

# **DEPARTMENT OF DEFENSE**

# **AUDIT REPORT**

MANAGEMENT OF DOD CRYPTOLOGIC TRAINING

No. 91-049

February 15, 1991

Office of the Inspector General





#### INSPECTOR GENERAL

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

February 15, 1991

MEMORANDUM FOR ASSISTANT SECRETARY OF THE ARMY (FINANCIAL MANAGEMENT)

ASSISTANT SECRETARY OF THE NAVY (FINANCIAL MANAGEMENT)

DIRECTOR, NATIONAL SECURITY AGENCY/CHIEF,

CENTRAL SECURITY SERVICE

SUBJECT: Audit Report on Management of DoD Cryptologic Training (Report No. 91-049)

This is our final report on the Management of DoD Cryptologic Training. The audit was made from August 1989 through May 1990 and included reviews of records and financial statements related to cryptologic training. The overall objective was to determine if cryptologic training in DoD was being managed in an efficient and effective manner. Specific audit objectives included determining whether training programs met operational requirements, training resources were utilized effectively, training for new systems was adequately planned, and acquisitions related to cryptologic training were economical and complied with applicable regulations. We also evaluated internal controls related to the areas covered by the audit.

The audit showed that training programs were generally satisfying the operational requirements of the cryptologic system. The National Security Agency (the Agency) was ensuring that course content met operational requirements. Training resources were effectively utilized. However, increased coordination in the development of training devices and the planning of training for new Signals Intelligence systems was needed. Improvements were also needed in the administration of contracts awarded for the operation and maintenance of the GUESTMASTER training system, a cryptologic training device. The results of the audit are summarized in the following paragraphs, and the details and audit recommendations are in Part II of this report.

The Agency had not established procedures for coordinating and overseeing the actions of the Military Departments in the development and acquisition of cryptologic training devices. The Army is purchasing \$1.37 million of additional training devices that may not be required (page 5).

The Agency agreed to implement procedures for coordinating and overseeing the development and acquisition of cryptologic training devices as proposed in Recommendations A.l.a., A.l.b., A.l.c., and A.l.d. Regarding Recommendation A.l.g., the Agency stated that changes in technology precluded the designation of a standard Morse trainer, but agreed to ensure that the specifications used in the Army's planned procurement matched those of the Basic Morse Mission Trainer. The Army concurred with Recommendation A.2., which proposed that the procurement of additional Morse trainers be delayed until the Agency had completed its review of the Navy's restructuring.

The Agency concurred in Recommendation A.l.e. and A.l.f., and stated that it has completed an evaluation of the effect of the Navy's restructuring of enlistment codes. The results of the evaluation disclosed that the restructuring, if implemented, would only minimally decrease the number of Morse code students required and would not affect the number of Morse code training devices needed. Consequently, the restructuring would not result in excess Morse code training devices that could be used to satisfy Army requirements.

After we received the Agency's response to the draft report, the Agency informed us that the Navy had made a proposal for the consolidation of Morse training at Fort Huachuca, Arizona. Further, an automated system for processing Morse intercept had We believe the effect of these developments been developed. needs to be addressed before the Army initiates action to procure additional Morse code training devices. Therefore, we request that the Agency provide comments on this final report addressing the actions it will take to evaluate the effects of these developments on the number of Morse code students and Morse code training devices required. We also request that the Agency's comments indicate whether Morse Code training devices will become available that could be used to staisfy Army requirements. addition, we request that the Army provide comments indicating whether it will delay the award for the procurement of additional Morse code training devices pending the outcome of the Agency's evaluation.

the Improvements were needed in acquisition administration of contractor operation and maintenance of the GUESTMASTER training system. Coordination between the Agency and the Navy for transitioning the GUESTMASTER system Consequently, the Agency may have contracted for ineffective. unneeded staff costing \$132,500 in FY 1990 and plans to contract for unneeded staff that will cost \$420,000 in FY's 1991 and 1992. In addition, the Agency may have overpaid more than \$116,000 for work done in FY 1989. Further, about \$1.2 million of Agency funds budgeted for training software upgrades had to be reprogrammed to pay for the operation and maintenance of the GUESTMASTER system for the Navy (page 13).

The Agency agreed to reduce the staffing level of the GUESTMASTER contract as proposed in Recommendation B.l.a. and stated that monetary benefits of \$84,000 would be achieved. The Agency's calculation of \$84,000 is based on reducing the staff from eight personnel, the number of contractor personnel working on the contract at the time of our review. Our monetary benefits were calculated based on the 12 positions budgeted for FY 1991. We believe a savings of \$420,000 over 2 years is appropriate for the reasons given in Part II of the report. Therefore, we request that the Agency reconsider its position on the potential monetary benefits of \$420,000 and provide a concurrence or nonconcurrence in its response to this report. Potential monetary benefits are subject to resolution in the event of nonconcurrence or failure to comment.

The Agency agreed to procure GUESTMASTER operation and maintenance services using a firm fixed-price contract as proposed in Recommendation B.l.b. However, the Agency said it would utilize a firm fixed-price contract beginning in FY 1992, because time did not permit its implementation for FY 1991. The Agency concurred in Recommendations B.l.c.(1)., B.l.c.(2)., and B.l.d. to improve contract administration and oversight on the GUESTMASTER operation and maintenance contract. The Agency will implement procedures to reconcile billings to the monthly Fund Expenditure Reports and will request that the Defense Contract Audit Agency perform an incurred cost audit on the contract. The Agency did not feel it would be possible to designate an on-site contract representative without transferring an Agency employee to Pensacola, Florida. However, the Agency stated that it would increase the number of on-site visits.

Both the Agency and the Navy concurred with Recommendation B.2. to resolve the GUESTMASTER funding and transition problems. The Memorandum of Understanding and Transition Management Plan between the Agency and the Navy are being reviewed and will be revised if necessary.

The Agency's Education and Training Organization (the Training Organization) was not sufficiently involved in the development of training for new Signals Intelligence systems. Consequently, there was no assurance that training would be effective and that systems operations would be maximized (page 19). The Agency concurred with Recommendations C.1. through C.4. to improve training for new Signals Intelligence systems (page 21).

The audit identified internal control weaknesses as defined by Public Law 97-255, Office of Management and Budget Circular A-123, and DoD Directive 5010.38. Controls were not established to preclude duplicative procurement and contract administration efforts for training devices. Also, controls were not

implemented to limit contractor staffing to minimal acceptable levels, to verify that billings were accurate, and to ensure that contractor performance met contract requirements. Controls were also needed to ensure that training for new systems is developed and that appropriate oversight is exercised by the Training Organization. Recommendations A.1., B.1., C.1., C.2., and C.3. in this report, if implemented, will correct the weaknesses. Therefore, a copy of this final report will be provided to the senior official responsible for internal controls within the Agency.

DoD Directives 7650.3 requires that all audit issues be resolved promptly. Therefore, we request that the Agency and the Army provide management comments on the unresolved issues addressed in the final report within 60 days of the date of this report. Comments should state concurrence or nonconcurrence in each unresolved issue, describe the corrective actions taken or planned, and provide completion dates for actions taken or planned.

The courtesies and cooperation extended to the audit staff are appreciated. If you have any questions pertaining to this report, please contact Mr. Charles M. Santoni or Mr. H. Phillip Davis on (301) 859-6995. Copies of this report are being provided to the activities listed in Appendix F.

Robert J. Lieberman
Assistant Inspector General
for Auditing

cc:
Secretary of the Army
Secretary of the Navy
Director, Defense Contract Audit Agency

# MANAGEMENT OF DOD CRYPTOLOGIC TRAINING

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Prepared by:
Readiness and Operational
Support Directorate
Project No. 9RC-0065

#### MANAGEMENT OF DOD CRYPTOLOGIC TRAINING

#### PART I - INTRODUCTION

# Background

The National Security Agency (the Agency) has oversight responsibility for DoD cryptologic training. The Agency and the Military Departments comprise the Cryptologic Training System, which is responsible for providing training that is effective, efficient, and responsive to strategic and tactical operational needs. The Agency's Education and Training Organization (the Training Organization) is responsible for managing cryptologic training. Policies and procedures for performing cryptologic training functions are established in DoD Directive 5210.70, "DoD Cryptologic Training," November 3, 1980, and in National Security Agency Regulation 40-1, "National Cryptologic Education and Training," April 3, 1986.

Cryptologic training is divided into three functional areas, Morse code intercept operations, non-Morse intercept operations, and cryptologic analysis and reporting. As part of an effort to improve both the overall integrated management of cryptologic training and the uniform quality of that training, responsibility for one functional area was assigned to each Military Department (the designated executive agent). The designated executive train personnel from all branches of the Military Departments in the applicable military occupation. The Army conducts Morse code intercept operator training at Fort Devens, Massachusetts; the Navy conducts non-Morse intercept operator training at Corry Station, Florida; and the Air Force conducts training for cryptologic analysis and reporting at Goodfellow Air Force Base, Texas.

# Objectives and Scope

The overall objective of the audit was to determine if cryptologic training in DoD was being managed and controlled in an efficient and effective manner. Specific objectives included determining whether training programs satisfied operational requirements, training resources were utilized effectively, training for new systems and equipment was adequately planned, and acquisitions related to cryptologic training were economical and complied with applicable regulations.

