DEPARTMENT OF THE ARMY
UNITED STATES ARMY INTELLIGENCE AND SECURITY COMMAND
Arlington Hall Station
Arlington, Virginia 22212

Regulation
No. 105-11

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Communications - Electronics
ADMINISTRATION AND SUPERVISION OF DIRECTION FINDING SITES

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*This regulation supersedes USA INSCOM Regulation 105-11, 10 July 1975.

Section I

GENERAL

1. (U) PURPOSE. This regulation provides standard criteria for site supervisors in the supervision, administration and operation of Radio Direction Finding Sites.

2. (U) SCOPE. This regulation applies to all Direction Finding Sites engaged in SIGINT/EW activities, outlining the areas of responsibility for physical siting criteria, electromagnetic field engineering tests, timely reporting, accuracy studies, preventive maintenance (PM), site security, training and general site supervision.

Section II

ADMINISTRATION

3. (U) GENERAL. The duties of a Direction Finding (DF) site supervisor are unique in that his is one of the few noncommissioned officer positions in the Army with duties and responsibilities comparable to those of a small unit commander; therefore, the DF site supervisor must be a mature individual, not only proficient in his MOS, but also capable of administering to both operational and administrative requirements of a DF site and the assigned personnel.

4. [redacted]

5. (U) STANDARD OPERATING PROCEDURES. In addition to parent unit standing operating procedures (SOP) and Basic Emergency Plans (BEP), each DF site will maintain a local SOP. Subjects to be covered will include but will not be limited to -

a. All aspects of the day-to-day activity of a DF site, including requirements necessary because of environmental conditions and seasonal variations.

b. Local site security, including perimeter defense, emergency destruction plan, emergency evacuation plan, civil disturbance plans, fire plans, etc.

c. Local billeting, to include regulations for conduct (in and out of billets area), emergency exit plans, fire drill regulations, maintenance of non-appropriated and private association funds, medical support procedures,

d. On-the-job (OJT) training, to include signal and crypto maintenance and supply procedures, and vehicle operation and maintenance procedures.

6. (U) SITE SUPERVISOR RESPONSIBILITIES. The DF site supervisor is responsible for its effective operation. He must place daily emphasis on all facets of DF operations and site supervision, including but not limited to the following:

a. The required standards and performance to keep the site operating at maximum efficiency.

b. Close physical security and control of crypto material which will be maintained by physical inventory and double checking daily, crypto inventory sheets.

c. The appearance of the site must meet high standards at all times, including police of the area, painting/spot painting of equipment and adjacent structures, grass cutting, ground upkeep, and the overall appearance of working and living areas.

d. Maintain required preventative maintenance records for vehicles, operations equipment and antennas. Keep the check bearing program, operator procedures, and training current, taking necessary actions for upgrade when deemed appropriate and/or required.

e. Maintain close liaison with collocated organizations which can or may provide local support in such areas as post engineers, ordnance, local national business organizations, MI/CID Support, etc.

f. Maintain strict supervision over mess, quarters, and latrine facilities to insure maximum sanitary requirements are met.

g. Provide for the morale and welfare of site personnel. This includes church services, recreational supplies and facilities, leaves, passes, etc. The site supervisor must be available to assist with personal problems and know whom to recommend for assistance if necessary.

h. Maintain and update records, reports and SOP as required. Timely reporting is essential to the smooth and efficient operation of the overall DF effort.

Section III

RECORDS AND REPORTS

7. (U) GENERAL. Maintaining accurate and complete files and records and the submission of timely reports are essential to the efficient operation of a DF site; therefore, it is necessary for all site supervisors to be completely familiar with the directives governing records and reports.

8. (U) GUIDANCE. a. Correct and complete maintenance records will be kept on all vehicles and equipment in accordance with TM 38-750.

b. Filing systems at DF sites will be initiated in accordance with AR 340-18-1.

c. Classified material will be handled and stored in accordance with DOD Dir 5200.1R and AR 380-5.

d. Crypto material will be handled and stored in accordance with ARs 380-40 and 380-41.

e. Downgrading instructions contained in DOD Dir S-5200.17(M-2), USA INSCOM Pamphlet 380-2, USA INSCOM Pamphlet 380-2-1, and USA INSCOM Pamphlet 380-2-2 will be used.

9. (U) REPORTS. Paragraphs 10, 11, and 12 establish procedures by which this Headquarters and DF Net Control Stations (NCS) are informed of all changes to DF facilities, equipment (primary and necessary support items), communications, and changes in current methods and procedures. Provisions outlined herein apply to physical changes and exclude normal day-to-day routine operational actions, such as dismanteling equipment for maintenance and/or repair.

10. (U) FACILITIES CHANGE. Prior approval by this Headquarters, ATTN: IAOPS-SE-AS, is required for all proposed changes to fixed or semi-fixed USA INSCOM DF sites. These changes include but are not limited to the following:

a. Addition of any major object or equipment within the confines of the DF site.

b. Changes in the location of objects, equipment, power lines, telephone lines, fences, parking stands, perimeter lights, or any other object(s) which could affect DF operations.

c. Additions of obstructions (proposed or current) within the surrounding area of the DF operation site which may cause degradation of site accuracy.

d. Construction of receiving or transmitting antennas.

