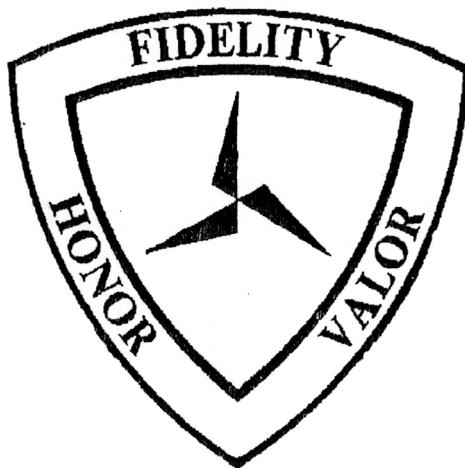


DivO P2000.10D

**COMMUNICATION - ELECTRONICS
STANDING OPERATING PROCEDURES**

COMM-ELEC SOP

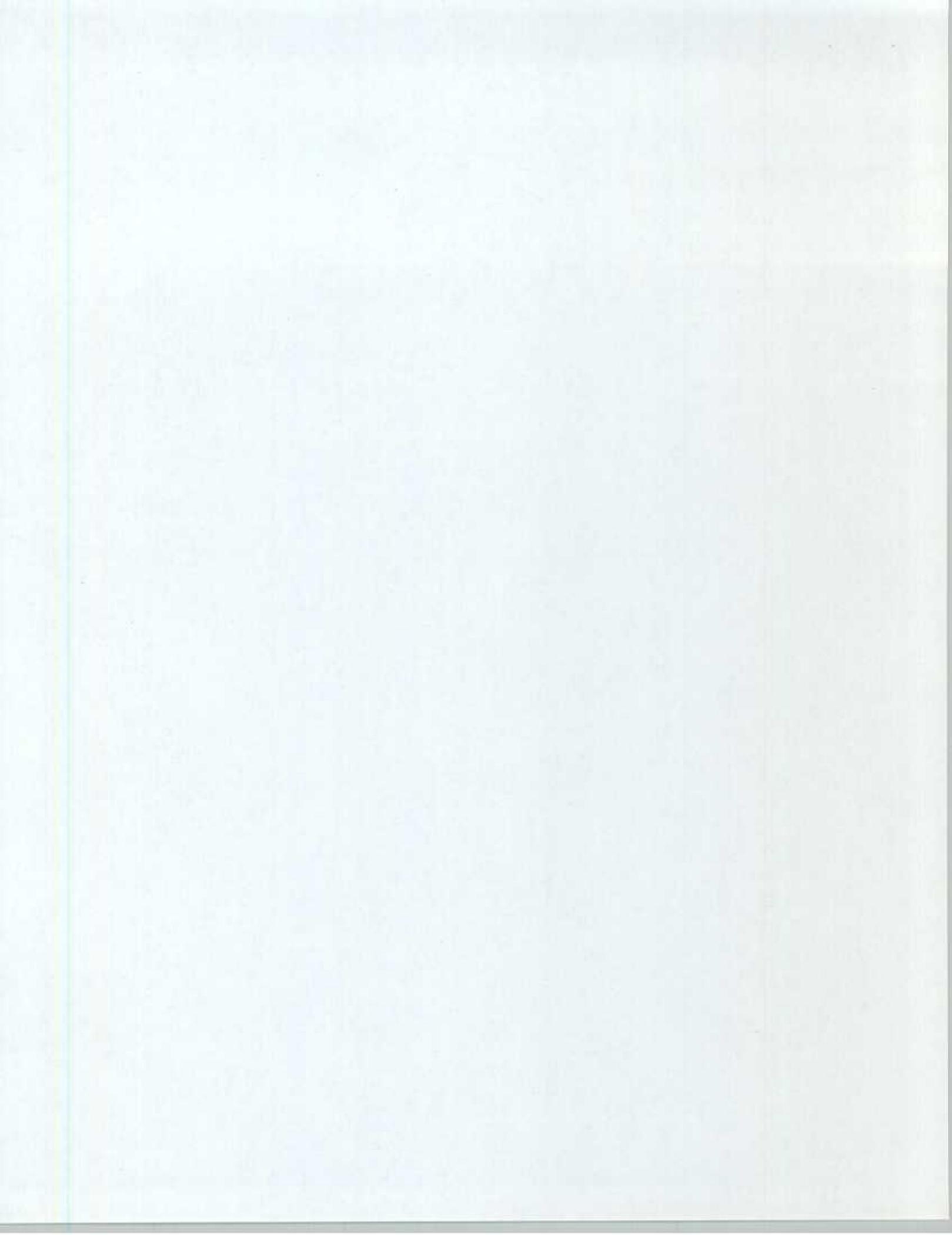


HEADQUARTERS

3D MARINE DIVISION (-) (REIN)

UNIT 35801

FPO AP 96602 - 5801





UNITED STATES MARINE CORPS

3D MARINE DIVISION (-) (REIN)

UNIT 35801

FPO AP 96602-5801

APPROPRIATE COPY

In reply refer to:

DivO P2000.10D

G-6

01 Feb 1996

DIVISION ORDER P2000.10D

From Commanding General
To: Distribution List

Subj: COMMUNICATION-ELECTRONICS STANDING OPERATING PROCEDURES
(SHORT TITLE: COMM-ELEC SOP)

Encl: (1 LOCATOR SHEET)

Reports Required: Manpower Report for Occupational Fields (Report Control Symbol Div-2000-01), Appendix B

1. Purpose. To promulgate policies and procedures for communication-electronics within the 3d Marine Division

2. Cancellation. DivO P2000.10C.

3. Summary of Revision. This edition represents a major revision. The revision includes incorporation of several Division Orders, communication notices, and other information. Since publication of the preceding SOP, there have been significant advances in communication-electronics equipment, computer software and procedures, and Marine Corps Automated Data Processing (ADP) applications. A few of the changes incorporated into this version include: the Message Dissemination Subsystem (MDS); Single Channel Ground Air Radio System (SINGARS); the AN/MRC-142; AN/TSC-120; Systems Planning, Engineering & Evaluation Device (SPEED); Asset Tracking for Logistics and Supply Support (ATLASS); and Marine Corps Internal Publications Distribution System (MCPDS). Additionally, the order includes a discussion of the Division's Link Architecture, the Marine Corps Systems Approach to Training as it relates to communications, and an updated maintenance chapter. The appendices include the communication-electronics portion of the Logistics Readiness Inspection (LRI) Checklist.

4. Recommendation. Recommendations concerning the contents of this SOP are invited. Such recommendations will be forwarded to this headquarters (Attn: AC/S, G-6) via the appropriate chain of command.

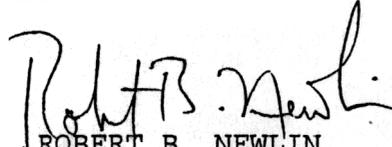
5. Records Disposition Records discussed herein will be maintained as follows:

a. Operations Plans, Annex-Ks, Letters of Instruction (LOI - two years.

b. Systems Control (SysCon) logs, AN/TTC-42 logs, switchboard logs and Technical Control (TechCon) logs - six months after the completion of the field training or exercise. Logs from combat operations are retained until no longer required.

c. Copies of inventories - one year.

6 Certification Reviewed and approved this date



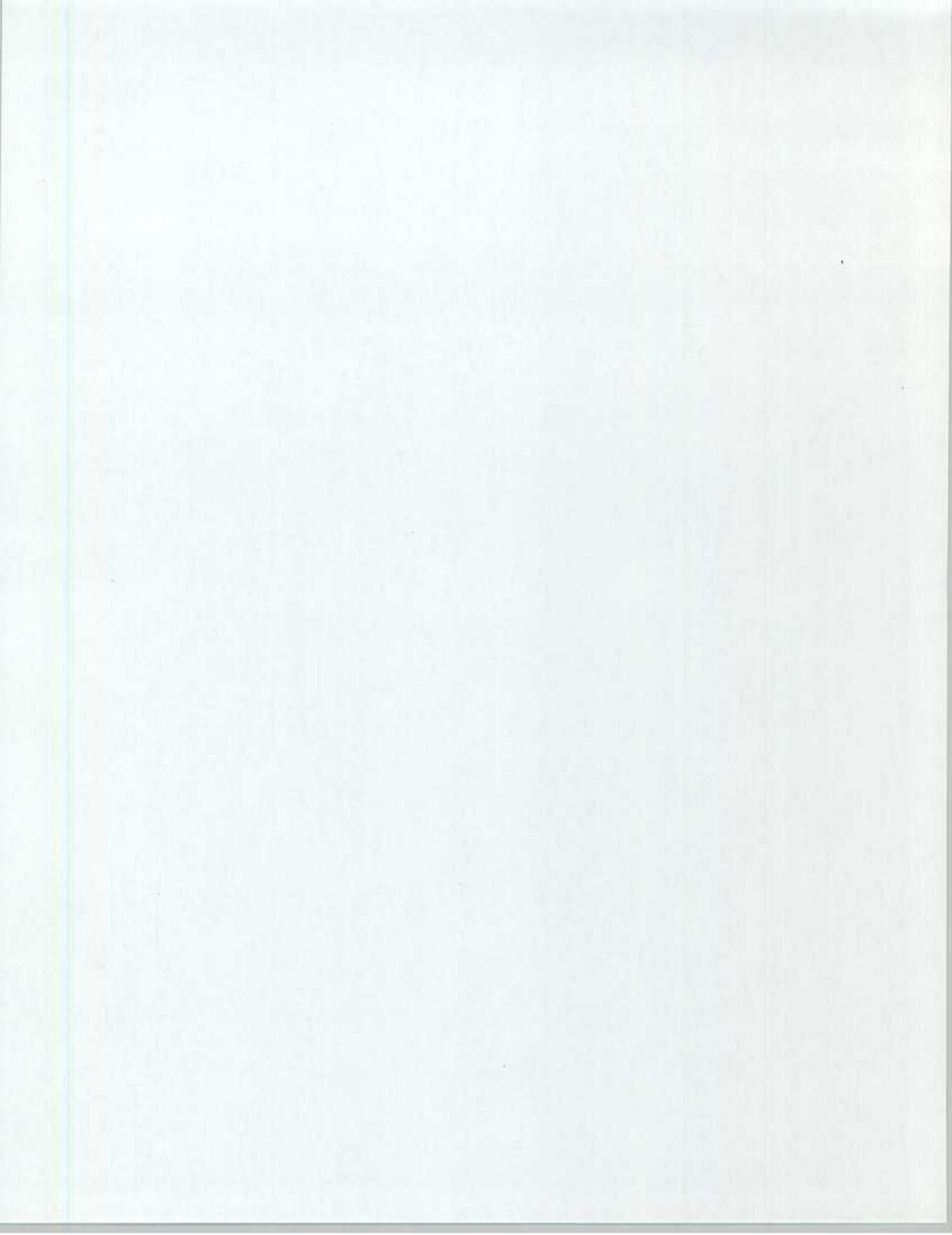
ROBERT B. NEWLIN
Chief of Staff

DISTRIBUTION: A/B

3D MARINE DIVISION COMMUNICATION-ELECTRONICS SOP

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3D MARINE DIVISION COMMUNICATION-ELECTRONICS SOP

INTRODUCTION

0001. GENERAL. The purpose of this Manual is to promulgate unclassified communication-electronics (comm-elec) policies and procedures for use within the 3d Marine Division. It is essential that this material receive widest dissemination.

