

# Audit



# Report

OFFICE OF THE INSPECTOR GENERAL

CONTRACTING PROCEDURES FOR THE UPGRADE OF  
THE M113A3 ARMORED PERSONNEL CARRIER

Report No. 98-032

December 5, 1997

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### **Acronyms**

FAR

Federal Acquisition Regulation

TACOM

Tank-automotive and Armaments Command

December 5, 1997

MEMORANDUM FOR DIRECTOR, DEFENSE LOGISTICS AGENCY  
AUDITOR GENERAL, DEPARTMENT OF THE ARMY

SUBJECT: Audit Report on Contracting Procedures for the Upgrade of the M113A3  
Armored Personnel Carrier (Report No. 98-032)

We are providing this audit report for your information and use. This audit was performed in response to a request from Senator Jeff Bingaman. Because this report contains no findings or recommendations, no written comments were required or received.

We appreciate the courtesies extended to the audit staff. For additional information on this report, please contact Mr. James L. Koloshey, Audit Program Director, at (703) 604-8961 (DSN 664-8961), or Mr. Michael T. Hill, Acting Audit Project Manager, at (703) 604-9019 (DSN 664-9019). See Appendix C for the report distribution. The audit team members are listed inside the back cover.



David K. Steensma  
Deputy Assistant Inspector General  
for Auditing

**Office of the Inspector General, DoD**

**Report No. 98-032**  
(Project No. 7AG-5050)

**December 5, 1997**

**Contracting Procedures for the Upgrade of the  
M113A3 Armored Personnel Carrier**

**Executive Summary**

**Introduction.** This report addresses the contracting practices that the Army used in the upgrade program for the M113A3 Armored Personnel Carrier. This audit was performed at the request of Senator Jeff Bingaman, who wanted feedback on the contracting practices that the Army Tank-automotive and Armaments Command used in awarding and administering contracts for the upgrade kits by the Tank-automotive and Armaments Command.

The M113A3 Conversion Program is designed to provide the M113 Family of Vehicles with improvements in mobility, battlefield survivability, sustainability, and rapid deployability. The estimated cost for the M113A3 Conversion Program for FYs 1997 through 2003 was \$269.7 million. We reviewed five ongoing contracts, valued at \$31.9 million, that the Tank-automotive and Armaments Command awarded to small business contractors.

**Audit Objective.** The overall audit objective was to evaluate the contracting practices that the Tank-automotive and Armament Command used in the upgrade program for the M113A3 Armored Personnel Carrier.

**Audit Results.** The Tank-automotive and Armaments Command awarded the contracts for the M113A3 conversion kits in accordance with the Federal Acquisition Regulation. The Tank-automotive and Armaments Command worked to ensure the successful completion of the contracts for the M113A3 conversion kits through such actions as conducting preaward surveys of the technical, production, and financial capabilities of the contractors; assigning on-site quality assurance representatives; and allowing the contractors to receive progress payments.

**Management Comments.** Because this report contains no findings or recommendations, written comments were not required or received. Therefore, we are publishing this report in final form.

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## **Part I - Audit Results**

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## Audit Background

The request from Senator Bingaman was the result of a complaint from a small business contractor that had a contract with the Tank-automotive and Armaments Command (TACOM) for the M113A3 conversion kits. As a result of the company's complaint, Senator Bingaman requested that we review the process that TACOM used for awarding and administering contracts for the M113A3 Conversion Program. Because the contractor was a small business contractor, we are addressing the contracting practices that TACOM used to award and implement the small business contracts.

**M113 Family of Vehicles.** The Army began fielding the M113 Family of Vehicles in 1960. The M113 Armored Personnel Carrier is the primary vehicle in the M113 Family of Vehicles. The M113 Armored Personnel Carrier is a fully-tracked, lightly armored vehicle designed to transport the vehicle driver and track commander and 11 infantry personnel across hostile battlefield environments. In addition, seven other vehicles in the M113 Family of Vehicles have a common chassis. Those vehicles are the M1064 Mortar Carrier, the M548 Cargo Carrier, the M577 Armored Command Post Carrier, the M901 Improved Tube-Launched, Optically Tracked, Wire-Guided Missile Vehicle, the M981 Fire Support Team Vehicle, the M1059 Smoke Generator Carrier, and the M1068 Standard Integrated Command Post System.

