acquisition Regulation, and a contract should not have been awarded to CATS. Information available to TACOM before award showed that CATS lacked the financial resources and technical expertise to build a THM/TG. The contracting officer is ultimately responsible for the determination of responsibility when awarding a contract. We believe that the contracting officer did not exercise prudent business judgment when determining that CATS was responsible.

In addition, TACOM improperly awarded a firm-fixed-price contract type. The technical data package used in this procurement was seriously flawed and thus was not suitable for a firm-fixed-price contract. This contract type placed the maximum risk, and full responsibility for all costs and resulting profit or loss on CATS. TACOM should have awarded a cost-type contract to a different contractor or fixed the technical data package before contract award.

The faulty technical data package contributed to CATS delays. However, it did not prevent CATS from performing. CATS made no significant progress in nearly 3 years of contract performance.

The Government's policy is to try to resolve all contractual issues by mutual agreement at the contracting-officer level. TACOM, however, neglected to

obtain documents necessary to formulate a response to the CATS claim within a reasonable time. As a result of TACOM lack of responsiveness, CATS elevated its claim to the Armed Services Board of Contract Appeals.

Recommendations, Management Comments, and Audit Response

Management Comments on the Finding. TACOM commented on the finding discussion of the adequacy of the technical data package, the contract award process, and configuration management. See Appendix C for a summary of management comments on the finding and the audit response. For the complete text of management comments, see Part IV.

Added and Renumbered Recommendations. We added Recommendation 2. to TACOM to establish and implement procedures to reduce the number of outstanding notices of revision to a technical data package. We believe that reducing the number of outstanding notices of revision will help TACOM identify and correct design deficiencies in the technical data package before certifying the technical data package adequate for procurement. Because of the added recommendation, we renumbered draft Recommendations 2. and 3. accordingly.

We recommend that the Commander, Tank-automotive and Armaments Command, Army Materiel Command:

1. Establish and implement procedures to provide management oversight of contracts and contract actions with contractors that are experiencing financial or technical performance difficulties.

Management Comments. TACOM nonconcurred with the recommendation and stated that the finding faults TACOM and the contracting officer for awarding one contract to an alleged nonresponsible contractor and suggests a systemic problem. Procedures were in place and were utilized to provide the required oversight.

Audit Response. The TACOM reply was not responsive because it does not discuss procedures to provide management oversight of contracts and contract actions that are experiencing financial or technical difficulties. We believe the report conclusions and recommendations remain valid. This report is the second in a series of reports in response to congressional concerns regarding the procurement of the THM/TG. Although this report discusses one contract with one contractor, the overall audit project covers six other Army THM/TG contracts and three solicitations from 1985 through 1994. We believe that the problems identified in the report are representative of TACOM procurements that use technical data packages. We request that TACOM reconsider its reply and provide additional comments in response to the final report.

2. Establish and implement procedures to require that outstanding notices of revision to the technical data package do not exceed 5 percent of the number of drawings before the technical data package is reviewed and certified adequate for procurement purposes and before the solicitation is issued.

3. Direct the Major Weapons and Chemical Division, Tank-automotive and Armaments Command, to establish and implement control logs documenting revisions to the technical data package applicable to an individual contract. At a minimum, the control log should identify:

a. The purpose of the revision to the technical data package.

b. Whether the revision is mandatory or nonmandatory.

c. Whether and when the revision was submitted to the contractor.

d. Whether and when the revision was accepted or rejected by the contractor.

e. Whether the revision has been incorporated into the contract.

f. The estimated cost to incorporate the revision into the contract, if any.

Management Comments. TACOM nonconcurred and stated that adequate tracking procedures for technical data revisions were already in place. The procurement area of TACOM maintains a log tracking receipt from configuration management, distribution to the contract specialist, and the applicable contract and solicitation numbers. The individual contract files serve to track the details of the engineering change proposal processing including transmittal to the contractor, incorporation into the contract or solicitation, and consideration.

Audit Response. TACOM tracking procedures for technical data revisions were not adequate. The recommendation is directed specifically to the contract specialist.