0002 SCOPE

1. The 3d Marine Division Comm-Elec SOP, is designed to be used in conjunction with the 3d Marine Division Standing Annex K found in the 3d Marine Division Combat SOP. These documents provide for communications employment in support of training, garrison, and combat operations. When directed by proper authority, page inserts to the Standing Annex K will be published to support a specific exercise or operation.

2. This SOP is effective for all units under the administrative and/or operational control of the 3d Marine Division to include Unit Deployment Program (UDP) companies, batteries, and battalions.

3. This SOP implements and amplifies communications doctrine established in NWP-4, FMFM 3-30, NTP-4, and other approved manuals, publications, and directives governing military electronic communications.

4. Marine Corps comm-elec hardware and software are constantly undergoing upgrades, modifications, and replacements in order to keep pace with rapidly emerging digital data technology. During the next few years, many new systems and software will be fielded throughout the Division. Communications procedures will change and adapt as necessary to meet the new operating requirements and best exploit the improved capabilities of these systems.

0003. RELATIONSHIP TO OTHER PUBLICATIONS

1. This SOP is designed to amplify the information in the Standing Annex K and other doctrinal publications. As such, it does not contain lengthy restatement of doctrine found elsewhere. Additional details concerning doctrinal information will be found in the appropriate source publication.

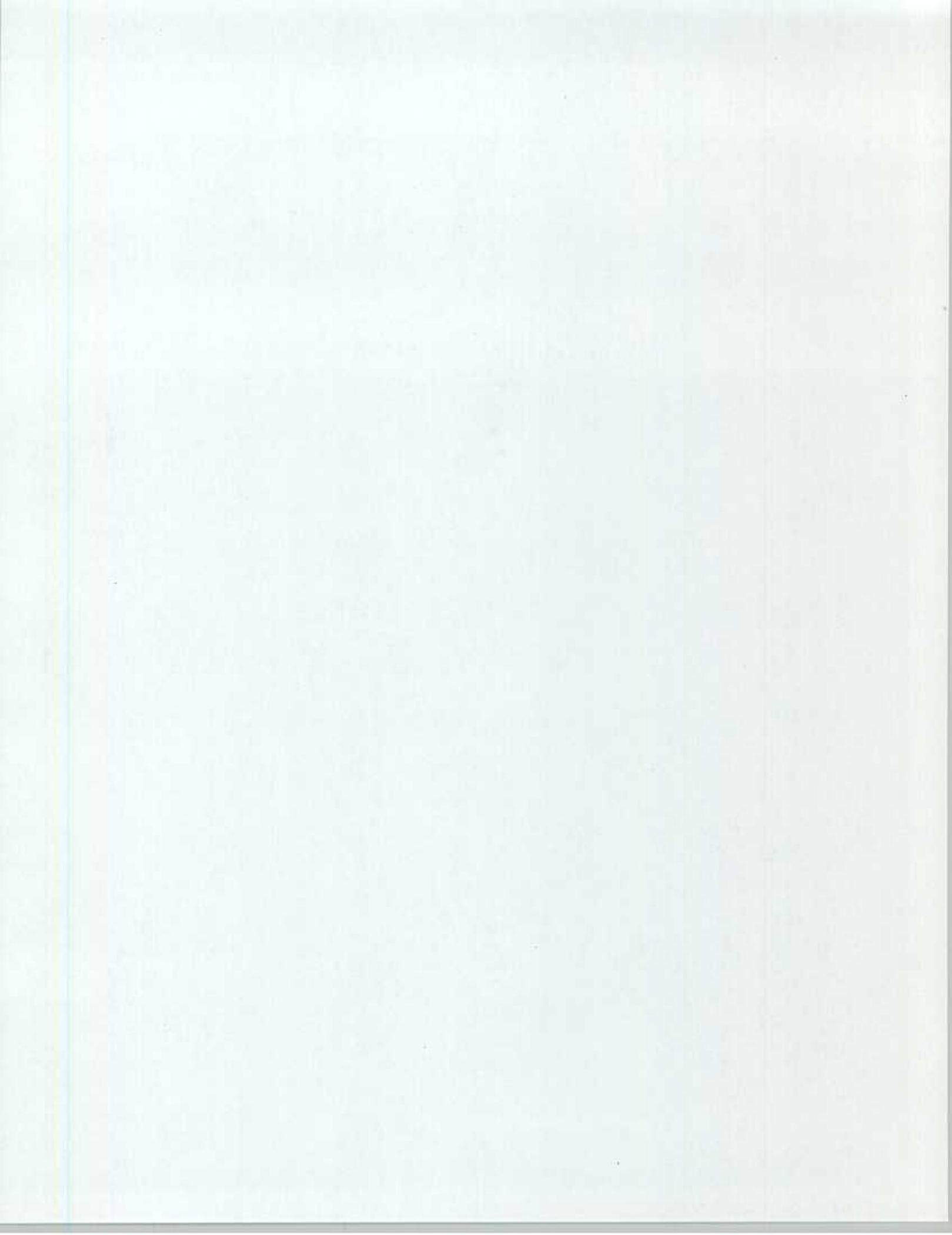
2. All Division communications organizations are required to maintain a standard minimum reference library. Appendix A outlines the required documents and publications that will be held by Division communications organizations. The maintenance of a minimum standard reference library will enhance communications planning and ensure that communicators are speaking a common language.

3D MARINE DIVISION COMMUNICATION-ELECTRONICS SOP

CHAPTER 1

TRAINING AND OPERATIONAL READINESS EVALUATIONS

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3D MARINE DIVISION COMMUNICATION-ELECTRONICS SOP

CHAPTER 1

TRAINING AND OPERATIONAL READINESS EVALUATIONS

1000. GENERAL. The purpose of training is to develop forces that can win in combat. Training is key to developing effectiveness and, therefore, the focus of effort of a peacetime military. Successful combat units train as they intend to fight and fight as they were trained. Our primary task is to substantially improve Division units' capabilities to conduct and support sustained combat operations as dictated by their mission.

1001. TRAINING PHILOSOPHY. The Division focus is on winning in combat. We must continually train to develop and maintain combat ready Marines and units which can perform assigned tasks to specified standards. Training programs should reflect practical, challenging, and progressive goals beginning with individual and small unit skills and culminating in full scale MAGTF exercises. S-6 Officers must be personally involved in the planning, execution, and evaluation of training at all levels within their organization to ensure that each evolution is supportable, properly planned, safely conducted, and, most importantly, relevant to the unit's mission. The current editions of MCO 1510.83, MCO 1510.44, and DivO P1500.25_ establish training standards and MCO 3501.1 establishes the Marine Corps Combat Readiness Evaluation System (MCCRES). The contents of these orders must be reviewed periodically, fully understood, and implemented through effective training programs and sound operating procedures.

1002. OBJECTIVES. The Division communication training objectives are as follows:

1. To conduct communications training that develops proficiency and teamwork and to improve our capability to provide requisite communications support during exercises, operations, and contingencies. S-6 Officers will continuously develop individual and team communications skills. Training will be based on individual MOSs and unit mission requirements.

2. To develop a training plan that stresses the following mission essential areas: Very High Frequency (VHF) retransmission; High Frequency (HF) Near Vertical Incident Skywave (NVIS), KL-43_ proficiency, Digital Communications Terminal (DCT) and Facsimile (Fax) operations; Voice Radio Procedures; Electronic Counter-Countermeasure (ECCM) techniques; TRI-TAC multiplexing (MUX) and switching; and Position Location Reporting System (PLRS) proficiency.

3. To train communication officers and chiefs in effective planning procedures.

4. To ensure all Marines are thoroughly familiar with the communications equipment they are required to operate. This familiarization includes complete knowledge of the SL-3 components associated with equipment end items, preventive maintenance procedures, and safety requirements.

5. To conduct at least ten percent of communications training at night and ten percent of the training under simulated Nuclear, Biological, and Chemical (NBC) conditions.
6. To indoctrinate all communication personnel in signal security and the proper handling and safeguarding of Communication Security Material System (CMS) keying material procedures and codes.
7. To ensure that communication officers train staff members in the proper use of the communication systems, with emphasis on the use of PLRS, Global Positioning System (GPS), Secure Telephone Unit III (STU III) telephones, and authentication systems.
8. To evaluate operational readiness based on MCCRES and Marine Corps Individual Training Standards.
9. To conduct regularly scheduled Division level communication exercises to evaluate training, identify shortfalls, and improve performance.