11. (C) RESOURCE STATUS REPORTS (RSR). [redacted]

Section IV

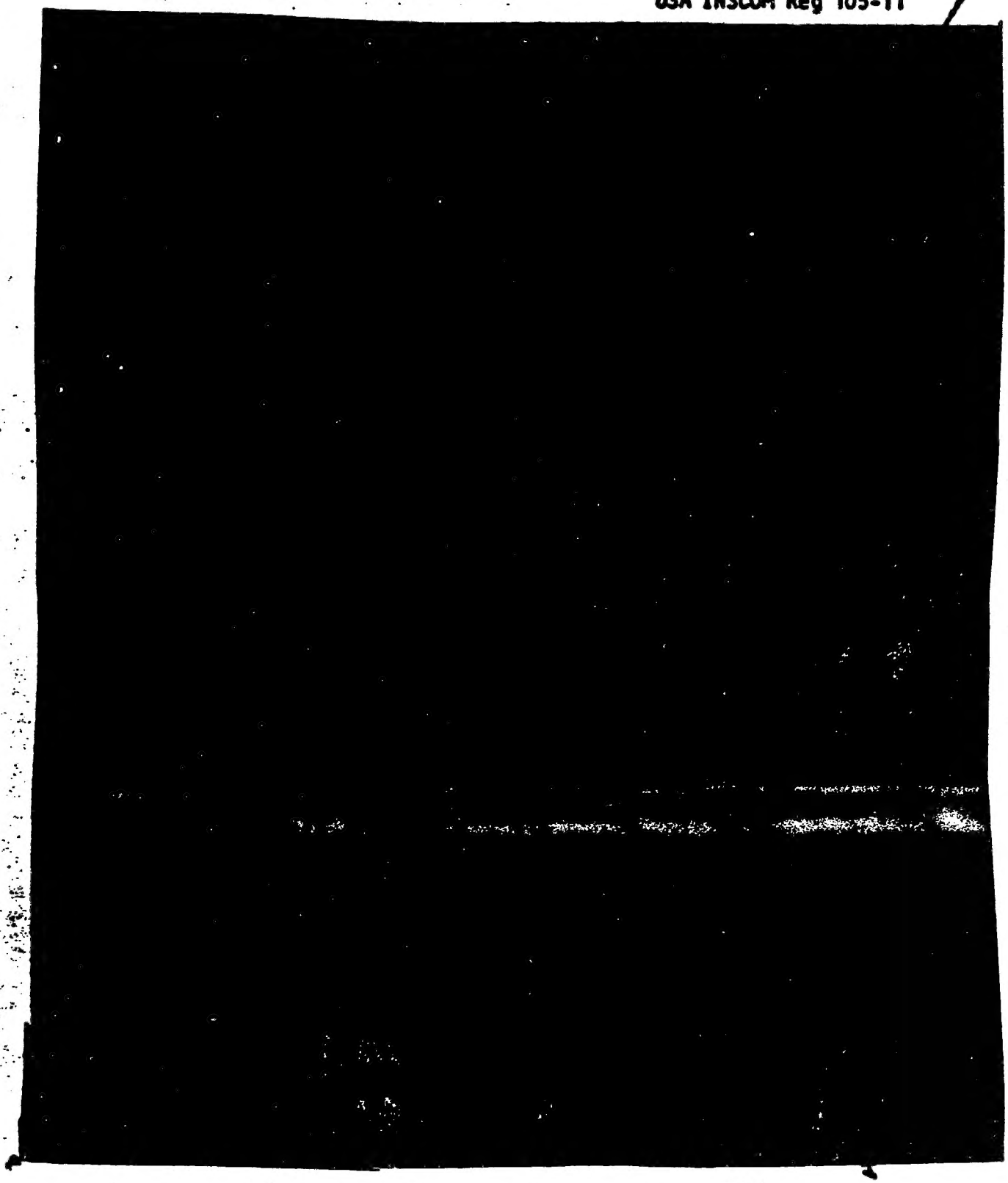
SITE SURVEY PROCEDURES

12. (U) GENERAL. The on-site investigation or reevaluation of an area to determine its relative suitability for the establishment of, or retention as, a DF site is the responsibility of the DF site supervisor and ELI technician.

[redacted] An exception to this rule is that DF units assigned to a direct support mission do not have to obtain prior approval from NSA to conduct site surveys; however, site surveys are still required and "after-the-fact" survey data will be furnished this Headquarters, ATTN: IAOPS-SE-AS, as soon as possible following relocation. [redacted]

[redacted]

13. [redacted]



d. Logistics Survey. In its application to site surveys, this provides composite information needed for site support. It includes construction and maintenance of facilities (including housing/real estate); procurement, storage, and distribution of supplies; transportation, communication, medical facilities, utilities, and security. The SCA or unit to become responsible for site logistic support will assemble and evaluate the logistics information. (See paragraphs A-1, A-3, A-4, and A-5, appendix A.)

14. [redacted]

Section V

SITE CRITERIA

15. (U) GENERAL. The following guidelines are set forth in an effort to standardize DF site configuration.