The individual THM/TG contract files did not adequately track technical data revisions. At the start of the audit, the contract specialist was asked to provide the auditors with a list of technical data revisions sent to the contractor and a list of which revisions were incorporated into the contract. According to TACOM, to provide such a list would require going through the contract files page by page. We did review the contract files page by page and determined that the contract files were disorderly and incomplete and hindered the completion of this audit. TACOM never provided the requested lists. We developed our own list of revisions to complete the audit. We have been attempting to resolve exactly which technical data revisions were sent to the contractor. We received the final response on which technical data revisions were approved for the contractor in August 1994, 13 months after the data were requested. Clearly, the record of delays to answer basic questions about a contract, shows that the

individual THM/TG contract files do not adequately track technical data revisions. We request that TACOM reconsider its reply and provide additional comments on the recommendation in response to the final report.

4. Establish and implement procedures to provide management oversight of responsiveness to contractor claims. The procedures should require milestones to be set for notifying the contractor that the claim was received; for requesting audit, technical evaluations, and legal review; and for establishing a decision date.

Management Comments. TACOM nonconcurred with the recommendation and stated that no systemic problem warrants this recommendation for another layer of review with the associated additional administrative expense.

Audit Response. The TACOM reply does not discuss procedures that provide management oversight of responsiveness to contractor claims. The TACOM lack of timely response to contractor claims has resulted in more than one THM/TG contractor requesting resolution by the Armed Services Board of Contract Appeals. We request that TACOM reconsider its reply and provide additional comments on the recommendation in response to the final report.

Part III - Additional Information

Appendix A. Chronology of Combined Arms Training Systems Contract

Date	Event
May 31, 1989	TACOM issued a competitive solicitation to manufacture 107 THM/TGs and spares.
June 30, 1989	Original bid closing date.
Aug. 7, 1989	The solicitation was amended six times from June 9, 1989, to August 7, 1989, to incorporate notices of revision, clarify part numbers, extend the bid closing date, and cancel items.
Aug. 10, 1989	Extended bid closing date.
Sept. 29, 1989	TACOM awarded the contract to Blane Corporation, hereafter referred to as CATS, for $748,343 with a 100-percent option.
July 9, 1990	First article due from CATS on this date. First-article testing and approval ensures that the contractor can furnish a product that conforms to all contract requirements for acceptance. Number of days since contract award: 283.
Sept. 28, 1990	TACOM extended the delivery of first article to January 30, 1991. Number of days since contract award: 364.
March 7, 1991	TACOM signed a novation agreement recognizing Johnson/Blane, Incorporated, as the contractor. Number of days since contract award: 524.
Aug. 14, 1991	TACOM issued a partial termination for the convenience of the Government to stop all work on the receiver. The contract had a requirement for 107 THM/TGs with receiver and 12 spare part receivers. Number of days since contract award: 684.
Aug. 26, 1991	First article was extended again to November 15, 1991. Number of days since contract award: 696.
Jan. 28, 1992	CATS submitted a certified claim to TACOM for damages of $406,203 based on a defective technical data package and $25,438 based on the termination of the receiver. Number of days since contract award: 851.

Date	Event
Feb. 3, 1992	TACOM received the certified claim. Number of days since contract award: 857.
Feb. 26, 1992	First-article testing and approval was extended to May 30, 1992. Number of days since contract award: 880.
March 26, 1992	Thirty-eight days before a decision was due, TACOM returned the claim to contractor to correct the certification, with the understanding that the 90-day response period would not start over. Number of days since contract award: 909.
April 6, 1992	The contractor returned the claim. Number of days since contract award: 920.
June 2, 1992	TACOM extended the date for the contracting-officer's decision to July 30, 1992, 30 days after a decision was due. Number of days since contract award: 977.
June 15, 1992	43 days after the original TACOM decision date, CATS informed TACOM that CATS demanded a final decision within 10 days of receipt of its letter, or CATS would consider the claim denied and appeal to the Armed Services Board of Contract Appeals. Number of days since contract award: 990.
July 2, 1992	TACOM requested an audit and technical evaluation of the claim, 60 days after the original planned decision date and 150 days after receipt of the certified claim. The audit report and technical evaluation were requested to be completed within 60 days or 120 days after the original decision date. Number of days since contract award: 1,007.
July 10, 1992	CATS submitted a claim to the Armed Services Board of Contract Appeals, stating that the contracting officer failed to issue a decision. Number of days since contract award: 1,015.
July 15, 1992	TACOM terminated the contract for default. CATS never delivered a THM/TG for first-article testing and approval. Number of days since contract award: 1,020.
Feb. 23, 1993	TACOM issued a modification to the contract formalizing the termination for default notice. Number of days since contract award: 1,243.

Date	Event
March 2, 1994	The Defense Contract Audit Agency audit report questioned $588,177 of the claimed amount of $1.3 million, or 45 percent of the claim. Number of days since contract award: 1,615.

