AD-A270 817

SUBJECT: Communications Security (COMSEC) Equipment Maintenance
and Maintenance Training

References: (a)   DoD Instruction 3135.1, subject as above,
April 6, 1989 (hereby canceled)
   (b)   National Security Telecommunications and
Information Systems Security Instruction
NSTISSI 4000, "Communications Security
Equipment Maintenance and Maintenance
Training," February 1, 1991
   (c)   DoD Directive 7750.5-M, "Procedures for Manage-
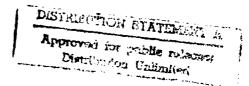ment of Information Requirements," November 28,
1986

A.   REISSUANCE AND PURPOSE

This Instruction:

1.   Reissues reference (a).

2.   Updates policy, responsibilities, procedures, and minimum
standards for COMSEC equipment maintenance and maintenance training
in accordance with reference (b).

B.   APPLICABILITY AND SCOPE

This Instruction applies to:

1.   The Office of the Secretary of Defense, the Military Depart-
ments, the Chairman of the Joint Chiefs of Staff and the Joint Staff,
the Unified and Specified Commands, the Inspector General of the
Department of Defense, the Uniformed Services University of the
Health Sciences, the Defense Agencies, and the DoD Field Activities
(hereafter referred to collectively as "the DoD Components").

2.   Contractors or vendors of the DoD Components.

3.   Equipment designated as telecommunications security (TSEC),
Joint Electronic Type Designation System, and controlled crypto-
graphic item (CCI).

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C. DEFINITIONS

Terms used in this Instruction are defined in enclosure 1.

D. POLICY

Two critical aspects of the responsibility for prescribing the minimum standards, methods, and procedures for protecting crypto-graphic techniques and information are COMSEC equipment maintenance and maintenance training. The following standards are applicable to COMSEC equipment maintenance and maintenance training:

1. COMSEC equipment must be maintained by qualified technicians. Exceptions are as follows:

    a. Personnel operating automated test equipment (ATE) do not require maintenance training on individual COMSEC equipment or cryptographic components being tested.

    b. Personnel performing piece-part replacement on crypto-graphic components previously identified as defective by either ATE or a qualified ATE support or full maintenance technician do not require training on the cryptographic component(s) being repaired, but do require COMSEC awareness training as specified in paragraph E.3.c., below.

    c. COMSEC equipment used solely for research, development, or engineering purposes may be installed, tested, and used in non-operational systems by appropriately cleared engineers or technicians without formal maintenance qualification.

    d. Maintenance technicians who successfully complete a generic COMSEC equipment maintenance training course will be qualified to perform maintenance on the generic COMSEC equipment family or group without required training on each piece of equipment. The maintenance permitted shall be in accordance with the maintenance level of the course and each equipment's approved maintenance manual.

    e. Full or limited maintenance technicians who have success-fully completed at least one formal National Security Agency (NSA)-approved COMSEC equipment maintenance training course plus a generic COMSEC equipment training course are qualified to perform limited maintenance on any CCI-designated equipment that has an NSA-published limited maintenance manual and on the TSEC/KG-30 family of COMSEC equipment.

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2. DoD Components shall include the appropriate requirements of this Instruction in statements of work when contracting for maintenance and maintenance training services.

3. Field training shall be conducted by personnel who have satisfactorily completed an NSA-approved COMSEC equipment maintenance training course on the subject equipment. Exceptions to this requirement must be approved by the NSA.

4. The conversion of an NSA-approved formal traditional maintenance training course of instruction to a computer or interactive videodisc (IVD) maintenance training course of instruction may be performed by personnel without formal maintenance qualification.

5. Certification of COMSEC equipment maintenance technicians shall initially be based on successful completion of an NSA-approved course of instruction. Continued qualification and certification shall be based on experience and, at the option of the DoD Components, a periodic recertification examination.

6. Maintenance technicians performing maintenance on telecommunications equipment that contains cryptographic components or that performs COMSEC functions shall receive COMSEC awareness training before performing maintenance actions on the basic equipment.

7. On-the-job training and videotape training courses by themselves are not approved for COMSEC equipment maintenance certification.

E. RESPONSIBILITIES

1. The Assistant Secretary of Defense for Command, Control, Communications, and Intelligence shall oversee and review the implementation of this Instruction.

2. The Director, National Security Agency shall:

a. For formal traditional maintenance training:

(1) Provide the initial maintenance training for the DoD Components when NSA COMSEC equipment is being acquired or fielded.

(2) Notify the DoD Components of NSA initial COMSEC equipment maintenance training courses at least 45 days before the start of the course, and provide specific reporting and student enrollment instructions and course prerequisites.

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(3) Provide a record of student training to respective DoD Components for initial COMSEC equipment maintenance training courses.