16. (U) ARRANGEMENT. The DF site will be declared a restricted area by the unit commander and posted with appropriate nonmetallic signs. Signs will not exceed a height of 3 feet, be printed in black letters on a white background, be multilingual, when required, and be positioned facing around all quadrants of the DF site, spaced approximately every 100 feet along the perimeter.

a. The DF antenna array will be positioned in the area of prime interest as far from other site equipment, such as vehicles, generators, and petroleum, oils and lubricants (POL), etc., as the site real estate will allow.

b. The operations shelter will be located in the center of the DF antenna array, or when provided with a remote capability, it will be placed in the quadrant of least interest as far from the antenna array as real estate will allow.

c. No structure or other equipment will be located closer than 300 feet from the nearest DF antenna and in line opposite the arc of prime interest. All incoming power cables will be buried to a depth of at least one foot (three feet inside or within 50 feet of the antenna array), entering the ground at least 500 feet from the site area. Buried, non-metallic cable signs, will be posted every 200-500 feet and indicate direction of the buried cable.

d. Perimeter lights should be placed within the DF antenna array at each corner of the DF or remote shelter, facing outward. Lights should not exceed five feet in height and will be located within five feet of the DF or remote shelter. Lights installed in the vicinity of equipment located outside of the antenna array will not be placed within 300 feet of the nearest DF antenna. Their overall height should not exceed three degrees vertically from the center pin of the antenna array. Electrical wiring will be kept to an absolute minimum on site and all wiring will be buried to a depth of one foot.

e. Associated DF equipment located outside the DF antenna array, such as vehicles, generators, supply shelters, POL, and communications bunkers, should be arranged so as to lie along a center line opposite the arc of prime interest. Vehicle parking should be kept as far away from the DF antenna array as possible and at least 350 feet.

17. (U) RESTRICTIONS. The restrictions outlined herein pertain to objects placed in and around the DF antenna array, but are not limited to the following:

a. Nothing will be placed in front of the DF antenna array (the area of primary interest) for a distance of 900 feet.

b. Ammunition and destruction materials will be stored in bunker areas at least 300 feet from the DF antennas; however, in sensitive areas this distance may be altered at the discretion of the ELI technician.

c. Transmitting and receiving antennas will be erected not closer than 300 feet to the DF antenna array in the quadrant of least interest.

d. RF cable slack will be coiled neatly and placed on top of the antenna baseplates.

e. For security purposes only, a small metal trash burner may be located within the antenna array, but it will be located as close to the geometric center of the DF antenna array as physically and safely possible.

f. All DF sites may not be able to adhere completely to the above criteria because of environmental, climatic or political conditions; therefore, exceptions may have to be made. All exceptions will be considered separately by the NCS, or, when appropriate, at a higher level. Prior approval will always be necessary in each instance.

Section VI

SITE ACCURACY PROGRAM

18. (U) GENERAL. An aggressive site accuracy program is essential to the efficient operation of any DF site. It is also essential that the equipment be accurately aligned and in proper working order. To accomplish this the DF site supervisor will -

a. Insure all DF equipment is checked daily in accordance with applicable technical publications. Any equipment failing to pass serviceability criteria will be reported immediately to maintenance for repair or replacement.

b. Make daily system alignment checks.

c. Require periodic Check Bearing Observations throughout the 24-hour operations day.

19. (U) SYSTEM ALIGNMENT CHECKS. a. A predetermined target transmitter location will be established. The exact location will be marked by a painted stake or a small wooden platform so the target transmitter can be positioned in the same exact location every day. The location must be a known azimuth (not necessarily True North); and if at all possible, it should be 600 feet from the antenna array, or at least a minimum distance of 300 feet.

b. The system alignment check will be performed at the same time each day, preferably at the start of the day shift. The following steps will be followed:

(1) Find a clear frequency between two and four MCS and tune the T-279/UR Target Transmitter to the frequency.

(2) Place the target transmitter in front of the predetermined calibration point in line with the known azimuth making sure the T-279 antenna is fully extended and no one is within 20 feet of the transmitter to preclude error caused by reradiation.

(3) Observe the bearing on the azimuth indicator positions to see if an accurate bearing is recorded. (NOTE: A small dot should be painted on the alidade assemblies at the correct azimuth to be used for comparing the bearing taken during daily system alignment check.)

(4) If the bearing displayed differs from the known azimuth of the target transmitter, the system must be aligned to the correct azimuth. (Alignment procedures will vary according to the DF system in use.)

(5) After the system alignment check has been completed, the target transmitter will be turned off and returned to storage. The transmitter will not be left at the calibration point after the alignment checks have been completed.

20. (U) CHECK BEARING OBSERVATION. When the DF site supervisor is satisfied that all DF equipment is aligned and working properly, check bearings will be obtained from each DF position. Only check targets of known locations, authorized by the NCS or higher authority for the specific purpose of obtaining bearings for accuracy studies, will be used. The site supervisor must impress upon the DF operator the importance of recording accurately the

bearings they observe and not being influenced by the known bearing. Check bearings should be taken and recorded throughout each 24-hour operational day as a continuing check on system alignment and noticeable changes in atmospheric conditions. Continuing errors in known check bearing targets may require an additional DF equipment alignment.

Section VII

MAINTENANCE

21. (U) GENERAL. Outdoor maintenance requirements will differ with climatic conditions; however, regardless of conditions, maintenance is a continual and essential function of DF operations and its sustained accuracy. The DF site supervisor must conduct a vigorous maintenance program to insure optimum equipment operation at all times and in all weather conditions.