Appendix B. Statistical Sampling Plan and Results

Sampling Plan

Purpose of the Sampling Plan. The purpose of the statistical sampling plan for this audit was to estimate separately the number of notices of revision received by CATS that had major impacts and minor impacts on the CATS schedule. The audit definitions of "major impact" and "minor impacts" are given in the Technical Data Package Reliability section of this report.

Description of the Audit Universe. The audit universe was defined as all notices of revision received by CATS from TACOM from 1989 to 1992. The original universe from which the statistical sample was drawn included 395 notices of revision. Subsequently, 28 additional notices of revision were identified. Therefore, the actual universe contained 423 notices of revision. The unit audited was a specific drawing revision.

Sampling Methodology Used. We used stratification of census and random cluster sampling methodology to project the results of our sample. Initially, we selected a simple random sample of 104 engineering changes. Each selected engineering change represents a cluster of one or more notices of revision. The 104 engineering changes encompassed 186 notices of revision in all. To present correctly the sampling results in terms of notices of revisions, weights accounting for the differing numbers of notices of revision in the sampled engineering changes must be used in the statistical analysis. The cluster sampling methodology accomplishes the required weightings. The 28 notices of revision identified after the statistical sample was drawn all were reviewed. The census results from these 28 notices of revision were combined with the corresponding results from the cluster sample using stratification methodology.

Sampling Results

Of the 186 sampled notices of revision, 4 could not be evaluated. To ensure conservative statistical projections, these four instances of missing data all were treated as if they had "no impact."

Statistical projections of the sample data are as follows.

	95-Percent Confidence Intervals		
	Lower Bound	Point Estimate	Upper Bound
Notices of revision with major impacts	23	40	58
Notices of revision with minor impacts	49	108	167

We are 95 percent confident that from 23 to 58 of the 423 notices of revision had major impacts on CATS schedule. The unbiased point estimate, 40 notices of revision, is the most likely single value for the number of such revisions with major impacts.

Also, we are 95 percent confident that from 49 to 167 of the 423 notices of revision had minor impacts on the schedule. The unbiased point estimate, 108 notices of revision, is the most likely single value for the number of such revisions with minor impacts.

Appendix C. Management Comments on the Finding and Audit Response

This appendix provides detailed responses to Army comments on the finding. The full text of the Army comments is in Part IV.

Adequacy of the Technical Data Package. TACOM stated that the technical data package, including 92 revisions that were certified and used in the solicitation for 107 THM/TGs, was adequate for competitive procurement on a firm-fixed-price basis.

Audit Response. The technical data package was not suitable for a firm-fixed-price procurement. A firm-fixed-price procurement is intended to acquire products based on a reasonably definite detailed specification.

The technical data package required 45 revisions to the solicitation, not 92 revisions as specified by TACOM. In total, TACOM made 712 revisions to the technical data package. CATS received 423 of the 712 revisions. Clearly, the technical data package was not based on a reasonably definite detailed specification and, therefore, was not suitable for use on a firm-fixed-price procurement.

Further, TACOM paid a prior contractor with an active contract to correct the technical data package as problems were found. This contractor submitted 17 revisions to TACOM during the CATS solicitation period and 67 during the CATS contract.

Mandatory and Nonmandatory Revisions. Most of the revisions provided after award were nonmandatory and were actually made to enhance productivity. None of the revisions were to correct errors or deficiencies in the technical data package. None of the revisions were required to produce the THM/TG.

Audit Response. The following are examples of three nonmandatory revisions sent to CATS that were to correct errors or deficiencies in the technical data package and that were required to produce the THM/TG.

o Nonmandatory engineering change proposal D0I3074 was to revise the sleeving sizes on the switch assembly. The given sleeving size would not fit over the hex nut on the switch assembly. This revision allowed for alternate size sleeves to accommodate variations in hex nut sizes on vendor supplied switches.

o Nonmandatory engineering change proposal D9I3152 was to correct the parts for the hydraulic unit assembly. The washers called for on the drawing were too small to fit over the power stud on the motor. This engineering change proposal corrected the washer size.

o Nonmandatory engineering change proposal D9I4454 was to correct the silkscreen artwork for the circuit card. The silkscreen artwork was 180 degrees out of polarity for what was needed for the components. Without this revision, the circuit card would be improperly manufactured.