We used statistical sampling to determine if system acquisition managers were developing training for new systems under development as of September 16, 1989. We also used our sample to assess the extent to which the Agency's Training Organization was involved in overseeing and coordinating the actions of the systems acquisition managers. We selected a sample of

158 projects for review from the 503 system acquisition projects identified on project lists maintained by the Agency's Program and Resources Organization and the Agency's Telecommunications and Computer Services Organization.

This economy and efficiency audit was made from August 1989 through May 1990 and included an examination of controls, procedures, records, and documents that existed as of September 30, 1989. The audit was conducted in accordance with auditing standards issued by the Comptroller General of the United States as implemented by the Inspector General, DoD, and accordingly, included such tests of internal controls as were considered necessary. A list of the activities visited or contacted during the audit is included as Appendix E.

#### Internal Controls

We reviewed the implementation of the Federal Managers' Financial Integrity Act at the Agency as it related to our audit scope. Cryptologic training was not a separate assessable unit at the Agency, but it was part of several assessable units. The Agency did not specifically cover cryptologic training during its self-evaluation of internal controls related to these assessable units. Since the Agency did not provide coverage that was directly related to our audit scope, we are not commenting on the adequacy of the implementation of the Act.

The objective of internal controls for the development of cryptologic training is to ensure that procurements are not duplicated and that interoperability is achieved to the maximum extent possible. Control techniques needed to be strengthened to ensure that the Military Departments and the Training Organization coordinate the development and acquisition of training devices to prevent duplication.

The objectives of internal controls over contract administration are to ensure that contractors perform in accordance with specifications and that billings are accurate. Compliance with internal control techniques were not adequate to ensure that the operation and maintenance contractor for the GUESTMASTER system, a cryptologic training device, was performing all work required and that billings received were accurate. The objectives of internal controls for new systems training are to ensure that training is developed and that the Agency's Training Organization participates in the development of training programs. Control techniques had not been established to ensure that the Training Organization was involved with all projects development. In addition, controls had not been established to ensure that training handbooks and manuals were reviewed by the Training Organization and that proposed changes were made when appropriate.

Details on the internal controls reviewed and the weaknesses identified are provided in Part II of this report.

# Prior Audit Coverage

There has not been any prior audit coverage on the specific issues discussed in this report within the last 5 years.

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## PART II - FINDINGS AND RECOMMENDATIONS

# A. Training Device Acquisitions

# FINDING

The National Security Agency (the Agency) and the Military Departments were not adequately coordinating the development and procurement of cryptologic training devices. Because detailed coordination procedures were not established, duplicative procurement and contract administration efforts for training devices resulted. In addition, training devices that may not be needed are being procured at a cost of \$1.37 million.

#### DISCUSSION OF DETAILS

Background. The Military Cryptologic Training Division (the Division) of the Agency's Education and Training Organization (the Training Organization) is responsible for overseeing training actions related to cryptologic training performed by the Military Departments. The Division concentrates its efforts on the course content of cryptologic training. The performance of cryptologic training is facilitated through the use of simulators and training devices. Actual field conditions can often be duplicated with the use of simulators. Many students can be trained more cost-effectively using simulators, since buying the actual equipment in large numbers would be cost-prohibitive. The Military Departments procure and use simulators for a wide variety of training requirements. DoD Directive 5210.70, "DoD Cryptologic Training," November 3, 1980, requires the Agency and the Military Departments to coordinate the procurement of technical training equipment.

Morse Trainer Procurements. At the time of our audit, both the Army and the Navy were procuring Morse code training devices (Morse trainers). Therefore, we concentrated our audit coverage on Morse trainer procurements. We concluded that improvements were needed in Agency and Military Department practices for coordinating the procurement of cryptologic training equipment, that Morse trainer procurements were not sufficiently coordinated, and that the Army's purchase of additional Morse trainers may not be needed.

Oversight Initiatives. The Training Organization did not coordinate the development and acquisition of training devices for the Cryptologic Training System. The Division did not coordinate procurement efforts for the Morse trainers between the Military Departments' materiel developers and cryptologic schools. Further, the Training Organization did not have a central point of contact for reviewing requirements, specifications, and statements of work for cryptologic training equipment to prevent duplications.

Prior to our audit, the Agency's Deputy Director for Education and Training recognized that a coordination problem existed and was developing a data base to track the development efforts for This initiative was designated Project training devices. TOUCHBACK. One purpose of Project TOUCHBACK was to promote standardization, eliminate duplication, and provide information on the latest advances in equipment technologies. The data base will serve as a training device clearinghouse and will provide quidelines for procuring Morse trainers. The Training Organization plans to provide the Military Departments' cryptologic schools access to Project TOUCHBACK. Our audit of Project TOUCHBACK showed that it will improve the Training Organization's ability to oversee the development efforts of the Military Departments' training devices.

To improve Project TOUCHBACK's effectiveness, certain areas need to be strengthened. A specific office within the Training Organization needs to be identified and assigned oversight responsibility for the data base. Frequent interaction with the Military Departments will be necessary to ensure that the data Without current data from the Military base is updated. Departments, sufficient information may not be available in the data base to adequately monitor training device developments. ensure that data are current, the Training Organization will need develop and provide the Military Departments specific procedures on how they should input data and receive output from the data base. We believe that one office should be assigned responsibility for performing all the day-to-day functions associated with the TOUCHBACK data base. The office could also facilitate the Agency's ability to resolve duplicate development efforts during the planning stage. In addition, the Military Departments' materiel developers' access to the information in the TOUCHBACK data base could enhance coordination and help to avoid duplicative training device development.

Coordination Effort. Separate procurements for trainers to teach basic Morse code were initiated in the same time frame by the Naval Training Systems Center (NTSC) and the Army Project Manager, Training Devices (PMTRADE), which are collocated in Orlando, Florida. Prior to initiating these separate procurements, the Army and the Navy were in the process of jointly procuring a Morse trainer. That joint procurement was initiated in 1985 when the Army contracted to buy the Morse Intercept Position Simulator (MIPS) for use by both the Army and project Navy. However, in March 1987, the MIPS terminated because the contractor was unable to deliver acceptable Morse trainer. As a result, both Military Departments had to continue using a 20-year old Morse trainer, while efforts to buy another Morse trainer were initiated.

The Army documented its new requirements for the Basic Morse Mission Trainer (BMMT) on June 2, 1987. On May 25, 1988, the Army issued a statement of work for the BMMT. Army personnel at Fort Devens assumed that the Navy would participate in a joint procurement because it still required a new Morse trainer. However, on November 19, 1987, without coordinating with the Army, the Navy initiated a procurement for a Morse trainer, the Cryptologic Procedural Trainer, Device 8C6 (8C6). The Navy developed a statement of work for the 8C6 on January 6, 1988. On August 11, 1988, the Navy entered into a contract for approximately \$1.4 million with ERA, Inc.; Pensacola, Florida, to procure the 8C6. Five 8C6's were procured to support The 8C6's were scheduled for 200 students and 10 instructors. delivery from November 1989 through July 1990. The first of the 8C6's was received in April 1990. On April 20, 1989, the Army awarded a \$2.7 million contract to ERA, Inc., to procure the Under that contract, 11 BMMT's were procured to support 330 students and 22 instructors. Delivery was scheduled for May 1990, but slipped to September 1990 as of June 11, 1990.

We found no indication that the Army and the Navy had coordinated on the procurements after the termination of MIPS. If the Agency had performed its oversight responsibility for technical training equipment, only one training device might have been developed and procured.

Morse Requirements. The Army and the Navy teach basic Morse skills. At Fort Devens, Massachusetts, the Army teaches Morse Intercept Operators basic Morse code at a rate of 20 groups of Morse characters per minute. The Navy teaches Morse code to non-Morse Intercept Operators at a rate of 16 groups of Morse characters per minute at the Naval Technical Training Center (NTTC), Corry Station, Pensacola, Florida.

Several factors affect the number of students needed to fulfill future Morse code training requirements. The Navy is planning to increase the Morse code intercept skill requirement for non-Morse Intercept Operators from 16 to 20 groups of Morse characters per minute, the requirement the Army uses for its Morse Intercept In addition, future changes in the types of signals that will need to be intercepted will necessitate shifting Naval personnel from Morse to non-Morse positions, thereby reducing the number of Navy students requiring Morse code training. Further, under a restructuring of Navy Enlisted Codes, which identify personnel skills, Electronic Intelligence trainees will no longer receive basic Morse code training. The effect of these changes on training requirements has not been determined by the Navy. discussed the Navy's plans with senior Agency personnel. Although, they were aware of the restructuring, they informed us that they had not evaluated its consequences.

Planned Procurements. In FY 1992, the Army Intelligence School, Fort Devens, Massachusetts, will be consolidated with the Intelligence Center and School at Fort Huachuca, Arizona. Army plans to pre-position Morse code training devices at Fort Huachuca and to conduct Morse training simultaneously at Fort Devens and Fort Huachuca during the move to ensure a continuous flow of Morse Intercept Operator graduates. The number of additional Morse code training devices required to conduct Morse training simultaneously at Fort Devens and Fort Huachuca during the transitional period was determined based on student input projections developed in September 1988. The reduction in the number of Morse code students that may result from the Navy's restructuring was not considered. A reduction in Navy Morse training requirements may result in underutilization of Morse trainers at Corry Station or Fort Devens.