(4) Provide to a requesting DoD Component and to its contractor or vendor (based upon security and need-to-know) an NSA-approved COMSEC equipment maintenance training course of instruction.

(5) Maintain a list of approved COMSEC equipment maintenance training courses of instruction developed by the DoD Components.

(6) Assist the DoD Components in the development of COMSEC equipment maintenance training courses of instruction when appropriate courses do not exist, or existing courses are inadequate.

(7) Provide guidelines and minimum standards for preparing, approving, and conducting COMSEC equipment maintenance training courses of instruction sponsored by the DoD Components.

(8) Review and approve the COMSEC equipment maintenance training courses of instruction or COMSEC portions of equipment maintenance training courses of instruction offered by the DoD Components and their contractors or vendors.

(9) Approve waivers to NSA-approved COMSEC equipment maintenance training courses of instruction as required.

b. For formal computer, composite, or IVD training:

(1) Upon request, provide a DoD Component and its contractor or vendor (if appropriate) an NSA-approved COMSEC equipment maintenance training course of instruction on a mutually agreed upon medium and in a mutually agreed upon authoring system language and format.

(2) Provide guidelines and minimum standards for preparing, approving, and conducting computer, composite, or IVD COMSEC equipment maintenance training courses of instruction sponsored by the DoD Components.

(3) Approve, or disapprove with an explanation, computer, composite, or IVD COMSEC equipment maintenance training courses of instruction prepared by the DoD Components and approve waivers as required.

3. The <u>Heads of the DoD Components</u> (and their contractors or vendors) shall:

a. Ensure that only qualified full, ATE support, or limited maintenance technicians who are U.S. citizens perform the initial checkout and maintenance of COMSEC equipment, or of those portions of equipment or systems that contain COMSEC functions. Exceptions may be granted when specifically provided for by national COMSEC doctrine or on a case-by-case basis with the approval of the NSA.

b. Establish a procedure for maintaining a record of certification for COMSEC equipment maintenance technicians (to include maintenance technicians of cryptographic components of non-COMSEC equipment).

c. Ensure that all personnel tasked with any level of maintenance of COMSEC equipment, a system employing COMSEC functions, or equipment containing cryptographic components receive COMSEC awareness training to a level commensurate with their involvement with the equipment or system and their satisfactory completion of the training be recorded on DD Form 2625, Controlled Cryptographic Item (CCI) Briefing. This COMSEC awareness training should include:

(1) COMSEC doctrine, policy, and procedures.

(2) Principles and applications of TEMPEST.

(3) Security and technical threat awareness.

(4) Awareness of special hardware protective technology (where appropriate).

(5) Unique security requirements of the equipment or system.

(6) Documents and related reference material.

(7) Physical handling, accounting, and destruction requirements.

(8) Applicable service or DoD Component regulation.

(9) Standard operating procedures.

(This training may be performed outside a formal maintenance training environment. Although it is a prerequisite for any level of COMSEC equipment maintenance, it, by itself, does not qualify personnel to perform full, ATE support (for non-ATE-supported components), or

limited maintenance on the COMSEC equipment, system, or cryptographic component(s).)

F. PROCEDURES

All DoD Components and their contractors or vendors shall provide COMSEC equipment maintenance training in accordance with the standards stated in sections D. and E., above, and the following:

1. Forward COMSEC equipment maintenance training courses of instruction (other than those developed from NSA-approved courses of instruction) to the NSA for approval before implementation.

2. Provide the NSA with a schedule of their planned COMSEC equipment maintenance training, including course identifiers, dates, lengths, and locations.

3. Coordinate with the NSA on the availability of existing COMSEC equipment maintenance training courses of instruction to prevent unnecessary duplication. Inquiries should be directed to:

> Director
> National Security Agency
> ATTN: Y22
> Fort George G. Meade, MD 20755-6000

G. INFORMATION REQUIREMENTS

The information requirements associated with this Instruction are exempt from licensing in accordance with paragraph E.4.b. of DoD 7750.5-M, "Procedures for Management of Information Requirements."

H. EFFECTIVE DATE AND IMPLEMENTATION

This Instruction is effective immediately. The DoD Components shall forward two copies of implementing documents to the Assistant Secretary of Defense for Command, Control, Communications, and Intelligence within 120 days.

Duane P. Andrews

Enclosure
   Definitions

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DEFINITIONS

1. <u>Composite Training</u>. A training method that combines traditional training and computer or IVD training.

2. <u>Computer Training</u>. A training method that combines software programming, sound tracks (optional), and computer-generated text and graphics to route the student through a self-paced course of instruction.

3. <u>COMSEC Equipment</u>. Equipment designed to provide security to telecommunications by converting information to a form unintelligible to an unauthorized interceptor and by reconverting such information to its original form for authorized recipients. This also includes equipment designed to aid in, or that is an essential part of, the conversion process.