Impact of Administrative Revisions on Production. TACOM made 28 revisions that were administrative in nature to correct drawing errors or omissions. These revisions did not affect form, fit, or function. These revisions had no impact on production or purchased parts.

Audit Response. The Inspector General, DoD, engineers reviewed 83 administrative drawing revisions applicable to the CATS contract. The engineers determined that 13 of the 83 drawing revisions could impact the production schedule. The engineers determined that 2 of the 13 drawing revisions could result in a schedule delay greater than 2 weeks each. The engineers determined that 11 of the 13 drawing revisions could result in a schedule delay of up to 2 weeks each. The engineers determined that the other 70 administrative drawing revisions would not impact the production schedule.

Applicability of Revisions to the Terminated Receiver Component. Four revisions were made to the receiver after contract award. TACOM deleted the receiver from the contract by a partial termination for convenience. Therefore, the four revisions were not applicable to the contract.

Audit Response. TACOM approved 17 revisions to the receiver between award of the contract and termination of the receiver line item. Of these 17 revisions, 5 were mandatory. All of the revisions required the contractor to perform some level of analysis. The level of analysis could range from simply considering the revision for implementation to a full engineering analysis. The contractor had to expend time considering all these revisions. TACOM valued the Government cost to process these 17 revisions at $37,800.

Drawing Error or Deficiency Revisions and Incorporation Into the Contract. Only 21 revisions provided to the contractor after award and after the preparation of his bid were processed to correct drawing errors or deficiencies that were not administrative in nature. The revisions were mandatory and would have been incorporated into the contract by modification with appropriate equitable adjustment if CATS had not stopped responding to proposed revisions.

Audit Response. One of the 21 revisions identified by TACOM was not provided to the contractor. We identified at least 55 notices of revision that TACOM provided to CATS after contract award to correct drawing errors or deficiencies. TACOM did not identify the additional 35 notices of revision. The 35 additional notices of revision exclude the examples previously discussed as part of the component review. We determined that the additional 35 notices of revision we identified were not administrative in nature. The following are examples of nonadministrative changes:

o One revision was to add an adjustment procedure to the high frequency card drawing. Without this procedure, the high frequency card

cannot be aligned and the receiver cannot be built. The lack of this revision to a previous contract cost the Government $20,000. The Configuration Control Board determined that this revision was mandatory for the technical data package. TACOM procurement provided this revision to the contractor as a nonmandatory revision. TACOM incorporated this revision into the contract with no equitable adjustment.

o One revision was to correct the visual hit indicator lamp wiring on the electronic control unit. The visual hit indicator cable shield wire was incorrectly connected to a hit signal instead of to the chassis ground. Without this revision, the visual hit indicator lamp could not function with the electronic control unit. The Configuration Control Board determined that this revision was mandatory for the technical data package. This mandatory revision was not incorporated into the contract by a modification. TACOM did not approve an equitable adjustment for CATS.

o One revision was to correct the pulse requirement for a logic card used in the circuit card assembly. The circuit card assembly is part of the electronic control unit. The revision corrected the pulse requirement from 25 milliseconds to 40 milliseconds plus or minus 5 milliseconds. The original 25-millisecond pulse requirement was impossible to achieve because of the physical limitations of the circuit card components. The Configuration Control Board determined that this revision was mandatory for the technical data package. TACOM incorporated this revision into the contract with no equitable adjustment.

Based on supporting documentation for the 21 revisions cited by TACOM as mandatory and as provided to CATS after award to correct drawing errors or deficiencies, we determined the following:

o Eight of the cited revisions were approved by the Configuration Control Board as mandatory. The remaining 13 cited revisions were approved by the Configuration Control Board as nonmandatory.

o All of the eight revisions approved by the Configuration Control Board as mandatory were provided to CATS as mandatory revisions. One of the eight revisions approved as mandatory was incorporated into the contract by modification at no cost to the Government. The seven revisions approved as mandatory were not incorporated into the contract by modification. TACOM did not approve an equitable adjustment for CATS.

o Of the 13 revisions stated by TACOM to be mandatory but approved by the Configuration Control Board as nonmandatory, 3 revisions were provided to CATS by the TACOM procurement office as mandatory. One of the three revisions provided to CATS was incorporated into the contract by modification at no cost to the Government. TACOM provided two of the three revisions to CATS as mandatory but these revisions were not incorporated into the contract by modification. TACOM did not approve an equitable adjustment for CATS.

o Of the 10 revisions stated by TACOM to be mandatory but approved by the Configuration Control Board as nonmandatory, 9 revisions were provided to CATS by TACOM procurement as nonmandatory. Two of the nine revisions provided to CATS were incorporated into the contract by modification at no cost to the Government. The other seven revisions provided to CATS by TACOM procurement as nonmandatory were not incorporated into the contract and TACOM did not approve an equitable adjustment for CATS. The one revision stated by TACOM to be mandatory but approved by the Configuration Control Board as nonmandatory was never provided to CATS and was never incorporated into the contract.