On January 22, 1990, the Army's Deputy Chief of Staff for Operations instructed PMTRADE to procure five additional BMMT's at \$1.37 million, to be installed at Fort Huachuca no later than April 1992. The additional Morse trainers will support 150 students and 10 instructors. The Army believed that the purchase of additional trainers would not only facilitate Morse training during the consolidation, but would also decrease the three shift training operation at Fort Devens to a two or single shift operation after the consolidation at Fort Huachuca. However, until the total DoD requirement for Morse training is determined, the number of Morse trainers needed cannot be predicted.

We compared the features of the BMMT and the 8C6 to determine if the Morse trainers were interchangeable. We found that the specifications for the hardware configurations were similar. The BMMT has software upgrades and enhancements that the 8C6 does not have. Functionally, however, both trainers meet the basic Morse training requirements of keyboard familiarization, touch typing, international Morse code character recognition, and grading and classroom management functions. Although the two devices are not fully interchangeable, we believe either Military Department could utilize the other's training device on an interim basis if the Navy restructuring should result in underutilized trainers. If so, additional Morse trainers for the Fort Devens and Fort Huachuca consolidation may not be needed.

Morse trainers will be procured under a new contract because existing contracts cannot be modified. PMTRADE needs a minimum of 9 months to finalize a procurement. The deadline for consolidating training at Fort Huachuca is April 1992. There is a definite need and sufficient time for the Agency to validate basic Morse operator training requirements before the additional trainers are procured.

#### RECOMMENDATIONS FOR CORRECTIVE ACTION

- 1. We recommend that the Director, National Security Agency/Chief, Central Security Service:
- a. Designate a specific office responsible for overseeing and coordinating the Military Departments' efforts to develop and acquire training devices for the cryptologic training system, including Project TOUCHBACK.
- b. Establish procedures to facilitate the entry of data by the Military Departments into the Project TOUCHBACK data base.
- c. Give the Military Departments' materiel developers access to the Project TOUCHBACK data base.
- d. Establish procedures for the Military Departments to coordinate procurements of training devices with the National Security Agency.
- e. Determine the effect of the Navy's restructuring of enlisted codes on the number of students and Morse code training devices required to meet Morse code training needs.
- f. Determine whether Morse code training devices that may become excess as a result of the Navy restructuring can be used to satisfy Army requirements.
- g. Designate either the Cryptologic Procedural Trainer, Device 8C6 or the Basic Morse Mission Trainer as the standard basic Morse code training device for future Military Department acquisitions.
- 2. We recommend that the Army Deputy Chief of Staff for Operations delay the award of the procurement to purchase additional Morse code training devices pending the outcome of the National Security Agency review of the Navy's restructuring initiative.

#### MANAGEMENT COMMENTS

The Director, National Security Agency concurred with all recommendations and stated that the Military Cryptologic Division of the Education and Training Organization has been given responsibility for coordinating development efforts with the Military Departments. Regarding Project TOUCHBACK, the Training Organization's Training Technology and Information Systems Office will coordinate all efforts related to the Project. A joint Agency and Military Department working group will develop procedures to facilitate entry of data into Project TOUCHBACK by FY 1992, when it will become operational. The Military Department's materiel developers will be invited to participate

in Project TOUCHBACK and will receive full access to the data base. Actions will also be initiated with the Military Departments to improve procedures for coordinating procurement of cryptologic training devices.

Regarding the proposed restructuring of the Navy Enlisted Codes, the Agency stated that the restructuring, if approved and implemented, would not appreciably decrease the number of personnel receiving Morse and non-Morse training. Consequently, the Agency concluded that the Navy restructuring would not result in excess training devices that could be made available for Army use. However, the Agency will continue to monitor the Navy restructuring to determine if there are any significant changes, e.g., changing mission requirements dictated by a troop drawdown that may affect the number of Morse code training devices required.

Regarding the procurement of additional Morse trainers, the Agency agreed to coordinate with the Army to ensure that standards used for the procurement are compatible with procurement standards for the BMMT's. However, the Agency stated that designation of a standard trainer would not be prudent considering changes in technology. The Army's Deputy Chief of Staff for Operations stated that the Army would not complete its Morse trainer procurement without coordinating with the Agency.

#### AUDIT RESPONSE TO MANAGEMENT COMMENTS

The actions planned by the Agency and the Army are responsive to the recommendations. However, subsequent to receiving management comments, we had discussions with the Training Organization and the Navy regarding the status of the Navy's restructuring. Those discussions disclosed additional issues that should be addressed before the Army initiates action to process additional Morse code training devices.

We contacted personnel in the Agency's Training Organization to determine the specific results of its analysis of the effect of the Navy's restructuring on the need for additional Morse trainers. Training Organization personnel stated that after the submission of their response to the draft audit report, the Navy proposed that Army and Navy Morse training be consolidated at Fort Huachuca, Arizona. Further discussions with the Navy disclosed that it still plans to restructure its Enlisted Codes by FY 1992. In conjunction with the restructuring, the Navy has proposed that all initial Morse training be consolidated and conducted by the Army as part of the Army's Executive Agency responsibilities. The change would result in the transfer to the Army of those Navy students receiving basic Morse training at NTTC.

In addition, Training Organization personnel informed us that they had become aware of a Research and Development effort, Project Eagerness, to build an automated Morse code collector. As of the time of the audit, two prototype systems were capable of collecting broadcasts and machine-generated Morse code. Since a transcriber would be unnecessary, Project Eagerness has the potential of significantly reducing the number of manual Morse positions needed throughout the Military Departments.

These latest developments have further effects on whether the Army needs to procure additional BMMT's. We believe the Navy's 8C6's could be transferred to the Army, if the Army needs them to satisfy an increase in Morse work load as a result of the The Army would be able to utilize the 8C6's to consolidation. teach basic Morse since the Navy would no longer be performing that function. Although not identical to the BMMT, the 8C6 is a viable alternative to purchasing additional BMMT's given the current budget austerity. The Navy does not agree and wants to retain the 8C6's for use in its non-Morse courses. We believe the Navy should consider the GUESTMASTER system's capability of maintaining and increasing Morse skills as an alternative to We also believe the Army should not purchase using the 8C6. additional BMMT's if the above issues relating to Morse training resolved by April 1991, the current procurement deadline.

We request that the Agency provide comments on this report addressing the actions it will take to evaluate the overall effects that the consolidation of Morse training and Project Eagerness will have on the number of students and Morse code training devices required to meet Morse code training needs. We also request that the Agency indicate whether its evaluation discloses any excess Morse trainers that could be used to satisfy consolidated Morse training requirements.

In addition, we request that the Army provide comments indicating whether it will delay the award for the procurement of additional Morse trainers pending the outcome of the Agency's evaluation.

#### B. GUESTMASTER System Support

#### FINDING

Operation and maintenance support costs for the GUESTMASTER training system were not adequately planned and administered. condition occurred because contract administration procedures were not followed, inappropriate contracting methods were used, and coordination between the National Security Agency (the Agency) and the Navy was ineffective. As a result of improper contract administration, the Agency may have contracted for unneeded staff in FY 1990 costing \$132,500 and plans to contract for unneeded staff in FY's 1991 and 1992 costing In addition, the Agency may have overpaid more than \$570,300. \$116,000 for work performed during FY 1989. About \$1.2 million of funds budgeted by the Agency for training software upgrades had to be reprogrammed to pay for the operation and maintenance of the GUESTMASTER system at the Navy.

#### DISCUSSION OF DETAILS

Background. The Agency is the acquisition authority for the development and procurement of Project GUESTMASTER, a cryptologic training device. GUESTMASTER was developed by the Agency under contracts with Ford Aerospace Corporation (Ford Aerospace) at a total cost of approximately \$109 million. GUESTMASTER is a selfpaced, computer-based instructional system with random entry and GUESTMASTER uses three-dimensional positional simulation exit. provide training to non-Morse operators. Α developed for training on GUESTMASTER. 16 courses will be Two GUESTMASTER systems have been deployed, one to the Ford Aerospace Technical Training Facility, Hanover, Maryland; and the second to the Naval Technical Training Center (NTTC), Corry Station, Pensacola, Florida. Both locations began receiving GUESTMASTER equipment in FY 1985. Delivery of courseware (training software) commenced in FY 1986. As of May 1990, three courses were being taught at NTTC by the Navy using the GUESTMASTER system. The system at NTTC is composed of 40 student stations and 8 instructor stations. The system at the Ford Aerospace Technical Training Facility is being used primarily for the development of additional courses and for software revisions of previously developed courses.

To provide for the operation and maintenance of the deployed GUESTMASTER systems, the Agency modified a sole-source, cost-plus-fixed-fee contract (MDA 904-86-C-3098) with Ford Aerospace. The contract was modified in FY 1986 and had four 1-year options through FY 1990. Under this contract modification, the Agency pays Ford Aerospace for operation and maintenance services and related costs at both training facilities. In addition, the Agency awarded a cost-plus-fixed-fee contract (MDA 904-86-C-3099) to Ford Aerospace for course life-cycle support and software

maintenance. We audited the Agency's administration of the Ford Aerospace contract for GUESTMASTER operation and maintenance at the NTTC and concluded that established contract administration procedures were not being followed.