4. <u>Course of Instruction (COI)</u>. Instruction material for cryptographic equipment maintenance training on specific COMSEC equipment or on equipment incorporating COMSEC functions prepared in accordance with NSA specifications or guidelines.

5. <u>Cryptographic Component</u>. The hardware or firmware embodiment of the cryptographic logic in equipment. A cryptographic component may be a modular assembly, a printed wiring assembly, a microcircuit, or a combination of these.

6. <u>Field or Exportable Training Package</u>. A composite of lesson plans, test material, instructions, policy, doctrine, and procedures necessary to conduct field training, prepared by a DoD Component or its contractor or vendor, approved by the NSA and administered by qualified COMSEC maintenance personnel.

7. <u>Field Training</u>. NSA-approved COMSEC equipment maintenance training conducted at a location other than an established DoD Component or its contractor or vendor training facility.

8. <u>Formal Maintenance Training</u>. Classroom and laboratory instruction conducted by qualified COMSEC equipment maintenance instructors using an NSA-approved COMSEC equipment maintenance training course of instruction.

9. <u>Generic COMSEC Equipment Maintenance Training Course</u>. A limited or full maintenance training course on actual or hybrid COMSEC equipment composed of assemblies or subassemblies generic to a COMSEC equipment family or group.

10. <u>Interactive Videodisc (IVD) Training</u>. A training method that combines software programming, sound tracks (optional), and computer-generated text, and videodisc graphics to route the student through a self-paced course of instruction.

11. <u>Levels of COMSEC Maintenance</u>. Those levels are as follows:

    a. <u>Organizational Maintenance</u>. Maintenance that is the responsibility of and performed by a using organization on its assigned equipment. Maintenance consists of inspecting, servicing, lubricating, adjusting, and replacing parts, minor assemblies, and subassemblies that are external to the COMSEC equipment. Maintainers are not permitted to remove COMSEC equipment covers, except for that equipment where internal strapping is allowed. Repair of the equipment is not authorized.

    b. <u>Limited Maintenance</u>. Maintenance limited to mechanical parts and plug-in subassembly removal and replacement. Chassis mounted, soldered-in components such as fuses, switches, etc., may be removed and replaced ONLY if expressly permitted by an equipment's limited maintenance manual. In no case may limited-maintenance qualified technicians remove or replace components soldered on printed wiring assemblies.

    c. <u>Automated Test Equipment (ATE) Support Maintenance</u>. The scope of this maintenance includes maintenance to the piece-part for all non-ATE-supported components of a specific COMSEC equipment and can include performing physical and functional certification of the COMSEC equipment or system.

    d. <u>Full Maintenance</u>. There are no limitations on repair actions. Physical and functional COMSEC equipment certifications, engineering support, and installation and testing of modifications are full maintenance responsibilities. Depot-level maintenance corresponds to "full maintenance" with the additional requirement of COMSEC equipmnet overhaul.

12. <u>Qualified ATE Support Maintenance Technicians</u>. Personnel who have satisfactorily completed an NSA-approved COMSEC equipment ATE support maintenance training course, specialized training package, or the COMSEC portions of an ATE support maintenance training course for equipment that contains COMSEC functions.

13. <u>Qualified Full Maintenance Technicians</u>. Personnel who have satisfactorily completed an NSA-approved COMSEC equipment full maintenance training course, specialized training package, or the COMSEC portions of a full maintenance training course for an equip-

ment that contains COMSEC functions, and, if appropriate, a generic COMSEC equipment full maintenance training course.

14. <u>Qualified Limited Maintenance Technicians</u>. Personnel who have satisfactorily completed an NSA-approved COMSEC equipment limited-maintenance training course, specialized training package, or the COMSEC portions of a limited-maintenance training course for an equipment that contains COMSEC functions, and, if appropriate (e.g., a CCI equipment that has an NSA-published limited-maintenance manual), a generic COMSEC equipment limited-maintenance training course. Limited-maintenance training can include training on the repair and replacement of chassis-mounted components. This includes proper soldering techniques when and where required. This does not permit limited-maintenance technicians to solder on printed wiring assemblies.

15. <u>Specialized Training Package (STP)</u>. A self-paced, U.S. Air Force maintenance course developed from an NSA-approved COMSEC equipment maintenance training course of instruction conducted in accordance with AFR 66-5.

16. <u>Telecommunications Security (TSEC)</u>. System for identifying the type and purpose of certain items of COMSEC material.

17. <u>Traditional Training</u>. A training method that employs live classroom and laboratory instruction by qualified COMSEC equipment maintenance instructors.

18. <u>Videotape Training</u>. A training method that uses a videotape presentation and is viewed by the student at his or her convenience.