Inspector General, DoD, Consideration of the Resurvey. The report overlooks the second positive preaward survey, which TACOM believes led to inaccurate facts and a faulty conclusion.

Audit Response. The Inspector General, DoD, was aware of the resurvey. The resurvey was considered in reaching the conclusions in this report.

Initial Preaward Survey. The initial preaward survey on CATS was negative but was superseded by a second positive survey that recommended award based on additional financial data, consisting of a $700,000 bank line of credit. Also, other data regarding CATS quality and technical adequacy supported full award. Prudent judgment was exercised based on the second favorable preaward survey and other contracting-officer analysis.

Audit Response. A second complete preaward survey was not requested nor was one performed. The resurvey was limited to quality assurance and recommended award based solely on quality assurance. The resurvey does not supersede the first preaward survey. The resurvey did not address the $700,000 bank line of credit nor the CATS financial condition.

The first preaward survey demonstrated that CATS was in an adverse financial condition and included the $700,000 bank line of credit. The resurvey provided no reason to believe that the CATS financial condition had changed between August 24, 1989, and September 22, 1989.

TACOM Actions on the CATS Claim. The complexity of the claim, the poor quality of the supporting data, the contractor's statement that the amount was not firm, and the need for pricing support from the Defense Contract Audit Agency for possible negotiations caused the contracting officer to extend the decision date on the CATS claim.

Audit Response. On February 26, 1992, TACOM informed CATS that TACOM estimated 90 days, May 3, 1992, for a decision on the claim. On March 26, 1992, 29 days later, TACOM returned the CATS claim for confirmation that the signing official was an authorized official of CATS; however, no clarification or additional supporting data was requested. On April 6, 1992, 11 days later, CATS returned the claim to TACOM. On June 2, 1992, 30 days after the TACOM decision on the claim was due, TACOM extended the date for rendering a decision to July 30, 1992.

TACOM waited 150 days after receiving the claim, until July 2, 1992, to request a Defense Contract Audit Agency audit and technical evaluation of the claim. This request was made 60 days after the original decision date and only 28 days before the revised decision date on the claim. TACOM requested the Defense Contract Audit Agency to complete the audit and technical evaluation of the claim by August 31, 1992, 120 days after the original decision date and 32 days after the revised decision date. Clearly, TACOM did not plan to make a decision by July 30, 1992, and the need for pricing support from the Defense Contract Audit Agency was not the cause of delaying the decision on the claim.

The complexity of the claim, the quality of the supporting data, and the need for pricing support from the Defense Contract Audit Agency should be considered when TACOM establishes the decision date on a claim.

Appendix D. Summary of Potential Benefits Resulting From Audit

Recommendation Reference	Description of Benefit	Type of Benefit
1.	Internal Controls. Provides management oversight of contracts and contract actions for contractors experiencing financial or technical performance difficulties.	Nonmonetary.
2.	Internal Controls. Provides controls for revising technical data packages before the technical data package is reviewed and certified that it is adequate for procurement purposes and a solicitation is issued.	Undeterminable. It is not possible to quantify the monetary benefits from a system to validate that technical data packages are accurate when used in contracts.
3.	Internal Controls. Provides controls for documenting revisions to the technical data package applicable to the individual contract.	Nonmonetary.
4.	Internal Controls. Provides management oversight of responsiveness to contractor claims.	Nonmonetary.