Contract Oversight. The contracting officer's representative (COR) is responsible for monitoring performance on maintenance service contracts. As part of this responsibility, the COR must determine if the contractor is expending the appropriate level of effort for the services being procured. found that the COR had not performed evaluations of the contractor's level of effort. The COR relied on the contractor's analysis of the needed staffing. At the time of our audit, four operators, four maintenance personnel, and one supervisor were assigned to work at NTTC. The staff worked three overlapping 8-hour shifts with two operators and two maintenance shift, first the and one operator one maintenance person on each of the two remaining shifts. supervisor worked an 8-hour day shift. Ford Aerospace has requested and the Agency has budgeted an increase in the staff to 12 personnel for FY 1991 and FY 1992. We performed an analysis of the contractor's operation and maintenance activities at NTTC and concluded that a staff of only six would be needed for FY's 1991 and 1992. If the staffing level had been decreased from 9 to 6 during FY 1990, the contract cost could have been reduced by \$132,500. Reducing the staff level from 12 to 6 would result in a combined savings of \$570,300 for FY's 1991 and 1992.

Operators. We analyzed the daily operator status logs at NTTC and found that equipment was operated only about 3 hours per shift. The operators were responsible for operating the computer system and the audio and video machines. At the time of our review, three 6-week GUESTMASTER courses were on-line at NTTC. In total, these courses required that audio discs be changed 14 times and that videodiscs be changed 8 times. Therefore, we believe only one operator per shift is needed rather than two.

Maintenance Personnel. We analyzed preventive maintenance schedules and equipment failure reports to determine the daily maintenance work load. Only about 5 hours of preventive maintenance and about 4 hours of routine maintenance were required each day. Consequently, we believe the Agency needs only two 8-hour shifts, each with one maintenance person assigned. Each of the two 8-hour shifts would consist of 2.5 hours of preventive maintenance, 2.0 hours of routine maintenance, and 3.5 hours of miscellaneous work. Eight extra student stations provide sufficient backup capability so that maintenance personnel can repair equipment without disrupting student class time. We believe that limiting the number of maintenance personnel to one person per shift would not adversely affect operations.

Contractor Production Performance. The Agency was not effectively monitoring work performed by Ford Aerospace at NTTC. Responsibility for monitoring the work was delegated by the contracting officer to personnel in the Agency's Telecommunications and Computer Services Organization. The individual responsible for monitoring the work told us that periodic visits had been made to NTTC to review contractor performance. However, no trip reports or other documentation on the specific dates and items reviewed, all required by Agency Procurement Manual 60-2, "Agency Procurement Manual," December 20, 1987, could be provided. Consequently, the Agency had no assurance that the terms of the contract were being met and that work billed was actually performed.

Fiscal Oversight. An Agency Procurement Office Memorandum requires the COR to verify whether work billed was actually performed and to reconcile fund status reports with billings received by the Finance and Accounting Office. discrepancies are identified, the contracting officer can request that the Defense Contract Audit Agency conduct an incurred cost audit. which verifies that the costs claimed are valid. Personnel responsible for GUESTMASTER oversight did not reconcile the monthly Fund Expenditure Reports with the public vouchers processed for payment by the Finance and Accounting Office. performed a reconciliation of FY 1989 Fund Expenditure Reports found a \$40,518 variance. We performed a similar reconciliation of the Agency's other operation and maintenance funded contract with Ford Aerospace for GUESTMASTER software support (MDA 904-86-C-3099) and found a \$76,234 variance. Variances on the two contracts, totaling \$116,752, indicate that the contractor may have been overpaid in FY 1989. Consequently, incurred cost audits of both contracts by the Defense Contract Audit Agency are justified. Periodic reconciliations would alert Agency officials of similar situations so that cost reviews could be initiated.

Contract Methodology. The problems identified we contract staffing and administration might have been avoided if a fixed-price rather than a cost-plus contract had been awarded. The GUESTMASTER support portion is only one part of contract MDA 904-86-C-3098, which covers several efforts. The Agency is preparing a request for proposal (RFP) on the entire contract. For the last 5 years, the contract has been administered as a cost-plus-fixed-fee office is contract. The contracting preparing to negotiate this contract as a cost-plus-fixed-term contract for 1 basic and 4 option years. We believe the use of a cost-plus contract for the work being performed at NTTC is Cost-plus contracts are generally used for inappropriate. procurements of undefined research projects when results are not readily determinable and when there is great risk to the contractor.

A 5-year history exists on the operation and maintenance of the GUESTMASTER system. The contractor has minimal risk on the GUESTMASTER operation and maintenance portion of the contract. Staff hours are predicated on a predetermined shift schedule and can be approximated with reasonable accuracy. Further, a costplus contract gives the contractor little incentive to control costs. The follow-on contract's proposed length also was questionable. The Agency will remain responsible for GUESTMASTER support only until FY 1992, when the Navy will assume responsibility.

On January 23, 1990, the contracting officer indicated that a fixed-price contract rather than a cost-plus contract would be negotiated in FY 1991. On May 16, 1990, we met with the contracting officer to determine the contract's status. We were informed that the Agency planned to negotiate the contract as a cost-plus contract and that an RFP was being prepared. During the meeting, we indicated our concerns regarding the use of a cost-plus contract.

Coordination. Specific plans to transition GUESTMASTER operation and maintenance at NTTC from the Agency to the Navy have not been finalized. During the initial development of the GUESTMASTER system, the Agency and the Navy entered into a Memorandum of Agreement, effective October 1984, for life-cycle logistics support. The Navy agreed to provide life-cycle logistics support for the GUESTMASTER hardware and software at both NTTC and the Ford Aerospace training facility. Navy's assumption of the support was dependent on completion of final acceptance tests; completion of an initial support period of no more than 1 year; and transfer of hardware, software, and logistics support information and documentation to the Navy.

According to the Memorandum of Agreement, the Naval Training Systems Center was to have assumed full responsibility for the maintenance of both the NTTC and Ford Aerospace systems at the conclusion of the initial support period. The Agency agreed to reimburse the Navy for the cost of maintaining the equipment at Ford Aerospace. A Transition Management Plan (the Plan) was prepared in 1987. The intent of the Plan was to define the actions required before the Navy assumed responsibility for the life-cycle logistics support of GUESTMASTER, including operation and maintenance. Based on the Memorandum of Agreement and the Plan, the Agency assumed that the Navy would fund the operation and maintenance of GUESTMASTER beginning in FY 1989. The Agency budgeted funds and transferred them to the Navy to pay for the work at the Ford Aerospace training facility. The Navy did not budget funds for NTTC operations.

In October 1988, because of delays in deploying operational hardware and software, the target transition date was changed to October 1992. The Agency agreed to continue contracting for

The Agency agreed to continue contracting for October 1992. GUESTMASTER operation and maintenance and assumed that the Navy would provide funds to pay for the operation and maintenance of GUESTMASTER at NTTC. The Agency did not budget funds for NTTC operation and maintenance. Agency managers felt that since the original agreement tasked the Agency to transfer support funds to the Navy for the operation and maintenance of the GUESTMASTER system at Ford Aerospace, the Navy would provide funds for Consequently, on August 30, 1989, the Agency requested that Navy transfer \$875,000 to pay for its share of the operation and maintenance support for FY 1990. In December 1989, the Navy responded that it had not budgeted FY 1990 funds to support GUESTMASTER. In February 1990, the Agency's Director wrote the Director of Naval Intelligence and again requested the Navy's share of the funding for support. As of April 25, 1990, the Navy had not responded.

Lacking agreement with the Navy on funding for GUESTMASTER support costs, the Agency diverted a total of \$1,200,000 in funds programmed for the FY 1990 and FY 1991 maintenance and updating of GUESTMASTER training software. This reprogramming of funds may adversely affect the quality of training and, ultimately, the success of non-Morse intercept operations.

## RECOMMENDATIONS FOR CORRECTIVE ACTION

- 1. We recommend that the Director, National Security Agency/Chief, Central Security Service:
- a. Reduce the staffing level of the current GUESTMASTER operation and maintenance contract to six personnel, and adjust the contractor fee accordingly.
- b. Procure services for the FY 1991 GUESTMASTER operation and maintenance performed at the Naval Technical Training Center using a fixed-price contract and a total staffing level of six operation and maintenance personnel as the labor baseline.
- c. Improve contract administration and oversight of the current GUESTMASTER operation and maintenance contracts. Specifically:
- (1) Designate an on-site contracting officer's representative to administer work performed on the GUESTMASTER contract at the Naval Technical Training Center, Corry Station, Pensacola, Florida.
- (2) Reconcile monthly Fund Expenditure Reports on the GUESTMASTER operation and maintenance contracts with periodic contractor billings as required by procurement procedures.

- d. Request that the Defense Contract Audit Agency conduct an incurred cost audit of work performed during FY 1989 on Ford Aerospace Corporation contracts MDA 904-86-C-3098 and MDA 904-86-C-3099.
- 2. We recommend that the Director, National Security Agency/Chief, Central Security Service and the Chief of Naval Operations finalize plans for transitioning responsibility to the Navy for the operation and maintenance of the GUESTMASTER system at the Navy Technical Training Center, Corry Station, Pensacola, Florida, and develop a formula for distributing costs between the National Security Agency and the Department of the Navy until the transition is completed.

#### MANAGEMENT COMMENTS

The Agency agreed that the staffing level of the GUESTMASTER contract at the NTTC could be reduced from the 12 personnel that were budgeted, but did not feel a level of 6 personnel was attainable. Rather, the Agency stated that the contractor would be limited to seven personnel. A minimum level of seven personnel was justified based on security and safety requirements. The Agency stated that the staff reduction would result in a cost avoidance of \$84,000 in 1991 and 1992.