**M113A3 Conversion Program.** The M113A3 Conversion Program was designed to provide the M113 Family of Vehicles with improvements in mobility, battlefield survivability, sustainability, and rapid deployability. The material for the M113A3 Conversion Program included the vehicle conversion kit, the Detroit Diesel 6V-53T turbocharged engine and the Allison crossdrive four-speed transmission, external fuel tanks, and hardware for mounting the spall liners and the external add-on armor. The Army has put the M113A3 upgrades in the new M113 Armored Personnel Carriers produced since 1987 and in all converted vehicles since 1989. In total, the Army will upgrade about 6,300 vehicles in the M113 Family of Vehicles. The M113A3 Conversion Program also includes upgrade kits for the M1064 Mortar Carrier and the M1068 Standard Integrated Command Post.

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**The M113A3 Conversion Kit.** The TACOM awarded the first contract for the M113A3 conversion kit in 1987. The M113A3 conversion kits have an average cost of about \$29,000 each and are used to support the upgrades for the M113A3 Conversion Program. The M113A3 conversion kits contain more than 1,100 different parts, several of which are long-lead-time items, such as the armor plate, transmission controller, and variable speed fan drive.

## **Audit Objective**

The overall audit objective was to evaluate the contracting practices that TACOM used in the upgrade program for the M113A3 Armored Personnel Carrier. Appendix A discusses the scope and methodology of the review.

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## **Small Business Contracts for the M113A3 Conversion Program**

The process that TACOM used to award and administer five small business contracts for the M113A3 Conversion Program met the requirements of the Federal Acquisition Regulation. The TACOM awarded the contracts using a combination of sealed-bid and sole-source procedures. Before the actual contract awards, TACOM performed preaward surveys to determine whether the contractor was capable of performing the contract. In administering the contracts, TACOM used on-site quality assurance representatives and progress payments to help the contractors complete the contracts. As a result, TACOM minimized the risk to the contractors and facilitated the completion of the contracts through its use of preaward surveys, quality assurance representatives, and progress payments.

### **Contracts for the M113A3 Conversion Program**

As of September 1, 1997, the M113A3 Conversion Program had 10 ongoing contracts, valued at \$109.1 million. The 10 contracts included the purchase of such items as the engines, transmissions, the M113A3 conversion kit, the M1064 Mortar Carrier conversion kit, external fuel tanks, and spall liners. Of the 10 contracts, small business contractors received 5 contracts, valued at \$31.9 million. The Federal Acquisition Regulation (FAR), Part 19, "Small Business Programs," defines a small business contractor as a concern that is independently owned and operated, not dominant in the field of operation for which it is bidding, and meets certain criteria and size standards. The contracting officer for the M113A3 Conversion Program designated two contracts as small business set asides, which are contracts reserved exclusively for small business contractors. Another contract was awarded to a small business contractor using full and open competition, which allowed all contractors to compete for the contract. The TACOM awarded the remaining two contracts to small business contractors as sole-source procurements to avert a shutdown of the production line for the M113A3 conversions. Appendix B lists the 10 contracts and identifies the 5 small business contractors.

### **Evaluation of the Contract Process**

Our review of the contracting process used to award and administer the five contracts involving small business contractors for the M113A3 Conversion Program showed that TACOM met the requirements in the Federal Acquisition Regulation. We specifically reviewed the use of source-selection criteria, preaward surveys, quality assurance representatives, and progress payments to award and administer the contracts.

**Source-Selection Criteria.** The use of source-selection criteria was not applicable to the five contracts awarded to the small business contractors. The Government uses source-selection criteria for complex contracts that require the consideration of factors such as schedule, quality, prior experience, management capabilities, technical excellence, and personnel qualifications. On three of the five contracts, TACOM awarded the contracts to the lowest bidder using sealed-bid procedures. The FAR 14.101, "Elements of Sealed Bidding," states that when sealed bidding is the method of contracting used, the contract award is made to the responsible bidder whose bid will be most advantageous to the Government, considering only price and price-related factors. The remaining two contractors received sole-source contracts for components urgently needed to avoid a shutdown in the M113A3 production line. Source-selection criteria are not used in the award of sole-source contracts.

**Preaward Surveys.** The TACOM performed preaward surveys on the five small business contractors in accordance with the Federal Acquisition Regulation. The purpose of the preaward survey was to determine whether a contractor was capable of performing the contract before the actual award. The FAR 9.104-1, "General Standards," provides that a contractor can receive a contract award if it has adequate financial resources; a satisfactory performance record; the necessary organization, experience, accounting, and technical skills; and the necessary production facilities. The extent of the preaward survey that TACOM conducted depended on factors such as its previous experience with the contractor and the amount of the contract. The TACOM maintained procurement histories on the performance of its contractors, which was the starting point for the preaward survey. On four of the five contracts, the preaward survey consisted of reviewing the contractor's performance history. On the other contract for the M1064 Mortar Carrier conversion kit, valued at \$1.9 million, TACOM conducted an extensive preaward survey because the contractor had not previously provided the kits. As a result, the preaward survey covered the technical, production, quality assurance, and financial capabilities of the contractor.