Appendix E. Organizations Visited or Contacted

Office of Secretary of Defense

Under Secretary of Defense for Acquisition and Technology, Washington, DC

Department of the Army

Secretary of the Army, Washington, DC
Assistant Secretary of Army (Research, Development, and Acquisition), Washington, DC
Army Materiel Command, Alexandria, VA
Tank-automotive and Armaments Command, Warren, MI.
Army Armament, Research, Development, and Engineering Center, Picatinny Arsenal, NJ

Other Defense Organizations

Defense Contract Audit Agency, Alexandria, VA
Atlanta Branch Office, Atlanta, GA
Defense Logistics Agency, Alexandria, VA
Defense Contract Management Area Operations, Atlanta, GA

Non-Defense Federal Organizations

Small Business Administration, Washington, DC
Atlanta Regional Office, Atlanta, GA

Non-Government Organization

Combined Arms Training Systems, Atlanta, GA

Appendix F. Report Distribution

Office of the Secretary of Defense

Under Secretary of Defense for Acquisition and Technology
  Deputy Under Secretary of Defense (Acquisition Reform)
Under Secretary of Defense (Comptroller)
Director, Defense Procurement

Department of the Army

Secretary of the Army
Assistant Secretary of the Army (Research, Development, and Acquisition)
Commander, Army Materiel Command
  Commander, Tank-automotive and Armaments Command
    Commander, Army Armament, Research, Development, and Engineering Center
Auditor General, Department of the Army

Department of the Navy

Auditor General, Department of the Navy

Department of the Air Force

Auditor General, Department of the Air Force

Other Defense Organizations

Director, Defense Contract Audit Agency
Director, Defense Logistics Agency
Inspector General, Central Imagery Office
Inspector General, Defense Intelligence Agency
Inspector General, National Security Agency
Director, Defense Logistics Studies Information Exchange
Commander, Defense Contract Management Area Operations, Atlanta

Non-Defense Federal Organizations and Individuals

Office of Management and Budget
Technical Information Center, National Security and International Affairs Division, General Accounting Office
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 Committee on Armed Services
Senate Committee on Governmental Affairs
House Committee on Appropriations
House Subcommittee of Defense, Committee and Appropriations
House Committee on Armed Services
House Committee on Government Operations
House Subcommittee Legislation and National Security, Committee on Government Operations

Senator Robert Graham, U.S. Senate
Senator Connie Mack, U.S. Senate
Congressman Newt Gingrich, House of Representatives
Congressman J. Dennis Hastert, House of Representatives

Part IV - Management Comments

Department of the Army Comments

DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY
RESEARCH DEVELOPMENT AND ACQUISITION
103 ARMY PENTAGON
WASHINGTON DC 20310-0103

REPLY TO
ATTENTION OF

01 JUN 1994

SARD-PC

MEMORANDUM FOR INSPECTOR GENERAL, DEPARTMENT OF DEFENSE (AUDITING)

SUBJECT: Procurement for the Target Holding Mechanism, Tank Gunnery, from Combined Arms Training Services (CATS) (Project No. 3CD-5026.01)

We have reviewed and agree with the enclosed U.S. Army Tank-Automotive Command (TACOM) nonconcurrence with the finding and recommendations in subject draft report.

Our nonconcurrence is supported by the findings of a TACOM "Red Team". The team's findings are based on an on-site review of all documentation relating to the draft report.

The point of contact for this action is Mrs. Geneva Halloran, (703) 695-5830.

George E. Dausman
Deputy Assistant Secretary of the Army
(Procurement)

Enclosure

CF:
SAAG-PRF-E
AMCIR-A
DAIG

Printed on Recycled Paper

DEPARTMENT OF THE ARMY
UNITED STATES ARMY TANK-AUTOMOTIVE COMMAND
WARREN, MICHIGAN 48397-5000

AMSTA-CG (36-2b) 25 May 1994

MEMORANDUM FOR Commander, U.S. Army Materiel Command,
ATTN: AMCIR-I, 5001 Eisenhower Avenue,
Alexandria, VA 22333-0001

SUBJECT: Department of Defense Inspector General (DODIG) Draft Audit Report, Procurement for the Target Holding Mechanism, Tank Gunnery, From Combined Arms Training Services, (Project No. 3CD-5026.01) (AMC No. D9315)

1. Headquarters, U.S. Army Materiel Command Permanent Order 125-3, 17 Dec 93, established the Armament and Chemical Acquisition and Logistics Activity (ACALA) (Provisional) effective 1 February 1994. This order further assigned the ACALA to Headquarters, U.S. Army Tank-Automotive Command by direction of Base Realignment and Closure (BRAC) Law of 1993.

2. The U.S. Army Tank-Automotive Command position to subject draft report is enclosed for your consideration. We disagree that there are problems with the procurement process but agree with the recommendations because procedures are already in place for contract oversight.