Regarding our recommendation to use a fixed-price type contract, the Agency stated that in FY 1992, a fixed-price contract would be planned. The Agency stated that sufficient time was not available to change the contract for FY 1991 as recommended.

Regarding our recommendations to improve contract administration, the Agency agreed that beginning in January 1991, procedures to reconcile billings with monthly Fund Expenditure Reports would be implemented. The Agency believed it would not be possible to designate an on-site representative to administer the GUESTMASTER contract without transferring an Agency employee to the NTTC. Instead, the Agency proposed increasing the number of visits to the site and changing the contract to a firm-fixed-price contract. The Agency stated that a request for the Defense Contract Audit Agency to perform an incurred cost audit will be forwarded by November 30, 1990.

Both the Agency and the Navy agreed to resolve the GUESTMASTER funding and transition problems. The Agency indicated that a new Memorandum of Understanding and Transition Management Plan would be completed by September 30, 1991. The Navy indicated that funds had not been budgeted for FY 1991 costs, but that it would review funding allocations to determine if funds were available.

# AUDIT RESPONSE TO MANAGEMENT COMMENTS

The actions planned by the Agency and Navy are responsive to the recommendations. We accept the Agency's alternative actions for improving contract administration over the GUESTMASTER contract at the NTTC. Regarding the amount of monetary benefits to be derived from reducing the contractors staffing to 7 personnel, we believe that a savings of \$420,000 was realized, not \$84,000 as indicated in the Agency reply. The Agency figure represents a reduction of one operator from the eight personnel working on the contract when it responded to the audit report. Our benefits are based on a reduction of 5 personnel from the 12 billets that were budgeted for FY 1991 at the time of our review. Accordingly, we believe that our revised monetary benefit reflects the true cost avoidance, and we request that the Agency reconsider its position.

# C. Training for New Systems

#### FINDING

Education and Training Organization (the The Training Organization) was not sufficiently coordinating and ensuring the development of training for new Signals Intelligence (SIGINT) condition occurred because the This Organization was not informed of all projects, criteria for determining the extent the Training Organization's of participation in training development had not been established, and guidelines on training development for system acquisition managers needed improvement. As a result, there was no assurance that training developed for new SIGINT systems was adequate to satisfy user requirements.

## DISCUSSION OF DETAILS

Background. When a new SIGINT system is deployed, adequately trained personnel need to be available to operate the system efficiently and effectively. Further, when the personnel initially trained to operate a new system are reassigned, appropriate training needs to be provided to replacement Guidance on training policies and procedures for systems costing in excess of \$2 million is contained in National Security Agency/Central Security Service (NSA/CSS) Circular 25-5, "System Acquisition Management," May 5, 1986. NSA/CSS Circular 80-7, "Integrated Logistics Support Management," March 14, 1986, establishes specific policies procedures for developing logistics support, including training for new systems. All Agency acquisitions, whether or not they are subject to Circular 25-5, must conform to Circular 80-7.

Training for new systems is planned for and developed during the acquisition phase and is the responsibility of the Training Organization in conjunction with the system acquisition manager. The Training Organization is responsible for ensuring that training plans are adequate and consistent with long-range cryptologic training goals and objectives. The Requirements and Support Department (the Department) of the Training Organization is responsible for the coordination of system training development with the system acquisition manager. The Department monitors the actions of system acquisition managers and either develops the training for system acquisition managers or reviews their training plans.

Our audit disclosed that the Training Organization had adequately coordinated planning and developing training for large systems with multiple-site deployments. Resident training managers were assigned to system acquisition managers' staffs, and all aspects of planned training were reviewed by senior Training Organization managers. However, for other new systems initiatives, the degree of the Training Organization's participation varied.

Project Identification. Procedures were not established to ensure that all systems and projects under development were coordinated with the Training Organization. Managers within the Training Organization indicated that some projects had not been adequately coordinated. However, they did not know whether the incidence of poor coordination was significant. At the time of our review, the Agency's Programs and Resources Organization maintained a data base containing 364 systems acquisition projects that required monitoring in compliance Circular 25-5. The Telecommunications and Computer Services Organization maintained a data base on 139 additional projects costing less than \$2 million. All 503 projects were subject to the provisions of Circular 80-7. However, the Training Organization was monitoring only 250 of the 503 projects. We unsuccessfully to correlate the 250 projects monitored by the Training Organization with projects in the data bases maintained by the Programs and Resources Organization and the Telecommunications and Computer Services Organization.

Using statistical sampling techniques, we examined 158 of the 503 projects. Of the 158 projects examined, 61 have been completed or canceled for more than 2 years. On the basis of the sample results, we projected that 196 of the 503 projects were completed for more than 2 years.

interviewed system acquisition managers and examined applicable planning documents for the remaining 97 projects in our sample to determine if training was being developed and if the Training Organization had coordinated in the development. found that the system acquisition managers had not coordinated with the Training Organization on 18 of the 97 projects. Training was being developed for four of the 18 projects, and coordination with the Training Organization was needed. Based on sample results, we projected that managers had coordinated with the Training Organization on 58 of 503 projects and that training was being developed for 13 projects without coordination with the Training Organization.

Training Organization Reviews. Training Organization personnel participated in individual projects to varying degrees. Participation ranged from merely attending the Minimum Essential Integrated Logistics Support Requirements Conference (the Conference) to developing training plans, analyzing manuals, and assisting with contractor coordination. For example, Training Organization personnel attending one Conference were principally concerned with ensuring that acquisition personnel were planning to develop a training program. After the Conference, the acquisition managers deleted funds budgeted for developing training for their project. No follow-up reviews were performed by the Training Organization to verify that training was developed as planned. Consequently, we projected that three projects were deployed without a training program.

Training Organization personnel recognized they had inconsistent in their participation, but attributed inconsistency to a lack of resources. The personnel pointed out that 3 training managers were requested for FY 1992 to supplement a staff of 13. However, even with three additional managers, the staff might not be able to adequately plan training for all the projects under development. The Training Organization had not established criteria for determining the proper degree of participation required on a project-by-project Consequently, a project costing less than \$2 million might receive the same emphasis as a project costing \$2 million or Discussions with training managers and acquisition managers indicated that participation resulted more from system acquisition managers' willingness to coordinate than from the training managers' initiatives. If specific criteria were identified, the Training Organization could maximize the use of its limited resources to ensure that the most vital projects are reviewed.

Project Management. System acquisition managers had limited guidance to use in developing training for their projects. Acquisition managers relied on the contractor to develop training and to prepare training manuals. Emphasis was placed on acquiring training for the personnel initially assigned to operate and maintain a new system. Training ranged from presentations conducted at contractor facilities to sessions conducted at field sites during system installation. The effectiveness of the training performed was not evaluated.

Follow-on training for replacement personnel assigned to operate new systems was generally done through on-the-job training (OJT). System acquisition managers expected the new system users to establish their own OJT programs. The involvement of system acquisition managers in the development of follow-on training was limited to purchasing items such as handbooks, maintenance manuals, and users manuals for new systems. The Training Organization was responsible for reviewing all training handbooks and manuals. However, internal controls had not been established to ensure that training handbooks and manuals were forwarded to the Training Organization for review and that, subsequent to review, all recommended changes to the documents were made.

Because system acquisition managers were not developing follow-on training for new systems, there was no assurance that all necessary operating and maintenance skills were being developed or that the training was effective. Training oversight may be most needed for systems with multiple-site deployments. Fifty-three of the systems we reviewed were deployed to more than one location. For example, at the time of our audit, Project SPINDLER was being deployed to 2 sites and would require 30 operators and 15 maintenance personnel. As replacement

personnel are assigned, each site will have to develop training programs. Uniform training could occur at the two sites if follow-on training programs are developed by the systems acquisition manager before Project SPINDLER is fully deployed. In addition, development of follow-on training during the system acquisition process would enable Training Organization personnel to use their expertise to better advantage.

#### RECOMMENDATIONS FOR CORRECTIVE ACTION

We recommend that the Director, National Security Agency/Chief, Central Security Service:

- l. Develop procedures to ensure that training plans and programs for cryptologic projects under development are evaluated by the Education and Training Organization to the maximum extent practicable.
- 2. Establish criteria for training managers in the Education and Training Organization to use to determine whether their participation in system training development is commensurate with its cost, complexity, and operational importance.
- 3. Establish controls to ensure that training handbooks and manuals are forwarded to the Education and Training Organization for review and that all recommended changes are made.
- 4. Provide guidance to systems acquisition managers on developing initial and follow-on training; including formal, self-paced, computer-based, and structured on-the-job training.

## MANAGEMENT COMMENTS

The Agency agreed with the finding and the recommendations and indicated that the following actions would be taken. NSA/CSS Circular 25-5 will be revised to include steps to ensure that the Training Organization is aware of all projects. In addition, a Training Management Information System (TRAINS) is being developed and will be operational in 1991. The Agency has developed criteria for use in prioritizing project work load. An automated application of the criteria will be incorporated into TRAINS. Also, controls will be established within TRAINS to track documentation and recommended changes. Regarding guidance to system acquisition managers, NSA/CSS Circular 80-7 was changed during the audit to include guidance to be used in developing training requirements.