1003. TRAINING PROGRAM MANAGEMENT

1. Effective training programs can be conducted and the results evaluated through training program management. FMFM 0-1 and FMFM 0-1A provide detailed instructions and guidance on the systems approach to training. Division training inspections are guided by these publications.
2. Training Plan Documentation. The following are required training documents:
 - a. Annual Training Plan. This may be either a separate comm-elec training plan or the communication officer's formal input to the unit annual training plan. In either case, it reflects the training required to support the commander's guidance and the unit's mission. The annual training plan will be submitted on a calendar year basis and should reflect, by quarter and in general terms, the training to be conducted. Specific classes need not be identified; however, there must be sufficient detail to allow for the effective planning of future training. Refer to DivO P1500.25_ and the Division Master Training Plan (DMTP) for further information.
 - b. Quarterly Training Plan. This document should closely identify the training to be conducted in the upcoming quarter. It should also take into account new or additional missions, tasks, and equipment. Refer to the DivO P1500.25_ and the DMTP for further information.
 - c. Monthly/Weekly Training Schedule. This is the most detailed and comprehensive training document. It should identify the subjects to be taught, instructors, locations, times, equipment, etc. This is the training schedule that the Division training officer will review and may evaluate during the class. It is very important that scheduled classes are taught as outlined in the unit training schedule. The training schedule is not just a paperwork requirement; it should be a detailed road map towards unit readiness and operational proficiency. FMFM 0-1 and FMFM 0-1A provide detailed guidance on training schedule preparation and planning as well as

execution and evaluation. Another non-doctrinal publication that provides excellent insight into the art of effective training is Common Sense Training by LtGen Collins, USA(Ret). This book is on the Commandant's reading list and provides an excellent starting point for leaders who are concerned about training quality, relevance, and effectiveness.

1004. DIVISION TRAINING. Individual skills training is absolutely essential, but equally important is the construction of a Division-level integrated communications system. The Division G-6 will plan a series of Division-wide training events in order to build critical communications skills. The individual training events will normally culminate in a Division Communications Exercise (Div CommEx).

1. Each quarter, the G-6 will promulgate a quarterly training plan that will identify objectives, specific training events, and dates. As a training event approaches, the G-6 Operations Section will release appropriate coordination messages to refine and focus the training.

a. Normally, Communications Company, Headquarters Battalion will assume the net control responsibility on all Division nets.

b. After Action Reports (AARs) will be submitted to the Assistant Chief of Staff, G-6 within five working days of each Div CommEx.

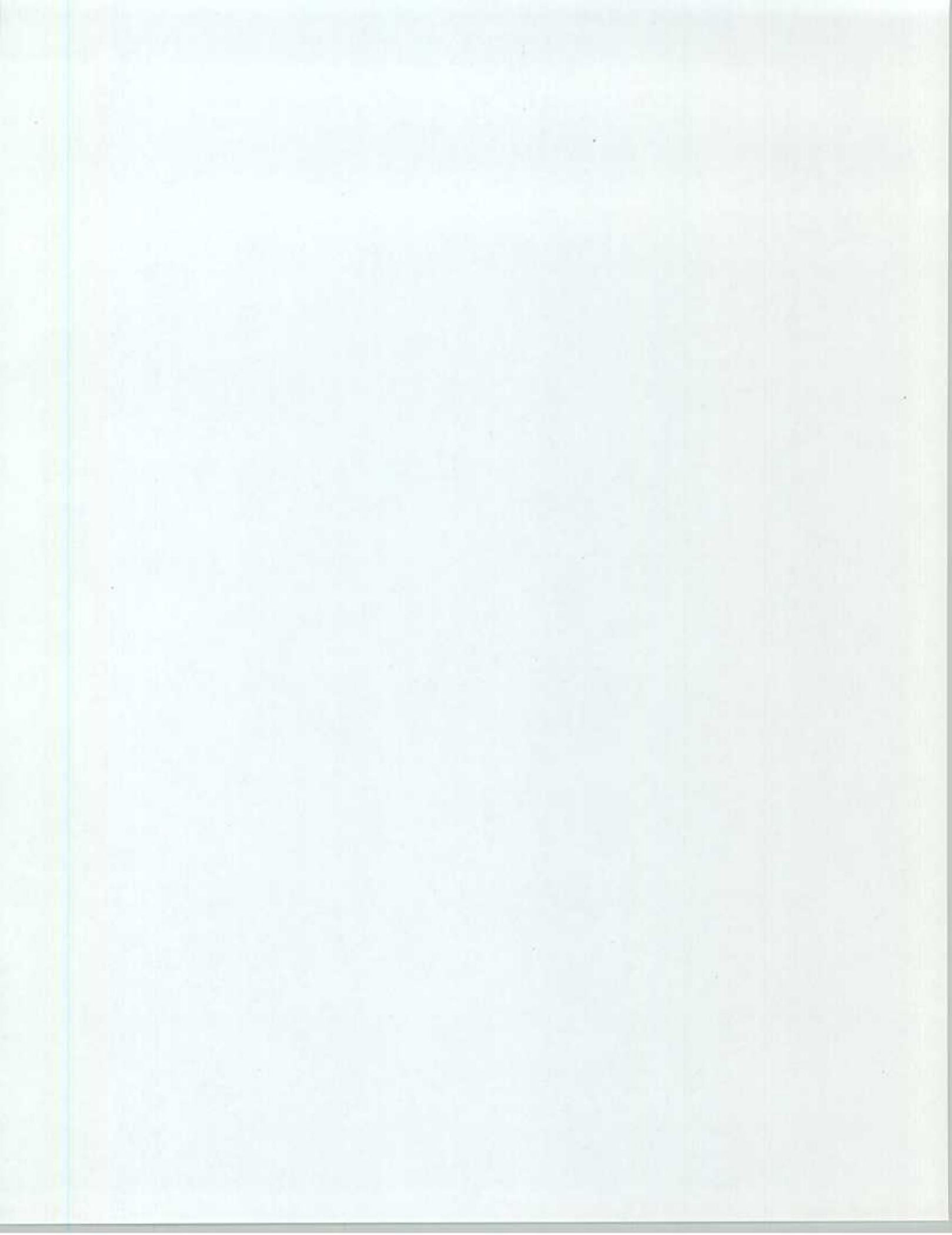
2. The G-6 will schedule regular communication exercises designed to enhance skills and exercise the communications system in an integrated environment. The Division will normally employ the Standing Annex K from the Division Combat SOP and promulgate appropriate page inserts.

1005. TRAINING EVALUATIONS. Two types of training evaluations are used: the first is concerned with the administration of each unit's training program; the second is a mission-oriented, practical application evaluation designed to see if the program is effective.

1. Training administration is an analysis of schedule content. The evaluator will determine if the listed training documents have been published. Their content is analyzed to determine if the scheduled training meets the Division's mission essential criteria, along with the criteria established in the MCCRES standards and the Individual Training Standards (ITSS).

2. The most critical evaluation is mission performance. Performance is based on MCO 3501.1 (MCCRES standards) and MCO 1510.83 (Individual Training Standards). Units will be informally evaluated during Div CommEx's, during routine training visits, and at other opportunities. This evaluation process is designed to diagnose deficiencies and to highlight corrective action, not to punish or embarrass units.

3. The AC/S, G-6 Logistics Readiness Inspection (LRI) team will use the checklist in APPENDIX B to evaluate the communications/maintenance readiness of units per DivO 5040.3_. The LRI checklist has been extracted from the publications and directives associated with each question. The LRI checklist is designed to assist the inspected unit and is a good guide for planning unit training.

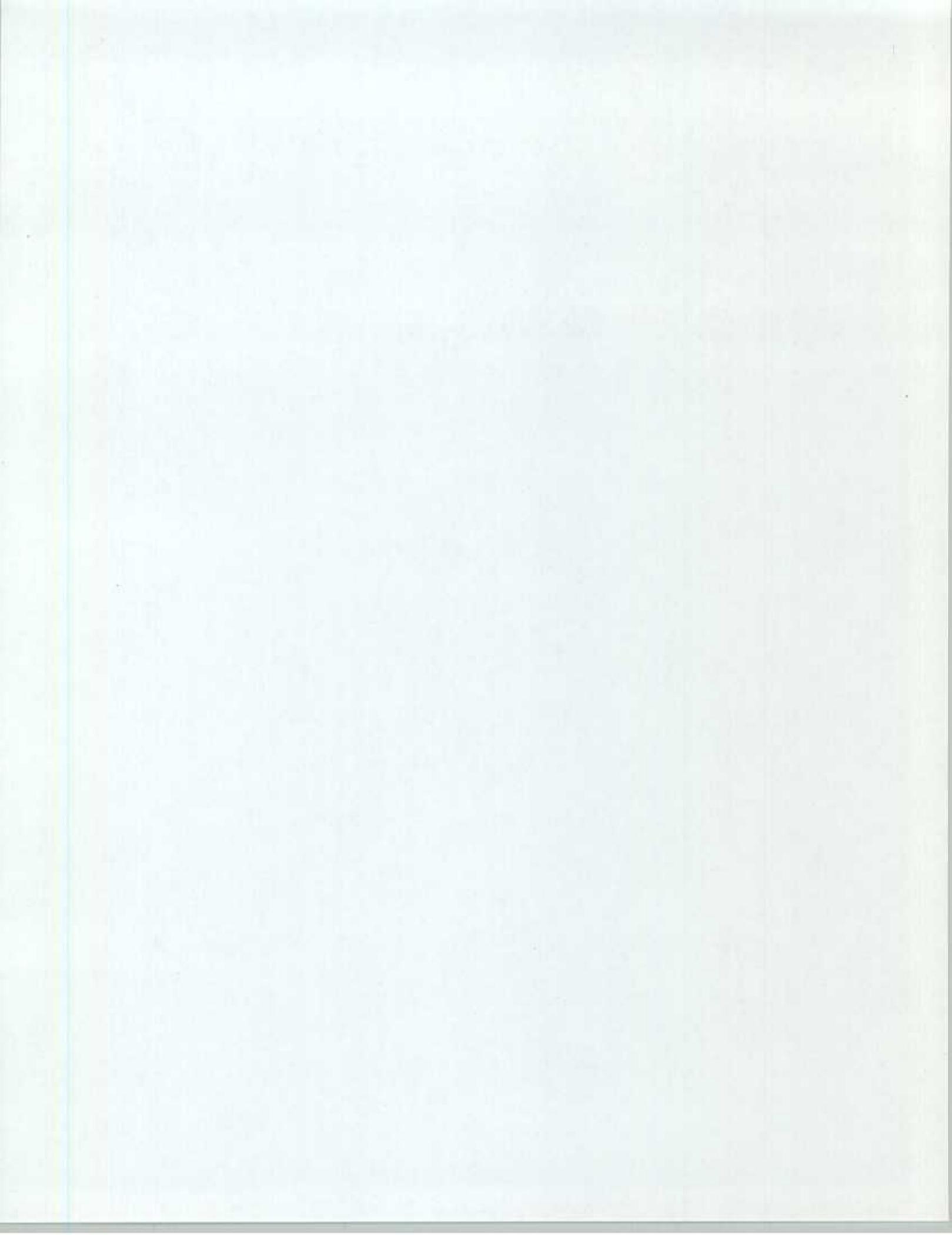


3D MARINE DIVISION COMMUNICATION-ELECTRONICS SOP

CHAPTER 2

SINGLE CHANNEL RADIO AND SATELLITE COMMUNICATIONS

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3D MARINE DIVISION COMMUNICATION-ELECTRONICS SOP

CHAPTER 2

SINGLE CHANNEL RADIO AND SATELLITE COMMUNICATIONS

2000. RADIO OPERATIONS. Radio communications are well-suited for use during fast moving, highly mobile situations and are considered the primary means of communications during the assault or movement of forces. However, the advantages of radio communications are considerably offset by their vulnerability to atmospheric disturbances, the over-crowded frequency spectrum, and the enemy's intercept and electronic countermeasure capabilities.