3. Point of contact is Ms. Susan Smith, HQ, AMCCOM, AMSMC-IA, DSN 793-2708.

FOR THE COMMANDER:

Encl

EUGENE E. WILSON
Colonel, GS
Chief of Staff

ENCL

DODIG DRAFT AUDIT REPORT FOR PROCUREMENT OF THE TARGET HOLDING MECHANISM, TANK GUNNERY FROM COMBINED ARMS TRAINING SERVICES Project No. 3CD-5026.01, AMC No. D9315

FINDING A. Procurement For Target Holding Mechanism, Tank Gunnery

AMCCOM inappropriately awarded a contract to build 107 THM/TGs and provided a flawed technical data package to a contractor known to have financial difficulty, no prior experience, limited accounting controls and limited technical skills. AMCCOM certified a flawed technical data package and did not provide the contractor with a reasonably detailed specification. AMCCOM did not properly control configuration of the THM/TG. AMCCOM was also not responsive to CATS request for equitable adjustment. As a result, the technical data package provided to the contractor contained 440 drawing changes, and the inappropriately awarded contract was terminated for default. In addition, CATS submitted a claim to the Armed Services Board of Contract Appeals.

ADDITIONAL FACTS. The technical data package, including 92 changes, that was certified and utilized in the solicitation for 107 THM/TGs was adequate for competitive procurement on a firm-fixed-price basis.

With regards to the 440 drawing changes submitted to the contractor, the following is offered as clarification and for consideration:

a. 92 of these changes were actually a part of the original TDP provided to CATS with the solicitation and were priced in CATS bid.

b. 295, 85% of the 348 total provided after award, were nonmandatory and were actually made to enhance productivity - not to inhibit it. Examples of the types of changes included in this category are: adding alternate vendors and methods of manufacturing; relaxation of tolerances; and quality updates. None of these changes were to correct errors or deficiencies in the TDP as it existed at time of solicitation, at time of award, or subsequent to award. Additionally, none of these changes were required to produce the THM/TG.

c. 28 changes (8%) were made to correct drawing errors or omissions that were administrative in nature. These were NORs from Class II ECPs - changes that don't affect form, fit, or function. Examples include the deletion of incorrect references to nonexistent quality assurance provisions or the correction of inconsistent cross references or typographical errors. These changes were strictly administrative in nature with no impact on production or purchase of parts.

d. 4 changes (1%) were made to the receiver. This component was deleted from the contract by a partial termination for the convenience of the government. Therefore, these changes are not applicable.

e. Only 21 changes, 6 % of all the changes provided to the contractor after award and after the preparation of his bid, were actually processed to correct drawing errors or deficiencies that were not administrative in nature. These changes were mandatory and all would have been incorporated into the contract by change order with appropriate equitable adjustment, if CATS had not stopped responding to proposed changes. Each change order for those changes incorporated provided CATS with an appropriate equitable adjustment and released the government from any further liability for these changes.

Summarizing the quality of the TDP: the TDP in the solicitation was an adequate specification for competitive procurement on a firm-fixed-price basis; the vast majority of the 348 changes identified in the CATS claim as being provided to CATS after contract award either had no effect on production or were to enhance producibility and to make the contractor's job easier; a relatively small number of post-award changes corrected actual errors or deficiencies in the TDP.

The initial preaward survey dated 24 Aug 89 for Blane Corporation (now known as CATS) conducted by the Defense Contract Management Area Office (DCMAO) with command participation was negative. This was later superseded by a second positive DCMAO Atlanta survey (dated 22 Sep 89), which recommended award based on additional data provided by CATS. The additional financial data (consisting of a $700,000 bank line of credit), as well as data regarding quality and technical adequacy, supported a full award to CATS. The draft DoDIG report makes no mention of this second preaward survey, of which the DoDIG may not have been aware. To the best of our knowledge, the DoDIG did not discuss the responsibility issue with AMCCOM prior to its inclusion in the draft report. Based on the second favorable preaward survey and other analysis by the Contracting Officer, we believe that the Contracting Officer did exercise prudent business judgment.

FAR 9.104 sets forth the standards for a responsible prospective contractor and requires the CO to use effectively internal and external information before making a determination of responsibility. These standards were addressed in the preaward survey, the information used by the CO in accordance with FAR 9.105 to support his determination of responsibility. The CO did not disregard adverse information about financial, accounting, and technical capability. All of these standards were addressed in the second, positive preaward survey, and a full award was recommended by the DCMAO Preaward Monitor (see enclosure). The

CO's actions were proper and completely consistent with the Federal Acquisition Regulation.