# DEPARTMENT OF THE ARMY OFFICE OF THE DEPUTY CHIEF OF STAFF FOR OPERATIONS AND PLANS WASHINGTON, DC



REPLY TO ATTENTION OF

. 8 NOV 1990

DAMO-TRS

MEMORANDUM THRU DEPUTY CHIEF OF STAFF FOR OPERATIONS AND PLANS ON DIRECTOR OF THE ARMY STAFF DIRECTOR OF THE ARMY STAFF 1 3 NOW YOU ASSISTANT SECRETARY OF THE ARMY ROAD OF THE ARMY STAFF 1 3 NOW YOU

FOR THE INSPECTOR GENERAL, DEPARTMENT OF DEFENSE (AUDITING)

SUBJECT: Draft Audit Report on Management of DOD Cryptologic Training (Project No. 9RC-0065)--INFORMATION MEMORANDUM

- 1. The purpose of this correspondence is to address the findings and recommendations contained in the DOD Inspector General (IG) draft audit report on DOD Cryptologic Training.
- 2. Part II, Section A. Training Device Acquisitions Findings.
- a. FINDING: "The National Security Agency (NSA) and the Military Departments were not adequately coordinating the development and procurement of cryptologic training devices. Because detailed coordination procedures were not established, duplicative procurement and contract administration efforts for training devices resulted. In addition, training devices which may not be needed are being procured at a cost of \$1.37 million."
- b. CONCUR: NSA is taking the lead in improving coordination with and among the Military Departments. The additional training devices referred to in the finding may be required to prevent an unacceptable interruption of executive agency training and to eliminate study training on multiple daily shifts.
- 3. Part II, Section A. Training Device Acquisitions Recommendations.
- a. RECOMMENDATION 1.a. and 1.d.: "We recommend that the Director, NSA/Chief, Central Security Service: a. Designate a specific office responsible for overseeing and coordinating the Military Departments efforts to develop and acquire training devices for the cryptologic training system, including Project TOUCHBACK; and d. Establish procedures for the Military Departments to coordinate procurements of training devices with the National Security Agency."
- b. NONCONCUR with recommendations l.a. and l.d. insofar as they are construed to pertain to Consolidated Cryptologic Program (Program 3) and executive agency training. The development and acquisition of service unique, tactical systems and skills should

DAMO-TRS

SUBJECT: Draft Audit Report on Management of DOD Cryptologic Training (Project No. 9RC-0065)--INFORMATION MEMORANDUM

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remain a service action. Oversight and coordination by the NSA for these items is not required or desirable.

c. RECOMMENDATION 2: "We recommend that the Army Deputy Chief of Staff for Operations delay the award of the procurement to purchase additional Morse code training devices pending the outcome of the NSA review of the Navy's restructuring initiative."

## d. CONCUR (with comments)

- (1) Solicitation for the procurement is scheduled for April 1991 with contract award in October 1991. The Army will not complete this procurement action without coordination with the NSA's National Cryptologic School (NCS).
- (2) The recommended review of the Navy proposal by the NCS has been completed. The review indicates the decrease in annual Navy throughput will be minimal. It will not reduce the overall number of Morse code training devices required. The Navy restructure will also not result in excess Morse code training devices.
- (3) The additional Army training devices will provide uninterrupted executive agency training during the relocation of the Army Intelligence School from Fort Devens to Fort Huachuca. Following the move, the additional devices will reduce current three-shift per day training operations to one or possibly two shifts in compliance with TRADOC policy.
- 4. Questions concerning the training strategy portion of this response should be directed to LTC Cochrane (ODCSINT) (DSN 227-2066). Questions concerning the programming portion of this response should be directed to MAJ Morrison (ODCSOPS) (DSN: 227-7596).

RICHARD F. KELLER Brigadier General, GS Director of Training

CF: DAMO-ZQ SAIG-PA



#### DEPARTMENT OF THE NAVY

OFFICE OF THE SECRETARY WASHINGTON, D.C. 20350-1000

2 1 NOV 1990

MEMORANDUM FOR THE DEPARTMENT OF DEFENSE ASSISTANT INSPECTOR GENERAL FOR AUDITING

Subj: DRAFT AUDIT REPORT ON MANAGEMENT OF DOD CRYPTOLOGIC TRAINING (PROJECT NO. 9RC-0065) OF 05 SEP 90

I am responding to the draft audit report forwarded by reference (a) concerning the cryptologic training in DoD.

The Department of the Navy response is provided at TAB B. We generally agree with the draft report findings and recommendations. The Department will take specific actions to ensure coordination of cryptologic training issues improves in the future.

Copy to: NAVINSGEN NAVCOMPT (NCB-53) Assistant Secretary of the Navy
(Manpower and Reserve Affairs)



# DEPARTMENT OF THE NAVY OFFICE OF THE CHIEF OF NAVAL OPERATIONS WASHINGTON DC 20350 2000

IN REPLY REFER TO

1500 Ser 920T/0U535260 08 November 1990

MEMORANDUM FOR THE ASSISTANT SECRETARY OF THE NAVY (FINANCIAL MANAGEMENT)

Subj: DRAFT AUDIT REPORT ON MANAGEMENT OF DOD CRYPTOLOGIC TRAINING

(PROJECT NO. 9RC-0065) DTD 05 SEPT 90

Ref: (a) DODIG Memo of 5 Sep 90

Encl: (1) Proposed DON Response to Draft Audit Report

1. Reference (a) provided the Draft Audit Report on Management of DOD Cryptologic Training. Enclosure (1) is the proposed DON response to the Draft Audit Report.

2. CNO (OP-092) point of contact is Ms. Kay Troup, OP-920T, (703) 614-0283.

ISIAH C. COLE RADM USN

**DEPUTY** 

DIRECTOR OF NAVAL INTELLIGENCE

FOR CRYPTOLOGY

# Department of the Navy Response

to

DODIG Draft Report of Sep 5, 1990

on

Draft Audit Report on Management of DoD Cryptologic Training (Project No. 9RC-0065)

#### Finding A:

The National Security Agency (the Agency) and the Military Departments were not adequately coordinating the development and procurement of cryptologic training devices. Because detailed coordination procedures were not established, duplicative procurement and contract administration efforts for training devices resulted. In addition, training devices that may not be needed are being procured at a cost of \$1.37 million.

#### Recommendation A-1:

We recommend that The Director, National Security Agency/Chief, Central Security Service:

- (a) Designate a specific office responsible for overseeing and coordinating the Military Departments' efforts to develop and acquire training devices for the cryptologic training system, including Project TOUCHBACK.
- (b) Establish procedures to facilitate the entry of data by the Military Departments into Project TOUCHBACK's data base.
- (c) Give the Military Departments' material developers access to the Project TOUCHBACK data base.
- (d) Establish procedures for the Military Departments to coordinate procurement of training devices with the National Security Agency.
- (e) Determine the effect of the Navy's restructuring of Navy Enlisted Codes on the number of students and Morse code training devices required to meet Morse Code training needs.
- (f) Determine whether Morse Code training devices that may become excess as a result of the Navy restructuring can be utilized on an interim basis to satisfy Army requirements.

(g) Designate either the Cryptologic Procedural Trainer, Device 8C6 or the Basic Morse Mission Trainer as the standard basic Morse code training device for future Military Department acquisitions.

### Recommendation A-2:

We recommend that the Army Deputy Chief of Staff for Operations delay the award of the procurement to purchase additional Morse code training devices pending the outcome of the National Security Agency review of the Navy's restructuring initiative.

### DON Position:

- 1. <u>In general, concur</u> additional procedures need to be established between NSA's Training Organization and the Military Departments. However, the Military Departments must be afforded equipment flexibility in order to prevent undue burden on their budgets and operational field sites. Declining resources and space will not allow for special training equipment and training specialists at operational field sites. Therefore, development efforts must ensure "user-friendly software" that can operate on what is available.
- 2. <u>Do not concur</u> with NSA's Training Organization providing guidance and oversight management directly to the cryptologic schools. The Navy will continue coordinating Project TOUCHBACK implementation with NSA's Training Organization.
- 3. <u>Do not concur</u> that the Navy's CTT and CTR Rating Restructure will require more Morse training devices or will result in an excess of Non-Morse training devices. The Navy has the lead on determining the training impacts of CTT and CTR restructuring. The Navy has briefed its restructure concept at several NSA meetings and will continue to coordinate the restructure impact with NSA and the other Military Departments.
- 4. <u>Do not concur</u> with the recommendations to designate Device 8C6 or the Basic Morse Mission Trainer as the standard basic Morse code training device and delaying the Army's contract for Morse Code Training Devices. The training devices teach two separate operational skills. Device 8C6 is used to teach Non-Morse skills, includes analysis and structure of signals; while the Basic Morse Mission Trainer teaches Morse skills, which is mainly code copying. While the hardware may be very similar, the actual software is different in order to satisfy fleet operational training requirements.

### Finding B:

Operation and maintenance support costs for the GUESTMASTER training system were not adequately planned and administered. This condition occurred because contract administration procedures were not followed, inappropriate contracting methods were used, and coordination between the National Security Agency (the Agency) and the Navy was ineffective. As a result of improper contract administration, the Agency may have contracted for \$132,500 of unneeded staff in Fy 1990 and plans to contract for \$570,300 in unneeded staff in Fy's 1991 and 1992. In addition, the Agency may have overpaid more than \$1.2 million of funds budgeted by the Agency for training software upgrades had to be reprogrammed to pay for the operation and maintenance of the GUESTMASTER system at the Navy.