2001 LINK ARCHITECTURE

1. Background. The "link concept" is a communications architecture designed in keeping with the Commandant's philosophy on improved communications interoperability and the Commander, U.S. Marine Corps Forces Pacific's C4I philosophy. These philosophies stress the need to reduce command post electronic signatures, take advantage of technology to replace inefficient dedicated doctrinal voice nets, and support maneuver warfare techniques to reduce multiple voice radio transmissions. Further, the philosophies attempt to redefine what information commanders need on the battlefield to facilitate rapid decision making. The Division goal is to reduce the number of circuits, improve command and control, and meet requirements of reduced lift. Thanks to the rapid evolution in communications technology, communicators can provide better service using satellite technology, burst transmission, and personal computer to personal computer (PC to PC) connectivity over radios using modems for data file transfer. Additionally, Local Area Networks (LANs) and Wide Area Networks (WANs) have allowed us to reduce radio circuits to higher headquarters and reduce single channel radio emissions to adjacent and subordinate units.

2. Discussion. Link concept architecture centers around the Division Combat Operations Center (COC). The Communication Central serves as the communications hub for the COC. The goal is to best exploit current technology using Fax, PC to PC file transfer, and burst transmission using the KL-43_. Voice is an essential element in the link concept to support staff officer (actual) to staff officer (actual) communications so that warfighters can better feel and more quickly shape the battlefield. The primary voice net is the "Ops Talk" (GCE-2) which provides commanders and watch officers the ability to discuss operations issues and facilitates rapid decision making. To compliment the link, Division Communications Company establishes and maintains circuits, both radio and data, to rapidly disseminate record message traffic both up and down the operational chain. Link architecture provides pipelines to transmit communications rapidly. Any type of traffic (intelligence, logistics, operations, etc.) can be transmitted or received over these common user pipelines. Each communication plan will be tailored to meet requirements of an exercise/operation. Radio nets and links have been engineered in consonance with the commander's intent, with an appropriate balance between voice and data circuits. It is not the intent of the link concept to replace net specific circuits in favor of all common user pipelines. Certain doctrinal nets (Tactical Air Request/Helicopter Request (TAR/HR), Naval Gunfire Control, Fire Support Coordination, etc.) must and will be maintained.

The intent of the link concept is to employ current technology to provide three to five common user nets to senior and subordinate units. Actuals retain the ability to talk on voice common user links, other than the "Ops Talk," by simply requesting the communications watch officer/staff noncommissioned watch chief to connect them to a subscriber on the net. This procedure can be accomplished rapidly and efficiently. By properly exploiting technological advances, communicators can provide better service to commanders and significantly reduce their electronic signature on the battlefield.

2002. SECURITY

1. General. Radio is one of the least secure means of communication, unless protected by cryptographic devices. The following information and policies are applicable to radio operations security.

Policy

a. Circuit discipline and proper operating procedures are essential and must receive command attention. The use of speech ciphony devices does not allow for the relaxation of proper voice radio procedures.

b. On-line secure voice equipment will be used on all Division and subordinate unit circuits.

c. All Division units will be prepared to conduct over-the-air re-keying and over-the-air transfer of key (OTAR/OTAT). Compromise of keying material and the difficulties associated with physical distribution makes this skill essential to secure radio operations.

d. Authentication, numerical encryption, and operation codes will be used to the maximum extent possible on all uncovered radio circuits.

e. In static situations, once wire and multichannel radio communications are firmly established, single channel radio communications shall be utilized to the minimum extent possible. Classified or sensitive information should be transmitted via secure data links, secure voice radio, and/or secure telephone.

f. All radio equipment will operate on the lowest transmitter power required to maintain reliable communications. The constant key aspect of multichannel radio must be given serious consideration in C3 protective measures planning.

2003. OPERATIONS

1. General. The number and duration of radio transmissions shall be held to a minimum, consistent with operational requirements. Unnecessary use of long calls and test counts and the excessive exchange of radio checks is prohibited. Once a station is established on a net, test calls will cease unless initiated by the Net Control Station (NECOS).

2. Radio Nets

a. Policy. All Division headquarters controlled radio nets will be operated as "directed nets" unless otherwise specified. On a directed net, stations must obtain permission from the NECOS prior to communicating with other stations on the net. Permission is not required for transmission of FLASH messages which shall be sent directly. See the ACP-125 for a detailed explanation of directed net procedures. Regiment, battalion, and subordinate unit radio nets may be operated as either "directed nets" or "free nets" as prescribed by the commander.

b. When selected radio nets are designed as common user links, they are not function specific. Therefore, each net is a part of the overall communication system. In the event of a backlog of traffic on any one circuit, any other available circuit (i.e., wire, multichannel radio, radio teletype, or voice radio) may be used for the transmission of operational message traffic.

c. Operators will not say "Message to follow, are you prepared to copy?" or similar unnecessary phrases. These phrases tie up nets and delay the most important parts of a message from being transmitted. Units should make maximum use of brevity codes to reduce transmission time and improve message clarity.

d. Operators must be fully briefed on the operation and be thoroughly familiar with relevant acronyms. S-6 Officers/Chiefs should conduct regular voice radio procedure training utilizing practice messages that replicate their unit's actual traffic.

e. NVIS antennas should be considered on all short range HF radio circuits. This technique is particularly valuable in mountainous areas, and should be studied and practiced. For a basic, but thorough explanation of NVIS antenna construction, see FM 24-18.

f. In order to ensure success, every means of extending VHF/UHF communications must be considered. The Division will employ both vehicular retransmission (AN/MRC-145) and man portable retransmission (MX-9331 or the replacement Whiskey Four cable CX-13298/VRC). The AN/PSC-3A and airborne relay are also commonly used methods of extending line-of-sight communications. Ideally, no one system will be relied upon, but a combination of systems will be planned and employed to provide a reliable, network with adequate redundancy.

g. A complete listing and description of Division radio nets is contained in the Division Standing Annex K.

3. Net Control Stations (NECOS). Unless otherwise directed, the senior station operating on a radio net will be the NECOS. The NECOS shall act in a firm and positive manner to correct procedural violations, ensure net discipline, and minimize outages. Specifically, each NECOS will be responsible for:

a. Expediting the flow of message traffic on the net

b. Maintaining circuit discipline.

- c. Correcting procedural errors
 - d. Correcting COMSEC violations by issuing BEADWINDOW reports, GINGERBREAD advisories, and Frequency Interference Reports (FIRs) (see Chapter 5).
 - e. Limiting transmissions to the minimum essential for mission accomplishment.
 - f. Resolving disputes regarding message traffic handling
 - g. Imposing and lifting radio silence. All transmissions imposing or lifting radio silence will be authenticated.
4. Securing From a Radio Net. Radio stations shall secure from a radio net on order from or with the permission of the NECOS. If it becomes necessary for the NECOS to secure from a net, NECOS shall pass the net control responsibilities to another station, usually the next senior station or any other station with reliable communications with all other net subscribers.
5. Remoting. Radio transmitters will be remoted to the maximum extent possible (at least 1 KM) and should not be placed so as to encircle or otherwise identify the command post. Data circuits (DCT, FAX, KL-43_, Haydron modems) will be remoted via a HYX-57 secure wire line device.
6. Use of Alternate Power Sources. Whenever possible, all single and multichannel radio equipment shall be powered from commercial power or Mobile Electric Power (MEP). Batteries or the vehicular portion of the Mobile Radio Communication (MRC) vehicles shall be used to supply power to radios only as a last resort, when the use of commercial or MEP power is not available.

7 Radio Transmitter/Receiver Sites

a. General. Communicators must pay close attention to the selection of transmitter/receiver sites in order to provide for the effective transmission and reception of radio signals. Separate sites for VHF and HF equipment should be established to prevent signal interference. Radio receivers must also be separated from MEP generating sources and their power cables. Additionally, it should be noted that, although hilltop sites are usually preferred, ECCM considerations may preclude this. Effective grounding techniques are mandatory.

b. Site Selection. Consider the following items when selecting an operating site:

- 1 Favorable propagation conditions.
- (2) Availability of commercial or MEP power
- (3) Ability to employ terrain masking to eliminate or minimize the possibility of enemy interception or effects of enemy electronic countermeasures.

- (4) Length of remote lines and the terrain over which they must be secured and troubleshot.
- (5) Physical control of personnel and equipment
- (6) Available cover and concealment.
- (7) Site security.
- (8) Access to roads
- (9) Proximity to steel bridges water towers, power lines, etc
- (10) For frequencies above 30 MHz, a location that gives a near clear or clear line-of-sight communication path should be selected. In dense foliage, every effort must be made to locate antennas above the growth or in a clearing. Transmission over open terrain or along open river valleys is recommended. Also note that in the VHF band, relatively large changes in signal strength can be realized from small changes in antenna location. Therefore, it may be necessary to try various antenna locations in an effort to locate the position from which the best results can be obtained.
- 11 All HF antennas should be separated by at least 40 meters
- (12) Radios will be operated on low power consistent with reliable communications.