22. (U) PREVENTIVE MAINTENANCE. Daily, weekly, and monthly PM must be carried out in accordance with local maintenance policy as prescribed by command directives and current regulations.

a. DA Form 2404 (Equipment Inspection and Maintenance Worksheet) will be used for recording daily inspections and services, periodic preventive services, and inspection of equipment by maintenance. When used by maintenance personnel for recording periodic PM services, all deficiencies found to exist at the time of inspection will be recorded. When used by the equipment operator during operational inspections and services, only those deficiencies that cannot be corrected by the operator will be recorded. DA Form 2404 used for recording the operator's daily inspection will be furnished the maintenance supervisor for any other action.

b. Close supervision will be given to all phases of PM. Special attention should be given to the following details:

(1) Cleanliness not only enhances the appearance of the DF site, but more importantly, it is essential in preventing dirt and grime from getting into equipment, causing undue wear and tear and eventual equipment breakdown. The floor of the operation shelter should be damp-mopped as frequently as necessary to keep it dirt and dust free. The tops of the electrical cabinets will be dusted and kept clear of all materials so that excess heat generated by the equipment will pass through the ventilating holes as it was designed to do and interior components remain clean.

(2) Overheating is the frequent cause of breakdown. To help prevent these breakdowns, observe the following:

(a) Electrical equipment inside the cabinets will be inspected daily and vacuumed regularly.

(b) Keep all filter screens free of dirt and dust by frequent cleaning. The screens will be checked as part of the daily PM check list and cleaned as required.

(c) SIT will retain all DA Forms 2404 on site for a period of 90 days beginning on the first day of each quarter. These forms will be reviewed by unit and theater ELI supervisory personnel during their quarterly visits. The review will take into account any constant problem areas, and determine if corrective actions can be taken, e.g., submission of MWO and/or EIR if applicable. The maintenance log will also denote discrepancies and corrective action entries when applicable.

(d) DD Forms 314 (Preventive Maintenance Schedules and Record) and informal demand and usage data for Prescribed Load List (PLL) and Mission Essential List (MEL) will be reviewed on a regular basis by the DF site supervisor to insure all scheduled maintenance is being performed and that repair parts are reordered to maintain proper parts stockage levels. The informal demand and usage data should show that the prescribed amounts of each part are on hand or on requisition. The official PLL/MEL and Record of Demand Cards will be kept by the parent unit in accordance with INSCOM Regulation 700-8.

23. (U) ANTENNA MAINTENANCE. Antenna maintenance is performed on a continual basis governed by local climatic conditions. The following checks are considered as minimum daily requirements:

a. Visually inspect the antenna monopoles for vertical alignment.

b. Check guy lines for proper tension and/or wear.

c. Check ground straps, terminating resistors and RF cable connections for tightness and cleanliness. (Also check for rust, dirt, and corrosion on baseplates, ground strap, and resistor connections.)

d. Check counterpoise for breaks and proper grounding.

e. Intra-cable connections should be weather-proofed by covering the connectors with rubber insulator tape at the junctions of the cables.

f. At least two antennas should be dismantled and cleaned each week. A rotating system should be used, i.e., first week clean antenna 1 and 13, then 2 and 14, etc., until antenna 25 and the monitor have been cleaned and the process begins again. When painting is required, be sure only nonmetalic paint is used.

24. (U) VEHICLE AND GENERATOR OPERATION. Vehicle and generator operation is dependent upon good maintenance. The DF site supervisor will supervise daily operator PM on all vehicles and generators and insure that all faults are recorded on DA Form 2404 or DA Form 2400 (Equipment Utilization Record). All inspections, services, repairs, and modifications will be entered in appropriate logbook forms in accordance with TM 38-750 by the unit providing those maintenance actions. DA Form 2401 (Organization Control Record for Equipment) will be utilized to reflect all vehicle and generator usage and DA Form 2400 or the equipment logbook will be used to operationally dispatch vehicles and generators. The use of the equipment logbook in lieu of the DA Form 2400 will be dependent upon local command policy. DA Form 2408-1 (Equipment Daily Log) will be utilized to record data in accordance with

TM 38-750. This log will be closed out monthly and forwarded to the unit having the equipment logbook and providing support in order to update the equipment monthly log.

a. The site supervisor is responsible to insure that all scheduled maintenances are performed and entries made on all appropriate forms.

b. Vehicles kept on site which are not operated regularly should be blocked up and run in place (in gear) at least twice a week to insure that working parts are kept lubricated and are operating properly.

c. An Equipment Serviceability Criteria (ESC) check is performed (usually quarterly) to determine the status of vehicles of a unit at a given time. The site supervisor should be familiar with the format for determining the readiness of his vehicles.

d. When generators are used only for back-up or emergency power, the site supervisor should insure the generators are in good operating condition at all times. To insure this, he should see that they are operated at least two hours a week (under a load condition).

25. (U) TOOLS AND EQUIPMENT. Tools and equipment must be used to keep a DF site at operating efficiency. The site supervisor must insure that this equipment is properly cleaned and stored before and after use.

a. OVM kits will be clean and complete, and guarded against weather and pilferage. An inventory of all maintenance and test equipment will be conducted at least once each quarter and checked for out-of-date calibration requirements.

b. Shovels, pick-mattox and other working tools should be inspected regularly for dirt and rust. Frequent spot painting is usually required.