### Recommendation B-1:

We recommend that The Director, National Security Agency/Chief, Central Security Service:

- a. Reduce the staffing level of the current GUESTMASTER operation and maintenance contract to six personnel, and adjust the contractor fee accordingly.
- b. Procure services for the FY 1991 GUESTMASTER operation and maintenance performed at the Naval Technical Training Center using a fixed-price contract and a total staffing level of six operation and maintenance personnel as the labor baseline.
- c. Improve contract administration and oversight of the current GUESTMASTER operation and maintenance contracts. Specifically:
- (1) Designate an on-site contracting officer's representative to administer work performed on the GUESTMASTER contract at the Naval Technical Training Center.
- (2) Reconcile monthly Fund Expenditure Reports on the GUESTMASTER operation and maintenance contracts with periodic contractor billings as required by procurement procedures.
- d. Request that the Defense Contract Audit Agency conduct an incurred cost audit of work performed during FY 1989 on Form Aerospace Corporation contract MDA 904-86-C-3098 and MDA 904-86C-3099.

#### Recommendation B-2:

We recommend that the Director, National Security Agency/Chief, Central Security Service and the Chief of Naval Operations finalize plans for transitioning responsibility to the Navy for the operation and maintenance of the GUESTMASTER system at the Navy Technical Training Center, and develop a formula for distributing costs between the National Security Agency and the Department of the Navy in the interim period.

### DON Position:

- 1. <u>Concur</u> that NSA should provide FY-91 funding for GUESTMASTER operation and maintenance performed at the Naval Technical Training Center using a fixed-price contract; concur with the recommendations for improved contract administration and oversight.
- 2. The Navy does not have FY-91 funds identified for GUESTMASTER operation and maintenance. However, the Navy has agreed to rereview funding allocations after a FY-91 Appropriations Bills has been signed to determine if any funds can be redirected to NSA for the FY-91 GUESTMASTER operation and maintenance at the Naval Technical Training Center.
- 3. NSA and Navy will meet late October to review the GUESTMASTER Memorandum of Understanding (MOU) and Transition Management Plan. A rewrite of the MOU will incorporate NSA and Navy's future funding responsibilities.

### Finding C:

The Education and Training Organization (The Training Organization) was not sufficiently coordinating and ensuring the development of training for new Signals Intelligence (SIGINT) systems. This condition occurred because the Training Organization was not informed of all projects, criteria for determining the extent of the Training Organization's participation in training development had not been established, and guidelines on training development for system acquisition managers needed improvement. As a result, there was no assurance that training developed for new SIGINT systems was adequate to satisfy user requirements.

### Recommendation C-1:

We recommend that The Director, National Security Agency/Chief, Central Security Service:

- 1. Develop procedures to ensure that training plans and programs for cryptologic projects under development are evaluated by the Education and Training Organization to the maximum extend practicable.
- 2. Establish criteria for training managers in the Education and Training Organization to use to determine whether their participation in system training development is commensurate with its cost, complexity, and operational importance.
- 3. Establish controls to ensure that training handbooks and manuals are forwarded to the Education and Training Organization for review and that all recommended changes are made.
- 4. Provide guidance to systems acquisition managers on developing initial and follow-on training; including formal, self-paced, computer-based, and structured on-the-job training.

### DON Position:

1. <u>Concur</u>. The Navy will continue to ensure that the NSA Training Organization is invited to Navy Training Planning Conferences and Working Groups.



### NATIONAL SECURITY AGENCY

FORT GEORGE G MEADE MARYLAND 20755-4000



N-129-90 29 NOV 1990

## MEMORANDUM FOR THE DIRECTOR, READINESS AND OPERATIONAL SUPPORT, OFFICE OF THE Dod INSPECTOR GENERAL

SUBJECT: Draft Audit Report on Management of DoD Cryptologic Training (Project No. 9RC-0064)

Attached are our comments to the subject draft audit report, dated 5 September 1990. Questions or requests for additional information may be referred to Judy Jefferson, 688-8052.

JAMES F. ROGA

Comptroller

End: a/s

# NSA RESPONSE TO DOD IG DRAFT AUDIT REPORT MANAGEMENT OF DOD CRYPTOLOGIC TRAINING (PROJECT NO. 9RC-90065)

### A. Training Device Acquisitions

FINDING: NSA and the Military Departments were not adequately coordinating the development and procurement of cryptologic training devices.

CONCUR. NSA will take the lead in implementing improved coordination with the Military Departments.

RECOMMENDATION 1. We recommend that the Director, National Security Agency/Chief, Central Security Service:

a. Designate a specific office responsible for overseeing and coordinating the Military Departments' efforts to develop and acquire training devices for the cryptologic training system, including Project TOUCHBACK.

CONCUR. The Training Director, NSA/CSS (TDNC), will initiate and oversee action with the Military Departments to improve procedures for the development and procurement of cryptologic training devices. The Military Cryptologic Division (E16) will coordinate efforts between the TDNC and the Military Departments and the Training Technology and Information Systems Office (E21) will coordinate efforts relating to Project TOUCHBACK.

b. Establish procedures to facilitate the entry of data by the Military Departments into Project TOUCHBACK's data base.

CONCUR. Procedures to facilitate the entry of data by the Military Departments into Project TOUCHBACK's data base will be established through a joint NSA/Military Department working group, prior to Project TOUCHBACK Initial Operating Capability scheduled for March FY92.

c. Give the Military Departments' material developers access to Project TOUCHBACK data base.

CONCUR. NSA will invite the Military Departments' materiel developers to participate in Project TOUCHBACK, and accord them full access to the data base when TOUCHBACK becomes operational. Action will be completed by March FY92.

d. Establish procedures for the Military Departments to coordinate procurements of training devices with the National Security Agency.

CONCUR. NSA will initiate action with the Military Departments to improve procedures for coordinating procurements of cryptologic training devices with NSA. Action will be initiated by 1 October 1991.

e. Determine the effect of the Navy's restructuring of the Navy Enlisted Codes on the number of students and the Morse code training devices required to meet Morse code training needs.

CONCUR. The proposed restructure of the Navy's Enlisted Codes has not yet been approved. If the current proposal is approved and implemented, the total decrease in Navy student throughput, annually, would be small. This minimal decrease, in comparison to current throughput, would not affect the overall number of Morse code training devices required. However, considering that the proposed restructure is subject to change, and that changing mission requirements dictated by the troop drawdown may impact throughput requirements, NSA will continue to monitor the progress of this restructure to determine if there are significant changes that may affect the number of Morse code training devices required. Action will be completed by 1 October 1991.

f. Determine whether Morse code training devices that may become excess as a result of the Navy restructuring can be utilized on an interim basis to satisfy Army requirements.

CONCUR. However, the current Navy restructure, if implemented, would not result in excess Morse code training devices. NSA will continue to monitor the progress of this restructure to determine if there are any significant changes in training requirements. This action will be completed by 1 October 1991.

g. Designate either the Cryptologic Procedural Trainer, Device 8C6, or the Basic Morse Mission Trainer as the standard basic Morse code training device for future Military Department acquisitions.

CONCUR IN PRINCIPLE. NSA will monitor the procurement, if necessary, of additional Morse code training devices for installation at Ft. Huachuca. Additionally, we will coordinate with the Army to ensure that standards used for this procurement are compatible with procurement standards for the Basic Morse Mission Trainer. However, since procurement of these Morse code training devices has only recently been completed and because of changing technology, we do not believe that establishing a standard for future procurements of Morse Code training devices is prudent. Coordination with the Army to ensure compatible standards on the additional Morse code training devices will be completed by 1 October 1991.

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#### B. GUESTMASTER System Support

FINDING: Operation and Maintenance support costs for the GUESTMASTER training system were not adequately planned and administered.

CONCUR. Actions are underway to resolve all recommendations related to this finding.

RECOMMENDATION 1. We recommend that the Director, National Security Agency/Chief, Central Security Service:

a. Reduce the staffing level of the current GUESTMASTER operation and maintenance contract to six personnel, and adjust the contractor fee accordingly.

CONCUR IN PRINCIPLE. We feel that we are unable to reduce the staffing level at the Naval Technical Training Center (NTTC), Pensacola, Florida, to six personnel; however, we have reduced the personnel to seven. A review of the operation at Pensacola concluded that given the current student load and the reliability status of the GUESTMASTER hardware and software suite, the minimum level of staffing could be reduced to the current number of seven. We believe to reduce the number below seven would adversely affect the timeliness of our response to student and instructional demands. This reduction of contractor staff would result in a combined cost avoidance of \$84,000 for FY 1991 and FY 1992 and will take place in January 1991. In addition, we are extremely conscious of the Occupational Safety and Health Administration (OSHA) safety requirements to have two persons present when working on electrical circuits and the requirement imposed by security to maintain two persons in a Sensitive Compartmented Information Facility (SCIF).

b. Procure services for the FY 1991 GUESTMASTER operation and maintenance performed at the Naval Technical Training Center, using a fixed-price contract and a total staffing level of six operation and maintenance personnel as the labor baseline.