8 Communications Central

a. General. Communications Central for the Division headquarters supports all link communication equipment and message processing for the COC and is located in a secure tent in the vicinity of the COC. It is operated by Division Communications Company who is responsible for providing supervisors and operators to sustain 24-hour operations. The organization of the radio section within subordinate units will be established by local SOP, consistent with this Order.

b. Internal Organization. The internal organization of the Communications Central will be tailored to exercise/operations requirements and command post SOP's to meet the needs of the appropriate organization. Generally, Radio Central will be organized in two or three watches. The total number of watches and operators assigned will vary, but the watch supervisors will be the senior, most capable and knowledgeable communications NCOs or SNCOs available.

9. MRC Vehicles. MRC vehicles are assigned the primary function of radio communications. MRC vehicles lose their identity as motor transport equipment and should not be used as general personnel and equipment carriers or for administrative purposes. Adherence to the following policy will ensure a high state of MRC vehicle readiness:

a. The vehicles should pull only an M-101 trailer containing associated communications equipment or a skid mounted generator.

b. Mechanical maintenance and repair of the vehicular component of MRC radio sets will be expedited to preclude the unnecessary deadlining of vital communications equipment.

c. MRC radio sets will be powered from commercial or MEP power whenever possible.

d. Units will train and license at least one driver per MRC vehicle. Individuals will be assigned to specific MRC vehicles whenever possible.

e. MRC vehicles from which the radios are remoted will be frequently inspected to check for proper engine idling speed, generator output, engine temperature, oil pressure, and fuel level.

f. MRC vehicles that are not frequently employed will be test driven and the communications equipment operated periodically.

g. The S-6 Officer is ultimately responsible for ensuring that appropriate and timely organizational maintenance is performed on the mobile radio sets. This includes second echelon Limited Technical Inspections (LTIs) when required on radio vehicles.

2004. DIVISION EXTERNAL COMMUNICATIONS CIRCUITS

1. Defense Communication System (DCS) Entry

a. The 7th Communications Battalion (7th CommBn), III MEF, and Division Communications Company are each capable of providing the Division with DCS HF entry stations. The 12th Marines Command Post is designated the Division Alternate Command Post and will conduct periodic DCS entries. Additionally, the 4th Marines must be prepared to execute a DCS HF entry and will be tasked periodically to establish a DCS HF entry station.

b. NAVCOMTELSTA (Yokosuka, Japan) is the only Pacific Command (PACOM) designated a DCS HF entry station.

c. Requests for participation in the DCS HF entry program are submitted to DISA-PAC via the chain of command. The Division G-6 office will act as the coordinator between the DCS entry station and the requesting unit during initial planning. Direct liaison will be authorized as required.

d. After action reports will be submitted to the Division G-6 within four working days of completion of the exercise per chapter VI, DISA-PAC CONEX Plan 202-88.

2. Navy Communications Equipment

a. General Information. The equipment used by the Navy has certain unique features that need to be understood by Marine communicators. This section outlines both USN and USMC equipment.

b. Navy Communications Equipment

(1 Receivers. The R-1051/URR receiver is a high frequency

superheterodyne receiver with a frequency range of 2 to 30 MHz. It is capable of receiving Lower Side Band (LSB), Upper Side Band (USB), Independent Side Band (ISB), Frequency Shift Keying (FSK), Amplitude Modulation (AM), and Continuous Wave (CW) transmissions.

(2) Transmitters. The NAVCOMTELSTA will normally employ the AN/FRT-96. It is capable of operation in reduced or suppressed carrier modes and is capable of LSB, USB, ISB; FSK, AM, and CW operation. Its frequency range is 2 to 32 MHz and digital tuning is utilized. The tuning is in 100 Hz increments. The AN/FRT-96 is capable of 10 KW PEP (Peak Envelope Power).

(3) Frequency Converters. The AN/URA-17 is a necessary component while operating in the FSK mode. In this system, teletype mark-space characters are transmitted as rapid shifts above and below the center frequency on an RF carrier. The AN/URA-17 changes these frequency shift audio signals into DC mark-space pulses.

(4) Cryptographic Coverage. Cryptographic coverage is provided by the TSEC/KG-84C which is used for encryption of all data traffic.

(5) Teletype or AN/UYK-83/85 Equipment. Standard operating speed is 100 WPM 75 baud) on all DCS terminations.

Marine Corps Communication Equipment

(1) AN/TSC-120 Communications Central. The AN/TSC-120 is a tactical, long-haul communications central. This system uses an HF radio to provide connectivity into the Defense Communication System (DCS) to access AUTODIN and DSN telephone services. The AN/TSC-120 can be employed as an HF DCS entry terminal, HF point-to-point terminal with all existing DOD HF radio equipment, or in a network configuration with up to ten similarly equipped HF radio systems. The system is completely self-contained inside a light-weight, multi-purpose shelter (LMS), transported on a heavy HMMWV (M1097 H-HMMWV), and powered by a MEP-003A which is towed behind the H-HMMWV. The AN/TSC-120 features all solid state technology, ten mile full function remote capability, space diversity operation, extensive built-in tests, Modes I, II, and V AUTODIN certified terminal with TEMPEST approved computer, TEMPEST high speed printer and AUTODIN interface unit.

(2) AN/TSC-96A Satellite Communication Central. The AN/TSC-96A is a MEF asset operated and maintained by 7th CommBn. There are three AN/TSC-96As in 7th CommBn. The AN/TSC-96A provides terminal and transmission equipment in two shelters for three UHF satellite communication channels. One channel is a secure, half duplex teletype; one channel provides half duplex secure voice; and one channel may provide an additional secure voice or four multiplexed fleet broadcast channels. Typically, this asset will be assigned to the Division Rear Command Post to provide record traffic.

(3) Alternate Equipment. The AN/MRC-138B is the alternate equipment for the mobile command circuit. The AN/MRC-138B is a mobile mounted transceiver capable of simplex HF operations only. If duplex operation is required, two AN/MRC-138A transceivers will be needed. The

frequency range is 2 to 29.999 MHz with 100Hz channel spacing. The power output of the AN/MRC-138B is selectable at 100 or 400 watts. The operating modes are USB, LSB, voice, data, CW, and TTY. When utilizing AN/MRC-138As, they should be powered by MEP generators and PP-7333 power supplies to the maximum extent possible.

(4) Requests for Equipment Support. The AN/TSC-120 and the AN/TSC-96A are ordinarily employed in support of a MAGTF headquarters. There may be situations, however, where these assets may be needed for unique requirements other than MAGTF support. Requests for support in these unique circumstances will be submitted to the Division G-6 (Ops) via the chain of command. All requests will contain complete justification and should be made at least 45 days in advance of the required date.

d. Duplex Circuit Restoration. Lost communication procedures are as follows:

(1) The establishment and maintenance of satisfactory HF communications are frequently hampered by a lack of coordinated instructions concerning lost communications procedures. Since each station on a net must guard/transmit the same frequencies that are guarded/transmitted by the other stations on the net, it follows that when a frequency change is necessary at one station, the other stations must change at the same time. In addition, if for any reason one station is off the air for a period of time, it is essential that they know which frequencies to guard/transmit at the time they attempt to re-establish communications. Therefore, to ensure restoration of lost communications, six frequencies will be designated as lost communications frequencies for each 24-hour period. These frequencies, spread throughout the spectrum of authorized transmit frequencies, will be assigned in three sequential 20 minute blocks per hour. Regardless of when communications are lost, the frequencies which will be guarded/transmitted will be the ones designated for that 20 minute portion of the hour in the following manner:

XX01 to XX20 ... Primary - two low frequencies
 XX21 to XX40 ... Secondary - two medium frequencies
 XX41 to XX60 ... Tertiary - two high frequencies

(2) The following is an example of this procedure: A termination is scheduled for two units. In the termination coordination message, the lost communication frequencies listed by the NECOS are:

		UNIT A (NECOS)		UNIT B	
Primary	XX01 to XX20	M-1	9870 KHz	M-4	8670 KHz
Secondary	XX21 to XX40	M-2	11000 KHz	M-5	13420 KHz
Tertiary	XX41 to XX60	M-3	16400 KHz	M-6	16420 KHz

TTY transmissions from the NECOS have deteriorated on the Unit B receiver and are lost at 1410. Attempts to coordinate using TTY and voice transmission on the initial frequency are unsuccessful. At 1430 lost communications procedures are implemented. Unit B transmits the XX21 to XX40 secondary frequency M-5 and guards the corresponding NECOS frequency M-2. At 1440 communications have not been restored. At 1441 Unit B

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commences transmitting the XX41 to XX60 tertiary frequency M-6 and guards the corresponding NECOS frequency M-3. Communications are still not established at 1501, and unit B transmits and guards the primary frequencies M-4 and M-1 respectively. The frequency cycle is repeated until 1650 when communications are restored on M-3 and M-6. It is discovered the reason for the loss of communications was a power outage at the NECOS. Communications have thus been re-established without any other external communication circuits because both units knew which frequencies to guard/transmit at a given period.

(3) The responsibility lies with each station to transmit "in the blind" the circuit status/frequency per the above coordination instructions; i.e., "(Call Sign) THIS IS (Call Sign) I AM RECEIVING YOU ON M-3, I AM TRANSMITTING ON M-6," etc.

e. Simplex Circuit Restoration. Simplex lost communications procedures are essentially the same as duplex operations. Simplex circuits will normally be operated with only three frequencies vice six. The time intervals between frequency changes remain the same.

(1) In the event of continued circuit outage, the following circuits listed in priority sequence are available for coordination to re-establish the lost HF circuit.

(a) Orderwire or other existing traffic channel between the units

(b) Defense Switched Network telephone service

2005 SATELLITE COMMUNICATIONS

1. General. Satellite communications (SATCOM) assets are held by the 7th CommBn. SATCOM services available include teletype through the AN/TSC-96A, multichannel through the AN/TSC-93B and AN/TSC-85B, and single channel secure voice through the AN/PSC-3A and AN/LST-5B. See the current edition of TM-2000 for detailed information and specifications on each type of communication equipment.

2 Employment of Satellite Systems

a. The Division will request satellite assets and space segment support as follows:

1 Single Channel AN/PSC-3A or AN/LST-5B

Div Tactical CP
Div Main CP
Div Alpha Echelon
Div Bravo Echelon
Regiments
Separate Bns (as required)

(2) Multichannel AN/TSC-93B

Div Main

Div Alpha Echelon

(3 Teletype Service AN/TSC-96A

Div Bravo Echelon

b. Single channel voice will also be required afloat. The Division G-6 will coordinate with the MEF and CATF to secure this very limited asset. Division G-6 will ensure that the ship's and ground unit's satellite antenna systems are oriented toward the correct satellite.

c. The multichannel satellite system at the Division Main will normally terminate common user telephone trunks, local area networks, a secure data link or a Mode I AUTODIN entry, DASC to TACC hotline, and other circuits, as required.