26. (U) SUMMARY. It is apparent that a proper maintenance program is an exacting and time consuming job. Its importance cannot be overemphasized and the rewards will be reflected in trouble free and efficient operation of the DF site and its equipment.

Section VIII

SECURITY

27. (U) GENERAL. All facets of DF operations are of the utmost importance; however, no function can be said to be more important than security. A breach in security not only endangers the physical security of the DF site, but endangers the DF mission and damages the security of the Nation. A more than common knowledge of current security directives and regulations is strongly encouraged particularly in regards to the local situation.

28. (U) CRYPTO MATERIAL. a. All crypto areas are designated restricted areas. Entrance into a crypto area is usually given only to those persons whose presence is necessary to carry out the functions of that particular facility. The necessary security clearances do not entitle a person access to a crypto area, regardless of rank and position, unless he has a specific need-to-know.

(1) Persons with proper clearance who desire access to a crypto area must first have a clearance certification sent from the parent unit. Absolutely no access will be authorized until such certification has been received.

(2) A Crypto Area Visitor Register (DA Form 1999) will be kept for all visitors to the site denoting name, rank, SSAN, position, purpose of visit, signature, time in and time out. Each entry will be initialed by the site supervisor at the conclusion of each visit.

b. Close control of crypto material will be kept at all times. A crypto material checklist will be kept listing all crypto material. An inventory will be performed and the DA Form 2653 (COMSEC Account - Daily Shift Inventory) will be signed by the senior operator of the on-coming trick prior to relieving the trick on duty. Any discrepancies which arise will be brought to the immediate attention of the DF site supervisor (regardless of hour) for appropriate action. In addition to the inventories made by each on-coming trick, the site supervisor will also make a physical crypto material check, a minimum of once a week to insure records are being properly maintained and the security containers locking device is in proper working order. Controlled document registers and document destruction certificates will be kept to show the proper disposition of classified documents at all times. The site supervisor must become familiar with all logging, handling, and collateral classified documents/materials.

29. (U) SAFES AND CONTAINERS. DA Form 727 (Classified Container Information) will be affixed to the front of each container showing name, rank, address, and telephone number of all persons having access to the container combination. Combinations will be changed at least annually or immediately following the departure of anyone having had access to the container combination. DA Form 672 (Safe or Cabinet Security Record) will be affixed to the side or top of each container. Entries will be made each time the container is opened or closed to show time opened, time closed, and time checked. Each time entry will be initialed by the person initiating the action.

a. Containers left open on a 24-hour a day basis will be locked and opened at least once every two weeks to insure the locking devices are in proper working order. Appropriate entries will be made on DA Form 672.

b. A reversible "OPEN, CLOSED" sign will be placed on the front of each container as an additional security reminder.

c. Cover music is required at each DF site to cover any operational noises which may otherwise be audible from outside the operations shelter.

30. (U) PHYSICAL SECURITY. Physical security will be governed by the tactical conditions of the area. It may require sandbagged emplacements and manned bunkers, perimeter fencing, trip flares, etc., or restricted area signs and perimeter lighting may be all that is required. Whatever the case, the site supervisor must insure that local security is adequate. In so doing he must also insure that technical operating efficiency is maintained. All site personnel must be completely familiar with site security plans and alert procedures in effect. (See DIA Manual 50-3.)

31. (U) WEAPONS AND AMMUNITION. If individual weapons need not be carried to and from work by site personnel, they should be kept in a secure area and stored in accordance with existing regulations. Weapons should be stored in a dry, dust-free area and cleaned as often as climatic conditions dictate, but at least once weekly. Ammunition and destruction materials will also be stored in accordance with appropriate regulations. An ammunition bunker should be constructed at the DF site for storage.

32. (U) ELI LIBRARY. a. The ELI library maintained at the DF site should contain all necessary security information to keep site personnel properly informed. This should include but not be limited to -

(1) DoD Directive 5200.1, AR 380-5, AR 380-40, and AR 380-41.

(2) USA INSCOM Supplement to AR 380-5.

(3) BEP.

(4) Physical Security Plan.

(5) DIA Manual 50-3, Physical Security Standards for Sensitive Compartmented Information Facilities.

(6) Required training files.

b. The site supervisor will insure that semi-annual and annual security readings are being accomplished and that the appropriate records are updated after each reading. Records will be maintained on the IA Form 1020-R and IA Form 1021-R in accordance with USA INSCOM Supplement to AR 380-5.

33. (U) SUMMARY. It is said that the speed of the DF net is the speed of its slowest operator. Then it must also be said that a DF site is as secure as its least informed individual. Make "Security Awareness" a daily household word.

Section IX

TRAINING

34. (U) GENERAL. As long as an individual is a member of a military organization he will receive training. It is necessary for each individual to receive training so that he can maintain proficiency in his MOS and be kept abreast of the ever changing methods and techniques of operation; therefore, it is essential that an effective training program be carried out that will benefit everyone. This should be a continuing and on-going program.

35. (U) DF TRAINING. The S3, as trainer, must insure that lesson plans on DF subjects are prepared in accordance with the format contained in Appendix G, FM 21-6, for each monthly training subject. The DF site supervisor, as instructor, may participate in the preparation of lesson plans and informal training notes supporting those plans. He must also insure that lesson plans for all subjects pertaining to his detachment, and required for the month, are available to him to conduct the training. He should also insure that his site is on the distribution list for command information periodicals, fact sheets, and other informational type matter. With the materials at hand, plus some local improvisions, a satisfactory training program will be conducted by the site supervisor. The site supervisor should set up a training schedule that will convenience all site personnel without infringing upon operational commitments. At the end of each month a training report will be sent to the company training NCO so that the training credits can be entered on the individual's training record. A separate record should be kept at the site for the site supervisor's file.