**Quality Assurance Representatives.** Our review of the contract files for the five contractors did not show any delays in the contract performance as a result of the quality assurance representatives. The Defense Contract Management Area Offices were responsible for providing the quality assurance representatives for the five contracts. The TACOM took the added step on contract DAAE07-97-C-X065 for the M113A3 conversion kits by requesting that the Defense Contract Management Command appoint an on-site quality assurance representative. The appointment of an on-site quality assurance representative provides the contractor with timely inspection and acceptance of completed items.

**Progress Payments.** The TACOM provided financial assistance to the five contractors through the use of progress payments in accordance with FAR 32.501-1, "Customary Progress Payment Rates," which provides that small business contractors can receive progress payments at a rate of 85 percent of the cost incurred. Progress payments facilitated the completion of the contracts by reimbursing contractors for cost incurred as the contract progressed.

## **Conclusion**

The TACOM awarded the five small business contracts for the M113A3 Conversion Program in accordance with the Federal Acquisition Regulation. As a result, TACOM minimized the risk to the contractor and facilitated the completion of the contracts through its use of preaward surveys, quality assurance representatives, and progress payments.

## **Part II - Additional Information**

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## **Appendix A. Audit Process**

### **Scope and Methodology**

As of September 1, 1997, the M113A3 Conversion Program had 10 ongoing contracts, valued at \$109.1 million. Because the request from Senator Bingaman was the result of a complaint from a small business contractor, we reviewed the contracting practices that TACOM used in the award and administration of small business contracts for the M113A3 Conversion Program. Of the 10 contracts, small business contractors received five contracts, valued at \$31.9 million. The TACOM awarded the five small business contracts from May 19, 1994, through February 26, 1997. We did not review the management control program for the M113A3 conversion program because the audit was a congressional request involving a limited number of contracts.

**Use of Computer-Processed Data.** We did not rely on computer-processed data to develop our audit conclusions.

**Audit Type, Dates, and Standards.** We performed this economy and efficiency audit from July through September 1997, in accordance with auditing standards issued by the Comptroller General of the United States, as implemented by the Inspector General, DoD.

**Contacts During the Audit.** We visited or contacted individuals and organizations within the DoD. Further details are available on request.

### **Summary of Prior Audits and Other Reviews**

During the last 5 years, no audits were performed concerning the contracting process that TACOM used for awarding and implementing the M113A3 conversion kits.

## Appendix B. Current Contracts for the M113A3 Conversion Program

| <u>Contractor</u>                     | <u>Contract No.</u> | <u>Item</u>        | <u>Amount</u>        |
|---------------------------------------|---------------------|--------------------|----------------------|
| Napco, Inc.*                          | DAAE07-97-C-X065    | Conversion Kit     | \$ 18,941,802        |
| Allison                               | DAAE07-97-C-T476    | Transmission       | 13,794,615           |
| Majestic Metal*                       | DAAE07-96-C-X089    | Fuel Tank          | 810,752              |
| Gateway Cable*                        | DAAE07-94-D-J006    | Nato Slave Kit     | 91,370               |
| Sioux Manufacturing*                  | DAAE07-94-D-J005    | Spall Liner        | 10,141,941           |
| Prestolite Electric                   | DAAE07-94-P-S488    | Regulator          | 33,775               |
| Detroit Diesel                        | DAAE07-94-D-A013    | Engine             | 39,278,918           |
| Litton Industries                     | DAAE07-96-C-X131    | Hatch Adapter      | 735,668              |
| Votta/Zober*                          | DAAE07-94-C-0651    | M1064 Kit          | 1,904,730            |
| United Defense<br>Limited Partnership | DAAE07-94-C-A018    | Vehicle Conversion | <u>23,391,386</u>    |
| <b>Total</b>                          |                     |                    | <b>\$109,124,957</b> |

\*The TACOM awarded five contracts, with a value of \$31.9 million, to small business contractors. The Napco, Inc., and Majestic Metal received sole-source contract awards for urgently needed components for the M113A3 production line. The TACOM used sealed-bid procedures to award contracts to Sioux Manufacturing, Gateway Cable, and the Votta/Zober Industries as the low bidders.

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Committee on Government Reform and Oversight  
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Committee on Government Reform and Oversight  
House Committee on National Security  
Honorable Jeff Bingaman, U.S. Senate

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