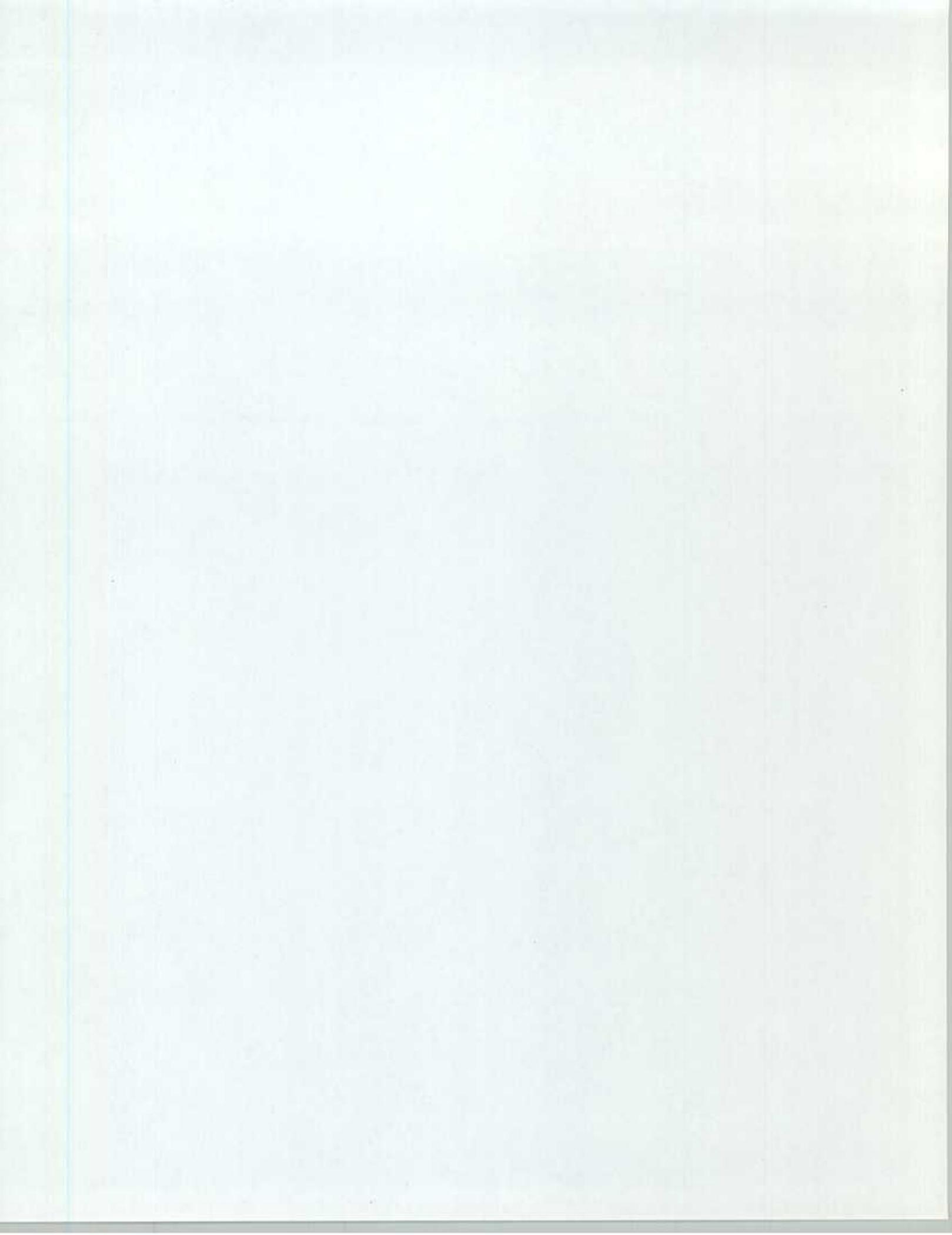
d. Satellites are vulnerable to enemy jamming and terminal equipment can fail. It is essential that HF or line-of-sight multichannel equipment back up all satellite links.

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CHAPTER 3

MULTICHANNEL RADIO AND WIRE OPERATIONS

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CHAPTER 3

MULTICHANNEL RADIO AND WIRE OPERATIONS

3000. SCOPE. This section addresses information and instructions pertinent to multichannel radio and wire operations. This chapter should be used in conjunction with the Division Standing Annex K. General instructions concerning the employment of alternate power sources, mobile radio sets, and frequencies are contained herein.

3001. MULTICHANNEL RADIO EMPLOYMENT

1. General. Within the 3d Marine Division, unless otherwise directed, multichannel radio will be established and employed per the doctrinal concepts contained in FMFM 3-30 and FM 24-21.

2. Policy. When possible, both terminals of a multichannel link are installed, operated, and maintained by the same unit and that unit is assigned responsibility for the link. When necessary to employ a repeater on a multichannel link, the repeater site will also be installed, operated and maintained by the unit responsible for the link. Multichannel sites will be installed in an efficient and tactical manner, using high ground for communication quality and reliability, and terrain and vegetation to mask the back lobes of the antennas.

3002 OPERATING INSTRUCTIONS

1 General.

a. The multichannel site located at the Division Main will be the senior site while all distant ends are subordinate.

b. Multichannel operators will initially establish "orderwire" communication with the distant end in the high power and "Schedule Emergency In" mode. When dB levels are below -80 dBm the Senior Site will direct both sites to go to low power, however, if dB levels rise above -90 dBm the link will return to high power.

c. During limited scale multichannel employment, the senior site will initially transmit high and receive low. The distant end will transmit low and receive high. During large scale multichannel employment, frequencies will be arranged for maximum frequency separation. All frequency assignments are done during planning and the senior site will dictate all frequency changes during installation.

d. While both terminals of a multichannel link are installed, operated, and maintained by the unit responsible for the link, the supported unit is responsible for providing the attached team POL, ammunition, local security, chow, and billeting.

e. Provision and installation of the coaxial cable or wire from the multichannel vehicle to the Unit Level Circuit Switch (ULCS) is the responsibility of the supported unit for all unit's with that capability

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f. All equipment failures will be reported immediately to the local SysCon.

g. Multichannel operators will notify and receive approval from SysCon prior to the intentional deactivation of any multichannel link so that appropriate subscribers and switchboard operators are notified.

h. Multichannel operators on watch will not absent themselves from their equipment without first obtaining permission from SysCon, notifying the distant terminal, and estimating the duration of their absence.

i. A daily multichannel circuit log will be maintained at each operating multichannel terminal.

2. AN/MRC-142 Operations. The following UHF multichannel radio operating instructions are standard throughout the Division.

a. All AN/MRC-142 configurations such as timing, trunk/loop rates, and frequencies are predetermined during planning phase and communicated to site chiefs via cutsheet. The polarization of the AS-4255 antenna is dependent upon the scale of employment, frequency separation, and terrain.

b. Operators will use the GCE-4 net to install the multichannel link

c. The AB-1356 antenna mast will be raised to a height that provides acceptable receive levels while remaining as concealed as possible. Operators will establish orderwire communication with the distant end and begin system loopbacks. When the senior site determines the link is "IN," it will be turned over to TechCon for installation of the ULCS.

3003. WIRE OPERATIONS

1. General. This section provides instructions, guidance, and information pertaining to the planning, installation, and operation of the wire communications system. Wire communications are employed primarily within command posts or during defensive operations. Field wire and cable are also used between multichannel switching centrals and for radio remote control lines. FM 24-20 provides additional information and is part of the required communications library.

2. Security. While the transmission of information by wire is less vulnerable to interception than radio or visual signals, wire remains one of the least secure means of communications. The addition of the TTC-42/SB-3865, AN/MRC-142, and the STU III telephone will greatly enhance the security posture of the wire system. A complete discussion of security and COMSEC is contained in chapter 5 of this SOP, C3 protection.

3. Policy. Telephone system subscribers will not transmit, discuss, or attempt to "talk around" classified information over nonsecure telephones

4. Wire System Planning. In order for wire systems to be effective, they must be carefully planned and coordinated with the appropriate higher, adjacent, and subordinate headquarters. Wire systems must be planned to facilitate switching from primary systems to back-up systems and equipment

Additionally, the wire system must be planned with respect to transmission and physical security, terrain, communication requirements, equipment, and personnel available.

5. Off Island Deployment. All units deploying off island will embark with a minimum of three days supply of field wire, but no more than T/E established quantities.

3004. FIELD WIRE INSTALLATION INSTRUCTIONS

1. General. Within the Division, field wire will be constructed and installed per FM 24-20, and the specific instructions contained herein.

a. When two or more lines are laid between units, alternate routes will be employed, when possible.

b. Wire lines and routes should not follow the Main Supply Route (MSR) unless a pole line is available for overhead construction or a cable trenching machine is available to bury the lines. When lines are installed across roads, they will be overhead at least 18 feet or buried to a depth of at least 12 inches. Excessive sag will be avoided. Conspicuous flags, engineer tape, or panels will be secured to the center of spans over roadways. During training exercises, long spans, such as those over valleys and rivers, will be marked every 50 meters for safety purposes.

c. Units should use assault cable to connect the switchboard to a terminal/frame outside the congested command post area. This will reduce foot traffic in the command post area by troubleshooting and wire construction crews.

d. All internal command post wire installations will be buried and/or over-headed. This includes radio remote lines entering the command post. Upon displacement, each staff section will inform the SysCon when the section is moving and when its telephones may be disconnected. No telephone should be removed by communication personnel from a local line without first ringing the operator and advising him that the phone is being disconnected. Subscribers will not disconnect/remove telephones.

e. On Okinawa, field wire and cable will not be installed on commercial telephone poles without first obtaining the authorization from the MCB Camp Butler G-6. Requests for the temporary use of commercial telephone poles will be submitted to the MCB Camp Butler G-6 via the Division AC/S, G-6 at least 10 days in advance of the requirement. Requests must identify the exact poles involved.

f. The wire system will be continuously improved as conditions permit

g. All field telephone wire and cable installed for exercises will be retrieved upon completion of the exercise.