36. (U) SPECIAL TRAINING. A special MOS training program should be conducted by the site supervisor each month to insure that each member of his site is proficient in all functions of DF operations. Training programs and lesson plans should be arranged to cover such functions as follows:

a. Antenna maintenance and monopole alignment procedures.

b. Generator operation and maintenance and procedures for conversion from commercial power to emergency power, if applicable.

c. Vehicle maintenance and ESC procedures.

d. Purpose and use of M-3 Document Destroyer Kit, and other on site devices.

e. Review of [redacted] INSCOM regulations, security manuals and other ELI-related matters.

f. Any other type training that might be useful in furthering the proficiency of DF site operations (i.e., coordination procedures for regaining down communications lines, preliminary trouble shooting methods for equipment).

37. (U) ON-THE-JOB TRAINING. Before a newly assigned DF operator can be placed on a full-time job he must first go through a period of OJT. A constructive program will be developed to cover all functions of DF operations, such as flash and reporting procedures, equipment operation, maintenance procedures for all site equipment, security regulations, alert procedures, SOP and site routine. The site supervisor will monitor the administration of all phases of the OJT program. When the training period has been completed, a written test should be given to determine if the new operator is ready to assume the full duties of a DF operator. A full record of this training will be maintained with the individual's on-site training records with copies of these records forwarded to the parent unit S-3 for filing. Periodic retesting should be given to all DF operators to assure that top proficiency is maintained.

Section X

SAFETY

38. (U) GENERAL. There must be safety regulations published and posted to cover all functions of a DF site, not only operational and military functions, but social and off-duty functions as well. These regulations must not only be published and posted but they must also be strictly adhered to. It is the responsibility of the site supervisor to insure that a safety and occupational health program is instituted and carried out in accordance with this regulation and USA INSCOM Regulation 385-2, at the DF site.

39. (U) PETROLEUM, OILS, AND LUBRICANTS STORAGE. The POL dump at the site will be constructed in the area of least interest and as far from any other structure or piece of equipment as real estate will allow. The storage area will be dry, well ventilated, and covered for protection from the weather. An earth revetment will be built around it to prevent a runoff in case of fire. POL should not be kept in excess of the amount needed for normal operations. In cases where Quartermaster facilities are available, only enough POL should be stored to meet basic load requirements.

40. (U) FIRE REGULATIONS. A sufficient number of fire extinguishers will be kept at the DF site to cope with fire outbreak. At least one extinguisher will be placed in each structure and on each vehicle, generator, etc. Fire extinguishers will also be placed in the billet area and "NO SMOKING IN BED" signs will be placed conspicuously in each room. A schedule will be established for the hydrostatic testing of extinguishers. Most pressurized extinguishers require this test at five year intervals.

a. Fire extinguishers will be checked monthly to insure that they are in good repair and that the seal is unbroken. They will be weighed to check for fullness every six months. A ticket will be attached to each extinguisher showing date checked and initials of inspector. Insure also that the proper type extinguishers are on hand, i.e., CO^2 for petroleum fires, chemical for electrical fires, etc.

b. Fire regulations will be posted in an obvious place inside all structures and shelters explaining fire warning devices, telephone numbers of local fire departments and emergency fire exit plans.

c. At least one emergency exit must be provided for the billet area. Exits should be remote from each other and so arranged as to minimize any possibility that both may be blocked by any one fire or other emergency condition. When devising alternative exits, particular attention should be paid to the number of building occupants, the fire resistance of the exit components, and suitability of the exit for use by intended personnel. Exits must be clearly marked with the word "EXIT" in letters six inches high by 3/4 of an inch wide.

d. A Fire Marshal and Assistant Fire Marshal will be designated from among the site personnel to keep the fire prevention and safety program current and should be monitored regularly by the site supervisor.

41. (U) SAFETY OF OPERATIONS. Criteria will be established for the safe operation of all equipment on the DF site. Frequent inspections will be conducted by the site supervisor and maintenance supervisor to locate any loose connections, worn or frayed cables or loose or improper grounds on equipment. The site supervisor should be alert for the detection of unsafe practices by site personnel. "DANGER" signs will be placed conspicuously on or near equipment where high voltage is present and protective shielding will be provided. Danger signs will be bilingual, when appropriate. Maintenance personnel should be issued 3/4 steel-toed safety shoes and these will be worn whenever on duty. Safety goggles, hearing protective devices, and other types of personal protective equipment will be worn as appropriate. (See DA Pamphlet 385-3, Protective Clothing and Equipment.)

42. (U) VEHICLE OPERATION. Many man-hours are lost and property damage incurred due to unsafe vehicle operation; therefore, it is apparent that a program to promote safe driving habits and vehicle safety is essential not only for the protection of site personnel and equipment but for the uninterrupted operation of the DF site as well.

43. (U) SUMMARY. The DF site supervisor should see that his local SOP reflects a safety program applicable to all phases of DF site operation. Both on and off duty, the key word in any safety program is "common sense".