Configuration Management. We had adequate controls in place at the time of award, and they have been improved since then. All drawing changes associated with the THM/TG are logged in by Configuration Management and logged out once approved or disapproved by the configuration control board (CCB). The contract specialist for the THM/TG is a part of the CCB that reviews these changes. Once forwarded to procurement, the Artillery, Mortar, and Range Support Branch logs them in. They are then reproduced and provided to the applicable contract specialist for submission to the contractors affected for possible incorporation into the contracts. The branch log tracks receipt, distribution to the contract specialist, and the applicable contract and solicitation numbers. The contract files serve further to track the processing of the changes including transmittal to the contractor, date of incorporation, and consideration.

The command agrees that all contractual issues should be resolved by mutual agreement at the CO's level whenever possible. The initial CO's response - that he would issue a decision within 90 days - was within the 60 day deadline required by the clause for a response and was timely. The complexity of the claim, the poor quality of the supporting data, the contractor's statement that the amount was not firm, and the need for pricing support from the Defense Contract Audit Agency (DCAA) for possible negotiations caused the schedule to slip and the CO to extend the date for his decision. The Contracting Officer requested adequate certification, additional information, and supporting data from the contractor in order to be able to evaluate the claim. Once this information was received, DCAA audit support was requested in order to move toward possible negotiations. The contractor was notified of the delay. The command believes that it responded to this claim as best it could under the circumstances. The contractor demanded a decision within 10 days and then elected in July 1992 to appeal to the Armed Services Board of Contract Appeals on a deemed denial. Once the claim was appealed, the audit request was handled as a lower priority by the DCAA.

RECOMMENDATIONS AND ACTIONS TAKEN.

RECOMMENDATION 1. Implement procedures to provide high-level management oversight of contracts and contract actions that are experiencing financial or technical difficulties.

ACTION TAKEN. NONCONCUR. The draft DoDIG finding faults AMCCOM and the CO for awarding one contract to an alleged nonresponsible

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contractor and then suggests a systemic problem and recommends the implementation of high-level management oversight based on this single case. First, the review was limited to one contract, and its results should be specific to that contract. Second, the draft report overlooks the second, positive preaward survey, which has led to inaccurate facts and what we believe is a faulty conclusion. Procedures were in place and were utilized to provide the required oversight.

RECOMMENDATION 2. Direct the Major Weapons and Chemical Division to establish and implement control logs documenting changes to the technical data package applicable to an individual contract. The control log should identify all of the following:

Renumbered as Recommendation 3.

a. The change to the technical data package.

b. Whether the change is mandatory or nonmandatory.

c. Whether and when the change was submitted to the contractor.

d. Whether and when the change was accepted or rejected by the contractor.

e. Whether the change has been incorporated into the contract.

f. The estimated cost to incorporate the change into the contract, if any.

ACTION TAKEN. NONCONCUR. First, the report alleges one specific example of bad technical data (a flawed THM/TG TDP) and then suggests a systemic problem and recommends a systemic solution. Second, the TDP certified and utilized in the solicitation was adequate for competitive procurement on a firm-fixed-price basis. Third, adequate tracking procedures for technical data changes are already in place. While no single control log exists, the configuration management and procurement areas of the command maintain more than adequate control. The configuration management control board includes procurement representation. Configuration management maintains a log of receipt, approval, and transmittal to procurement. Procurement maintains a log tracking receipt from configuration management, distribution to the contract specialist, and the applicable contract and solicitation numbers. The individual contract files serve further to track the details of the ECP processing including transmittal to the contractor, incorporation into the contract or solicitation, and consideration.

RECOMMENDATION 3. Implement procedures to provide management oversight of responsiveness to contractor claims. The procedures

Renumbered as Recommendation 4.

should require milestones to be set for notifying the contractor that the claim was received; for requesting audit, technical evaluations, and legal review, and for establishing a decision date.

ACTION TAKEN. NONCONCUR. Command disagrees with the recommendation. Again, the draft DoDIG report recommends a systemic change based on the review of a single instance of deemed denial of a contractor claim. In this single instance, the command responded as best it could considering the quality of the claim and its supporting data. We do not believe that there is a systemic problem that warrants this recommendation for another layer of review with the associated additional administrative expense. Current regulations, such as FAR, as well as policy and guidance concerning the use of good business judgment presently apply to the working level, most notably the Contracting Officer. The working level's actions are then reviewed by legal and policy offices to ensure compliance. If additional information were to show that a systemic problem is developing, we would put appropriate oversight procedures in place.

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