2. Wire Tag Color Code Assignments. The following wire tag color code assignments are in effect:

Red	Infantry and Reconnaissance Units
Yellow	Artillery, Tanks, and Amphibian Vehicle Units
Green	Headquarters and Engineer Units
White	Aviation Units

3. Wire Line Tagging. Wire lines will be tagged as they are laid, by the unit laying the wire. At a minimum, wire tags will be attached at the following places:

- a. Where routes cross
- b. Where trenches cross
- c. At road, track, bridge, and stream crossings.
- d. At the communication centers, inside and outside.
- e. Wherever lines are attached to test boxes, telephones, TECHCON facilities, repeaters, switchboards, and terminal points.
 - On both sides of buried sections
- g. On one side of overhead crossings
- h. Where construction changes, e.g., surface to underground, surface to overhead, or where lines branch off the main route.
- i. At frequent intervals where several lines are laid along the same route

4. Support for the Data Center. The wire platoon/section will provide wire communications and equipment to the local data platoon/section as required to include the following:

- a. Installation, operation, and maintenance of wire lines for data and telephone circuits.
- b. Establishment of a switchboard within the data center, as required.

5. Support for Radio. The wire platoon/section will normally provide wire communications and equipment to the local radio platoon/section during both field and garrison operations to include:

- a. Installation, operation, and maintenance of wire cable and lines to remote radio sites.
- b. Installation of common user telephone circuits
- c. Installation of switchboard facilities.

6. Support for Multichannel Radio. The wire and multichannel radio platoons/sections must work closely with each other for the efficient accomplishment of the mission. The wire platoon/section will normally provide wire communications and equipment to the multichannel radio

platoon/section during both field and garrison operations to include:

a. Installation, operation, and maintenance of wire lines from the multichannel radio terminals to TechCon facilities or the MDF.

b. Installation of common user telephone circuits

c. Installation of switchboard facilities.

7. Trunk Lines/Hotlines/Long Locals. Within the Division, wire and multichannel radio circuit paths should normally be employed as trunk lines between tactical automatic switching centers. Hotlines and long locals will be used sparingly and only when necessity dictates as they are not the most efficient use of available bandwidth.

8 Telephone Subscriber Precedence Capability

a. General. TASS switchboards SB-3614, SB-3865, and AN/TTC-42 can be programmed to provide selected subscribers a precedence/preemption capability. While SB-3614 subscribers may only be programmed for routine or priority precedence, SB-3865 and AN/TTC-42 subscribers may be programmed for a wider range of precedences, to include, routine, priority, immediate, flash, and flash override.

b. Assignment of Precedence Capability. The assignment of telephone precedence/preemption capabilities will be controlled to provide maximum service and reliability to subscribers with bona fide precedence call requirements. The excessive assignment and use of special precedence/preemption capabilities ultimately degrades the quality of telephone service. Telephone precedence capabilities will always be identified in the telephone directory and communications annex or Telephone Service Order (TSO).

9. Tactical Telephone Directories. All Division organizations of battalion size or larger will publish a Tactical Telephone Directory of a installed (field or garrison environments) tactical telephones. The directory is normally compiled and published by the organization's wire officer/chief, as part of the communications annex. In garrison, the telephone directory will be issued separately. Telephone numbers will be assigned per the TRI-MEF SOP Standardized Tactical Telephone Numbering Plan. The Division wire officer will publish the phone directory for the Division.

10. Reporting Outages. Telephone directories will include instructions for reporting telephone problems. All telephone outages will be reported to SYSCON to initiate corrective action.

11. Priority of Installation. The priority of installation of local telephones will be established in local unit standing operating procedures. The following priority of installation is established for telephones within the Division command post:

a. Communications Center/SYSCON

b. Combat Operations Center

- c Future Plans.
- d. Division Command Center
- e. DASC.
- f. Commanding General
- g Chief of Staff
- h. Headquarters Commandant
- i. G-4/Logistics Operations Center
- j.
- k. G-2.
- l.
- m G-6/ISMO
- n. Adjutant

12. Wire Safety. Safety is a critical consideration at all times. Subjecting Marines to unsafe conditions or improper supervision will not be tolerated. See chapter 11 for detailed safety considerations.

3005. SWITCHBOARD OPERATING PROCEDURES

1. General. All switchboard operators will strictly comply with the procedures established in ACP 134.

2. Policy. The following specific instructions are effective for use by all switchboard operators within the Division tactical telephone system:

a. When answering calls, switchboard operators will identify their switchboard by unit title and caution subscribers that "this is an unsecure line;" e.g., "3d Marine Division switchboard. This is an unsecure line. May I help you?" Switchboard operators will not use call signs or call words to identify their unit.

b. The operator will not carry on a conversation with a subscriber except as necessary to complete the call.

c. The operator will be thoroughly familiar with the circuit traffic diagram, telephone directory, and all special information/instructions necessary for efficient operations.

3. Electrical Power for Switchboards. Tactical automatic switchboards SB-3614, SB-3865, and AN/TTC-42 will be powered (primary power) from commercial or MEP generators whenever possible. Vehicle (lead-acid) batteries should only be used to provide secondary or backup power to the SB-3614 as a last resort.

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3006. GARRISON WIRE AND TELEPHONE INSTRUCTIONS

1. General. Garrison commercial telephone, Defense Switched Network, and lease line are the responsibilities of Marine Corps Base, Camp Butler G-6.
2. Division Telephone Services. The AC/S G-6 is responsible for reviewing and endorsing all telephone service requests.
3. Tactical Telephone Equipment Employed in Garrison. Subordinate organizations are encouraged to establish a TASS and wire system in garrison for the purpose of providing an economical training vehicle. The TASS gives telephone system subscribers a direct dial capability and thereby requires system subscribers to understand how to place calls and use the telephone system. Within the Division, all Switch Locations (SLs) and subscriber telephone numbers are assigned per FMFM 3-30, Appendix H.

3007. STU III. STU III terminals are designed to operate both secure and non-secure using commercial and Defense Switched Network telephone systems. In the clear or non-secure mode, the STU III will operate as a normal desktop telephone.

1. Definitions. The following definitions are frequently used in reference to the STU III telephones.

a. Key Storage Device (KSD). A small device shaped like a house key containing passive memory and used as a fill device or crypto ignition key for the STU III units.

b. Crypto Ignition Key (CIK). A CIK maintained by the user must be inserted in the terminal to talk secure. CIKs are produced by the COMSEC Material System (CMS) or STU III COMSEC account custodian.

c. "Keyed" Terminal. A STU III terminal which holds a fill and in which a CIK is inserted.

d. User Representative (UR). An individual approved by CMC to order STU III keying material (CMS Custodian).

e. Communications Security (COMSEC) Account. A COMSEC account is an administrative entity, identified by an account number, in which custody and control of COMSEC materiel is maintained. Within the Department of the Navy (DON), there are two primary types of COMSEC accounts: COMSEC Material System (CMS) accounts and STU III COMSEC Accounts (SCA).

f. STU III COMSEC Account (SCA). Established solely to support STU III requirements, it can only be utilized to control STU III material (i.e., equipment and keymat). Tenant commands must use existing CMS accounts for local software support.

2. Implementation. STU III terminals will be directly distributed by representative vendors to the Commanding General, MCB Camp Butler (Attn: SCA). Any requirements for instruments (e.g., number and type of STU III instruments) will be submitted to CG, 3d Marine Division (G-6). The local CMS account, name, and phone number of the CMS custodian of the command

receiving the STU IIIs will be provided. STU IIIs will then be distributed to commands via their individual CMS accounts using an SF-153, per CMS-6.

3. Accountability. STU IIIs are subject to three types of accountability regulations as outlined in MCBO 2280.3_. STU III terminals are considered Controlled Cryptographic Item (CCI) equipment. Unkeyed (with the CIK removed) they must be protected as high valued government property (such as personal computers). A keyed terminal (with CIK inserted) assumes the highest classification of the inserted key; therefore, it must be protected and stored per established classified material handling procedures.

4. Deployed Use. Accountability for deployed STU IIIs will remain with both the using unit CMS account and the unit base property RO.

a. Exercise Support. CG, III MEF will forward a message to CG, MCB Camp Butler, G-6 requesting authorization to deploy the STU III(s) off Okinawa prior to the exercise, identifying the planned deployment and return dates.

b. Contingency Operations Support. CG, III MEF will forward a message to CG, MCB Camp Butler, G-6 at the earliest date possible identifying terminals deployed in connection with the contingency and expected return dates.

5. Operations. Operating instructions are described in the Operating Guide provided with each terminal. All users need to read the operating instructions before using their terminal. The following guidelines for employment of STU III terminals are provided:

a. Non-Secure Mode. The STU III will operate as a normal desktop telephone.

b. Secure Mode. When a STU III is available to both calling and called parties, users will go secure to discuss classified and sensitive unclassified information.

c. CIK Availability. Commands (CMS custodian) will ensure that required CIKs are readily available to users. CIKs are not classified items unless they are left unattended in the corresponding terminal; therefore, they should not be locked in a safe or other types of security containers unless that method of protection is essential.

6. Unit Repair Turn in STU IIIs for repair as follows:

a. Inventory all associated terminal and software/paperwork per the user's manual.

b. Return the STU III with the user CIK and a completed STU III maintenance checklist, per enclosure (8) of MCBO 2280.3_, to the unit CMS Custodian. The unit communications officer should be prepared to assist in this procedure in order to make a final determination that the STU III is defective.

(1) The unit CMS Custodian will return the STU III terminal with a completed maintenance checklist to the NISE EAST DETACHMENT, Norfolk, VA.

(2) The unit CMS Custodian will issue a new STU III terminal, if available. If a STU III cannot be provided, the user will procure a standard telephone from Base Telephone to support unsecure telephone operations until the STU III can be replaced.