UNCLASSIFIED

APPENDIX A

SAMPLE SURVEY CHECK LIST FOR SELECTION OF A SIGINT COLLECTION SITE

A-1. (U) SITE LOCATIONS AND FEATURES. a. Names and geographical coordinates of sites.

Site 1 -

Site 2 -

Site 3 -

b. Large-scale maps of site areas showing -

(1) Marked locations and features of sites.

(2) Locations at which ground conductivity and electromagnetic environment test were made.

(3) Proposed construction and peripheral building/antenna location clearly indicated.

(4) Location and size of each utility capable of supporting, or of expansion to support each site.

(5) Proximity of suburban, urban, industrial areas, and major obstructions within 1/2 mile.

c. Photographs of site areas and environments, clearly referenced and oriented to show existing features.

d. Mean water levels and annual variations in climatic conditions.

A-2. (U) FIELD ENGINEERING TEST (fundamental suitability for SIGINT).

a. Nature of site terrain and surroundings (Appendix B).

b. Ground conductivity and method of measurement.

c. Electromagnetic environment (Appendices C, D, E).

A-3. (U) ACCESSIBILITY FOR SITE CONTROL AND RELATED FUNCTIONS.

a. Distance from nearest US Military Base which can provide necessary support.

b. Distance from station's transmitter (DF).

c. Requirement for radio links and availability of link sites.

d. Right-of-way for government-owned control lines.

e. Availability of telephone service.

f. Existence and condition of access roads.

A-4. (U) ACCESSIBILITY OF UTILITIES AND LOGISTIC SUPPORT.

a. Distance from nearest -

(1) Railroad station.

(2) Truck line terminal.

(3) Bus line.

(4) Other transportation.

(5) Commercial markets.

(6) Schools.

(7) Closest ARFCOS delivery/acceptance point.

b. Utility requirements for proposed facilities.

(1) Water requirements, gallons per day and source of supply.

(2) Sewage disposal facilities.

(3) Refuse and garbage facilities, yards per day.

(4) Source of electrical power, anticipated peak load, total connected load, and average load.

(5) Emergency back-up or stand-by generator requirements, and total kilowatt capacity required.

(6) Methods of air conditioning and heating required.

(7) POL requirements and storage area.

(8) Availability of utilities at proposed site.

(a) If heating and air conditioning are not self-contained in proposed facilities, are local existing systems capable of expansion to satisfy proposal requirements?

(b) Can local existing water, sewage and electrical systems be connected and extended to satisfy proposed requirements, or will construction be required?

(c) Is fire protection available?

(d) Are contractors available?

(e) Is labor supply available?

(f) Distance from nearest population center with -

1 Movies.

2 Shopping Centers.

3 Libraries.

4 Sports Facilities.

(g) Is site government owned?

(h) Can restricted area be established by lease or agreement?

(i) Is sufficient land available? Acreage?

(j) Cost of land per acre.

(k) How does cost compare with other land in area?

(l) Cost of -

1 Clearing.

2 Grading.

3 Draining.

(m) Length and cost of roads -

1 Outside facility.

2 Inside facility.

(n) Are any bridges required?

(o) Cost of fencing.

(p) If not fenced, number of guards required.

A-5. (U) HOUSING. a. Government housing available and housing required, to include - Number and types of residences.

b. If government housing not available, availability, adequacy, and proximity of housing on the economy.

APPENDIX B

SITE VISUAL INSPECTION

B-1. The site must be substantially flat in all directions outwards from the antenna field for at least one wave length at the lowest operating frequency, and have no more than a gentle slope for several times that distance. Abrupt terrain irregularities must be avoided, such as excavations, cliffs, ravines, cuts, and fills. Hills and mountains should not exceed three degrees vertical elevation from the site.

B-2. Type of soil and cover are indicative of ground conductivity. Pastoral or forested land with uniform vegetation, loam or clay soils are usually satisfactory. Dry sandy soil and rock outcroppings are generally unsatisfactory.

B-3. Since shoreline refractive error is an important consideration for radio DF installations, the Terms of Reference will indicate required distances between DF antennas and large bodies of water.

B-4. Site and surroundings must be reasonably free of buildings, tall trees, wire fences, radio antennas, railroad tracks, overhead conductors, chimney stacks, towers, or other objects capable of re-radiating DF energy. No object should appear above an elevation of three degrees. Minimum Distance acceptable between DF antennas and obstructions are as follows, but other distances may be specified as appropriate:

a. Scattered small buildings and trees - 500 ft.

b. Overhead site power and communications lines - 1,000 ft.

c. Overhead public power and communications lines - 1,000 ft.

d. Buildings, towers, etc. - not over 3 degrees elevation angle

e. Railroads and over head conductors (except power lines) - 1,500 ft.

f. Overhead power lines:
   3-11 kv - 1,500 ft.
   11-34 kv - 3,000 ft.
   34-138 kv - 4,500 ft.
   Over 138 kv (steel towers) - 4,500 ft.

g. Highways - 1,000 to 3,000 ft.

h. Built-up housing areas - 1,500 ft.

i. Fluorescent street lights, neon signs - 2,000 ft.

j.	Light industrial areas -	3,000 ft.
k.	Heavy industrial areas -	9,000 ft.
l.	Excavations, quarries, lakes -	500 to 1,500 ft.
m.	Forests -	1,500 to 3,000 ft.
n.	Mountains -	5 miles or more

APPENDIX C

CENSUS OF FIXED TRANSMITTERS

SITE: _____

C-1. PURPOSE. To identify fixed transmitters in direct trnasmission range to site, operating in mission frequency range(s) and down to 1/2 of low limits of each range.