CONCUR IN PRINCIPLE. While it was impossible to prepare and award a firm-fixed-price (FFP) contract in time for FY 1991, we have undertaken an effort to prepare a Statement of Work and supporting documents to permit an award of a FFP contract in 1992. An agreement was reached on 11 July 1990 that the GUESTMASTER training portion of this contract would be procured separately from the existing effort and the recommended contract type will be FFP. Staffing will be reduced to seven personnel as stated above in Recommendation B.1.a.

- c. Improve contract administration and oversight of the current GUESTMASTER operation and maintenance contracts. Specifically:
- (1) Designate an on-site contracting officer's representative to administer work performed on the GUESTMASTER contract at the Naval Technical Training Center.

CONCUR IN PRINCIPLE. Designating an on-site contracting officer's representative would require that we either PCS an Agency employee to NTTC or designate a Navy individual as the Contracting Officers Representative (COR). We do not believe it to be cost effective to PCS an Agency employee to the NTTC; nor do we want the Navy to have control of the contract monitoring. A military Contractor's Representative/Technical (CORT) would not be familiar with the Agency's contracting procedures and applicable documents. It has been suggested the Agency's Detached Service Officer (DSO) be designated the COR. The DSO is directly assigned to the Commander at Corry Station. We believe that this direct relationship does not permit the DSO to perform COR responsibilities independently.

Currently, three separate offices determine the level of effort that the contractor must perform to fulfill the capability requirements of GUESTMASTER. These efforts are monitored and all activities related to GUESTMASTER support are reviewed. Questions concerning funds, contract, manpower, projected requirements, Technical Training Facility workload, and Naval Technical Training Center workload are discussed. It will be proposed to schedule six TDYs to Corry Station by our Field Engineering Support Division to monitor the administration of the GUESTMASTER training system. We believe the current controls, increase of TDYs to the site, and award of an FFP contract in 1992, will sufficiently improve contract administration and oversight.

(2) Reconcile monthly fund Expenditure Reports on the GUESTMASTER operation and maintenance contracts with periodic contractor billings as required by procurement procedures.

CONCUR. The Office of Finance and Accounting will be requested to forward a copy of each Public Voucher certified by them to the T Acquisition Services Office. This procedure will enable the Contracting Officer's Representative to ensure payments are in accordance with the Monthly Program Status Review Report and Funding Expenditure Report. Procedures will be implemented by January 1991.

d. Request that the Defense Contract Audit Agency conduct an incurred cost audit of work performed during FY 1989 on Ford Aerospace Corporation contracts MDA 904-86-C-3098 and MDA 904-86-C-3099.

CONCUR. A request will be forwarded to the Defense Contract Audit Agency by 30 November 1990 to conduct an incurred cost to-date audit of work performed under the subject contracts. Based on the findings, action will be taken to correct any noted deficiencies.

2. Recommend that the Director, National Security
Agency/Chief, Central Security Service and the Chief of Naval
Operations finalize plans for transitioning responsibility to the
Navy for the operation and maintenance of the GUESTMASTER system at
the Navy Technical Training Center, and develp a formula for
distributing costs between the National Security Agency and the
Department of the Navy in the interim period.

CONCUR. Representatives from NSA and CNO have met to initiate actions to resolve GUESTMASTER funding and transition. The October 1984 Memorandum of Agreement (MOA), which contains a formula for the distribution of costs, is being reviewed by appropriate Agency and Navy elements, and will be rewritten if necessary. The Transition Management Plan prepared in 1987 will be revised in accordance with any changes to the MOA and will be coordinated and finalized once the revised MOA has been signed. Any modifications to the GUESTMASTER Integrated Logistics Suport Plan will be initiated upon the signing of the MOA. The transition plans will be completed by 30 September 1991.

### C. Training for New Systems.

FINDING: The Education and Training Organization was not sufficiently coordinating and ensuring the development of training for new signals intelligence (SIGINT) systems.

CONCUR. It should be noted that the auditors were advised from the outset of management ongoing efforts to correct this condition. We agree with the finding that this condition occurred because the Training Organization was not informed of all projects. We also agree that this condition is partially attributable to insufficient manpower resources being available as addressed in the report.

RECOMMENDATION 1. Develop procedures to ensure that training plans and programs for cryptologic projects under development are evaluated by the Education and Training Organization to the maximum extent practicable.

CONCUR. NSA will implement steps, which includes a forthcoming revision to NSA/CSS Circular 25-5, to ensure that the Training Organization is aware of all projects. The Training Organization is also under contract for the development of a Training Automated Management Information System (TRAINS). The TRAINS software is under development and all hardware has been procured. TRAINS will be invaluable to training managers and management in tracking cryptologic projects and performing training oversight functions. TRAINS will be on-line in 1991.

RECOMMENDATION 2. Establish criteria for training managers in the Education and Training Organization to determine whether their participation in system training development is commensurate with its cost, complexity, and operational importance.

CONCUR. In 1989, management recognized project work load prioritization was needed. Criteria were developed after a zero base project review of all known projects was conducted. The extent of training manager involvement is now determined based on complexity, operational importance and cost. However, a minimum level of training manager oversight has also been established. An automated application module will be developed for TRAINS that will prioritize the project workload using the established criteria. Implementation will be contingent on TRAINS becoming on-line in FY 1991.

RECOMMENDATION 3. Establish controls to ensure that training handbooks and manual are forwarded to the Education and Training Organization for review and that all recommended changes are made.

CONCUR. Controls currently exist under NSA/CSS Regulation 80-7 for the review of training materials by the Training Organization. Additional controls will be established by TRAINS (see C. above) to ensure all recommended changes to training materials are made. TRAINS will be used to track documentation and recommended changes once it is on-line in 1991.

RECOMMENDATION 4. Provide guidance to systems acquisition managers (SAMs) on developing initial and follow-on training: including formal, self-paced, computer based, and structured on-the-job training.

CONCUR. ANNEX B of NSA/CSS Circular 80-7, dated 1 November 1989, describes guidance to be followed in the Minimum Essential Integrated Logistics Support Requirements (MEILSR) process for training requirements. These requirements must be stated in the development of all new systems/equipments.

### $\frac{\textbf{SUMMARY OF POTENTIAL MONETARY AND OTHER}}{\textbf{BENEFITS RESULTING FROM AUDIT}}$

Recommendation Reference	Description of Benefit	Amount and/or Type of Benefit
A.1.	Internal Control.  Managers will have better coordination and over-sight of the procurement of technical training equipment.	Nonmonetary.
A.2.	Economy and Efficiency. Requirements for Morse code training devices will be updated.	Funds put to better use of \$1.37 million.
B.1.	Internal Controls. Managers will have improved contract administration and oversight.	Undetermined. Contract over- payment will be determined by a Defense Contract Audit Agency incurred cost audit.
	Economy and Efficiency. Reduction of contractor staff.	Funds put to better use of of \$420,000 for FY 1991 and FY 1992.
B.2.	Economy and Efficiency. Plans for transitioning responsibility for the GUESTMASTER training system operation and maintenance to the Navy will be completed.	Nonmonetary.
C.1.	Internal Control.  Managers will have improved oversight of projects and will be able to identify projects requiring review.	Nonmonetary.

### SUMMARY OF POTENTIAL MONETARY AND OTHER BENEFITS RESULTING FROM AUDIT

(Continued)

Recommendation Reference	Description of Benefit	Amount and/or Type of Benefit
C.2.	Internal Control.  Managers will have improved criteria to establish the extent of project oversight necessary.	Nonmonetary.
C.3.	Internal Control. All training hand- books and manuals will be reviewed by the Education and Training Organization and all sub- sequent recommended changes will be made.	Nonmonetary.
C.4.	Economy and Efficiency. Managers will have improved guidance on developing and coordi- nating training plans with the Education and Training Organization at the National Security Agency, especially follow-on training.	Nonmonetary.

#### ACTIVITIES VISITED OR CONTACTED

### Office of the Secretary of Defense

Assistant Secretary of Defense (Command, Control, Communications and Intelligence), Washington, DC

### Department of the Army

Deputy Chief of Staff for Intelligence, Washington, DC Deputy Chief of Staff for Operations, Washington, DC U.S. Army Intelligence School, Fort Devens, MA U.S. Army Project Manager for Training Devices, Orlando, FL

### Department of the Navy

Chief of Naval Operations, Office of Naval Intelligence, Washington, DC U.S. Naval Training Support Center, Orlando, FL U.S. Naval Technical Training Center, Corry Station, FL

### Department of the Air Force

Assistant Chief of Staff for Intelligence, Washington, DC U.S. Air Force Technical Training Center, Goodfellow Air Force Base, TX

### Defense Agencies

Headquarters, National Security Agency, Fort Meade, MD

### FINAL REPORT DISTRIBUTION

### Office of the Secretary of Defense

Comptroller of the Department of Defense
Assistant Secretary of Defense (Command, Control, Communications and Intelligence)
Assistant Secretary of Defense (Force Management and Personnel)
Assistant Secretary of Defense (Public Affairs)
Assistant to the Secretary of Defense (Intelligence Oversight)
Assistant to the Secretary of Defense (Intelligence Policy)

### Department of the Army

Secretary of the Army Assistant Secretary of the Army (Financial Management) Auditor General, U.S. Army Audit Agency

### Department of the Navy

Secretary of the Navy Auditor General, Naval Audit Service Assistant Secretary of the Navy (Financial Management)

### Department of the Air Force

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

### Defense Agencies

Director, Defense Intelligence Agency Director, National Security Agency