C-2. SIGNIFICANT TRANSMITTER POWER. Significant transmitter power is defined as follows:

Distance from site	Power
Less than 5 miles	All
5 to 10 miles	Over 1 kw
10 to 20 miles	Over 4 kw
20 to 30 miles	Over 16 kw

C-3. TRANSMITTER DATA. Operational stations and stations under construction:

Call Sign or Agency	Freq. MHz	Power kw	Modulation or Service	Location from site Distance/Direction

Call Sign or Agency	Antenna Types	Antenna Polarization	Ant. Bearing if Directional	Est. Ant. Gain Toward Site

Call Sign or Agency	Operating Schedule

APPENDIX D

SAMPLE FORMAT

RFI SURVEY DATA RECORD

RECORDS DISPOSITION
Destroy when of no further operational value

SHEET

TEST NO.

DATE

TEST PERSONNEL AND ORGANIZATION

TEST EQUIP. NM-25T RECEIVER

SERIAL NO.

ANTENNA VERTICAL POD 41"

SERIAL NO.

LOCATION

TIME (1)	BAND (2)	FREQ (MC) (MC) (3)	STATION AND EMISSION TYPE (4)	METER dB UV (5)	ATT dB (6)	CORR FACTOR (7)	SIG dB UV/MC (8)	ANT CORR dB (9)	ANT DIRS (10)	R.D. CORR dB (11)	CABLE LOSS (12)	DET FUNCT (PK-PKI) (13)	BDOC NB-BB (14)	CORR. LEVEL (15)	REMARKS (16)
		20 MHz	Power line noise	10	-20	-	60	26	-	-14	-	PK	NB	62	(15) DB uv/m/MHz impulsive
				10	-20	-	-	26	-	-14	-	PK	NB	2	(15) DB uv/m/MHz impulsive
2400		1 MHz	Atmospheric noise	21	-20	-	30	37	-	-5	-	PI	NB	43	(15) DB uv/m/MHz random n
				21	-20	-	-	37	-	-5	-	PI	NB	13	(15) DB uv/m/MHz random n
		4 MHz	CW	10	0	-	-	30	-	-	-	PI	NB.	40	(15) DB uv/m (10) omnidirectional ant.

Column (7): Lumped receiver correction factor, if used.

(8): Conversion from MHz BW to peak impulsive noise or RMS random noise, per MHz BW; or substitution calibration from impulse generator per MHz BW.

(11): BW correction factor to MHz BW for impulsive or random noise.

* Meter may read 8 or 9 DB higher on PK, compared to PI, for broadband random noise.

SAMPLE DATA ENTRIES

D-1

APPENDIX E

MAN-MADE NOISE SOURCES

SITE: _____

E-1. NOISE SOURCES VS PROXIMITY TO SITE.

Noise Source	Distance from Site
Power lines above ground	
3 to 11 kv.	Within 2,000 ft.
Over 11 kv.	Within 4,000 ft.
Electric RR trains	Within 4,000 ft.
Heavy auto traffic	Within 4,000 ft.
Neon signs, electric welders Industries	2,000 to 4,000 ft.

E-2. IDENTIFICATION OF POWER LINE NOISE SOURCES.

Line No.	kv.	Steel/Wood Const.	Distance from Site

E-3. MEASUREMENT SUMMARY FOR POWER LINE NOISE, DB uv/m/MHz.

Line No.	PK. DB vs. Frequency at 200 ft.					
	2	4	8	16	32 MHz	(20-150 MHz for VHF)

(Note precipitation conditions during line EMI measurements.)

(Corona may increase noise upwards to 20 DB during rain, snow, or fog.)

E-4. MEASUREMENT SUMMARY FOR OTHER NOISE SOURCES.

a. Ignition.

Road Name	Distance From Site	Hours of Most Traffic	Vehicles Est. @ Hr.

Road Name	PK./Q-PK. vs. Frequency at 200 ft.				
	2	4	8	16	32 MHz

(Include EMI at other frequencies of interest.)
(PK. or Q-PK., cross out one.)

b. Other Sources.

Name of Source	Distance From Site	Est. Hours of EMI	Frequencies vs. Peak Levels of EMI

The proponent of this regulation is the Deputy Chief of Staff, Operations. Users are invited to forward comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) to this Headquarters, ATTN: IAOPS-SE-AS.

FOR THE COMMANDER:

OFFICIAL:

JOHN M. CARR
Colonel, GS
Chief of Staff

DAVID STEIN
C, Admin Div
DCSPER

DISTRIBUTION:
A - Plus:
- 10 - CDR, USAFS Okinawa
- 10 - CDR, USAFS Korea
- 5 - USA INSCOM Ln Det Pacific
- 5 - CDR, USAFS Misawa
- 5 - USA INSCOM Ln Det USAREUR
- 10 - CDR, USAFS Augsburg
- 5 - CDR, USAFS Berlin
- 5 - CDR, TUSLOG Det 4
- 5 - USA INSCOM CONUS MI Group