7 Security

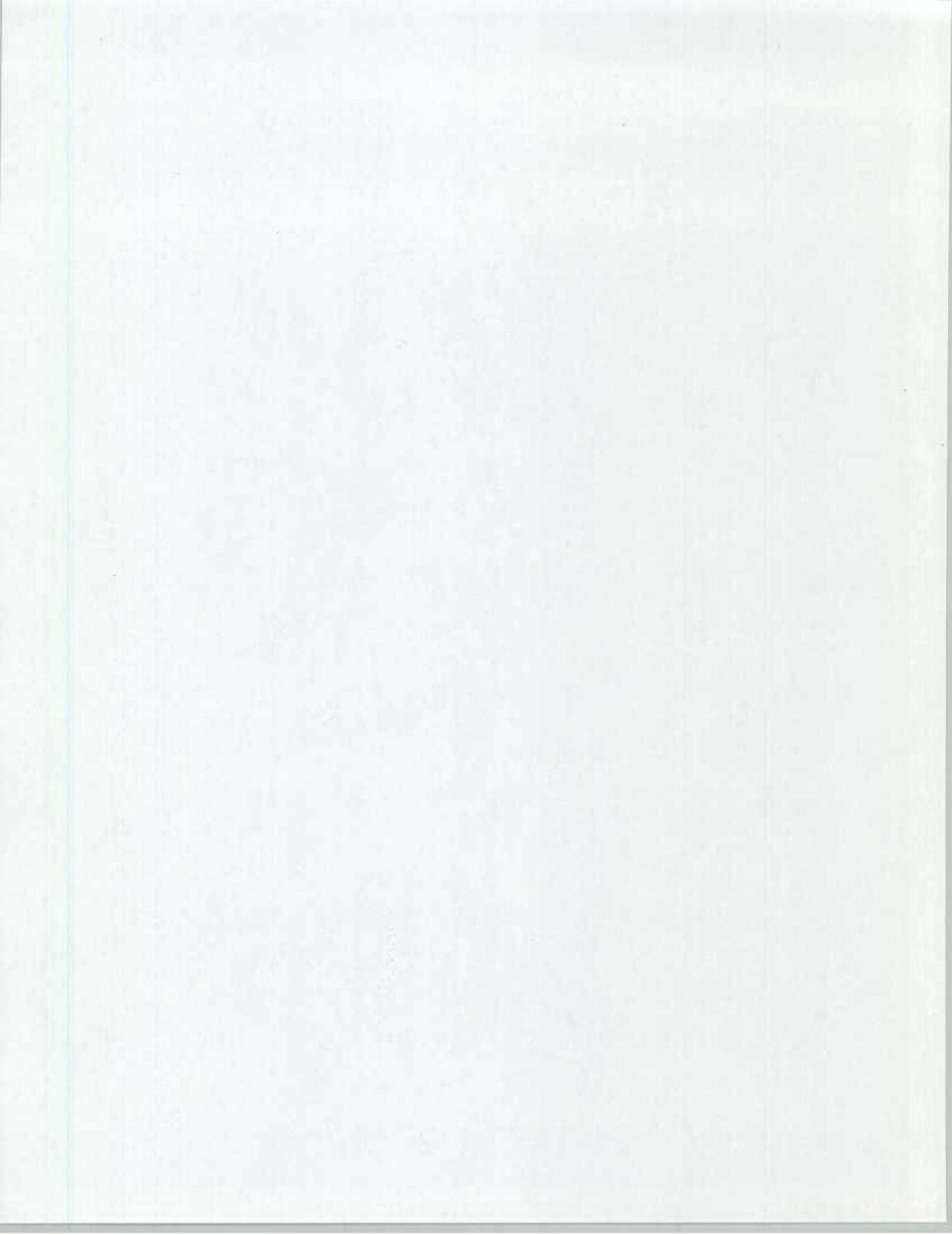
a. Security Procedures. The STU III is designated by NSA as a CCI and is an unclassified item when unkeyed. When the STU III is unkeyed, the user can treat the terminal as any other high value item. When keyed the terminal requires strict control.

b. Command Responsibilities. Security of STU III keymat and equipment is both a user and tenant command responsibility. This includes acoustic and physical security of classified information possessed or discussed. Educating personnel in proper handling procedures of classified material and information is essential to any successful security program. The following situations must be considered when establishing local security procedures.

(1) Approved Areas. The area in which classified information is discussed must be cleared or approved to the level of classification of that information. Although STU III terminals can be located in any benign environment (e.g., an administration office), they must be protected to the security level of the keymat when the CIK is in place. Command security managers will implement a "common sense" approach to acoustic concerns. Introduction of the Type I terminal into an area should not change those requirements normally implemented in areas processing classified or sensitive information.

(2) Sensitive Areas. When STU III units are to be operated in sensitive locations outside of the United States and the possibility of loss of terminals or keymat is real, the security measures taken to protect the terminals must be commensurate with the threat from hostile forces.

(3) Residential Installations. A Type I terminal may be installed in the residences of U.S. Government officials. Authorization for installation will be requested from the CG, MCB, Camp Butler, G-6 per MCO 2233.3_. There will be an annual revalidation of requirements for installation of STU IIIs in quarters.



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CHAPTER 4

COMPUTERS AND DATA COMMUNICATIONS

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CHAPTER 1

COMPONENT AND DATA COMMUNICATIONS

4000. GENERAL. Personnel assigned to the IT service divisions have participated over the past several years with various assignments throughout the fleet. This section provides the basic guidelines for the maintenance and operation of the various systems and equipment used in the fleet. The information provided in this section is intended to assist in the maintenance and operation of the various systems and equipment used in the fleet.

4001. DEFINITIONS

1. LAN. A single-server, regular communication system that allows the exchange of information between two or more computers and printers within a relatively small geographic area. It is used for a variety of purposes, such as file sharing, e-mail, and printing. LANs are typically used in offices, schools, and homes.

2. Wide Area Network (WAN). A multiple-server network system capable of transmission over large geographic areas. It uses telecommunication lines provided by a service provider. A WAN is a network that spans more than one geographical area.

3. Command and Control (C2) System. A network capable of transmitting and receiving tactical data and information. It is used for command and control purposes.

4. Bridge Lines. Marine communication systems specifically designed for use in the fleet. They are used for command and control purposes and are typically used in the fleet.

5. Network. A computer that provides shared resources, such as files, services, and printers, to other computers on the network.

6. Operations Mode. A mode of operation in which the system is used for command and control purposes. It is used for command and control purposes.

4002. EQUIPMENT

1. Equipment. A set of hardware and software that is used for command and control purposes. It is used for command and control purposes.

2. Responsibility. All locally produced equipment and software equipment will be accepted for use Type IE items. Equipment produced by the fleet will be maintained as Type IE items.

3. Approved Responsibility. The AC/S, D-6 provides all equipment and software for use in the fleet. The AC/S, D-6 provides all equipment and software for use in the fleet.

Purchasing computer consumable supplies is a using unit responsibility.

4 General Use Procedures

a. Always keep diskettes in their paper or plastic sleeves or in specially designed protective covers when not in use.

b. Do not set diskettes on top of the monitors or telephones. Monitors and telephones create magnetic fields that can render data on the diskettes unusable.

c. Do not set diskettes in direct sunlight, near heat sources, or in damp areas.

d. Do not touch the exposed surfaces of diskettes. Finger-prints can permanently destroy the magnetic media.

e. Do not smoke, eat, or drink while handling diskettes. Smoke and ash particles can destroy data on the diskettes.

f. Do not bend, fold, or mutilate diskettes. Bending causes tiny flakes of oxidized material to break free from the recording surface causing loss of data or recording ability.

g. Do not insert diskettes suspected of damage into the disk drive. Contaminants from the diskette may be transferred into the disk drive causing extensive and costly repairs.

h. Temperature, humidity, dust, and water must be considered during the planning and execution phases of operations. To minimize exposure to these elements, make use of sheltering, ventilation, and preventive maintenance.

i. Always connect the computer to a properly grounded surge suppresser with a constant, reliable power source. Commercial power or dedicated generator power is highly recommended. Uninterruptable Power Supplies (UPSs) should be used with all servers.

j. In case of power failure, immediately turn off the Central Processing Unit (CPU). Restart it when power has been completely restored and stabilized. If lights flicker, do not attempt to turn on the CPU.

5. Embarkation. Special care should be taken when equipment is deployed. All computer equipment must be carefully packed in solid containers such as embark boxes with sufficient padding. Foam padding and bubble wrap are the best protective materials for sensitive equipment. As added protection, wrap the equipment in plastic during shipment and cover it when not in use in the field. In the case of "green gear," each item should be repackaged in the issued cases and tack-marked per the Embark SOP.

4003. MAINTENANCE. Both commercial off-the-shelf (COTS) and tactical Automated Data Processing Equipment (ADPE) require proactive maintenance programs in order to ensure readiness. The following maintenance procedures are emphasized:

1. Operator Preventive Maintenance (PM). All computer users should be provided training in the following operator PM procedures:

a. Monitor - Keep it dust and dirt free Use non-static cleaners when possible.

b. Keyboard - Apply Windex-type cleaner on a soft cloth and carefully wipe the keyboard clean. Under no circumstance will cleaner be sprayed directly onto the keyboard.

c. External Surfaces - External surfaces of the computer and peripherals will be kept free of dust.

2. The following PM should be performed at least semiannually by qualified Information System Personnel. Scheduling or recording of this PM is not required.

a. Cleaning of disk drives

b. Configuration of the computer with appropriate software.

c. Optimization of system with the MS-DOS "Defrag.exe" command

d. Removal of internal dust generated from the power supplies.

e. Update of the equipment record jacket.

(1) Record jacket criteria is outlined in paragraph 8009 and figure 8-1 of this SOP.

(2) Routine Maintenance. ADPE is controlled by TAMCN and, as such, will be handled as other "data communications" equipment. For procedures to induct equipment into the maintenance cycle (other than a trouble call), refer to chapter 8 of this SOP.

3. Warranty Maintenance. Much of the COTS computer equipment in 3d Marine Division is under manufacturer warranty. A current listing of equipment under warranty can be obtained by contacting the warranty coordinator at ELMACO, 3d FSSG. After inducting warranty items into the maintenance cycle, the contractor can be contacted via E-mail at: ACA@G6 EMB@MCB BUTLER. The contractor is Austronautics Corporation of America. Alpha "A" table of authorized material control numbers (TAMCN) lightweight computer units (LCUs) will have a Product Quality Deficiency Report (PQDR) submitted after warranty repair is completed (i.e. Unit Diary LCU). Paragraph 8026 of this SOP provides guidance on the PQDR.

4004. SOFTWARE

1. Reference DOC/CG MCCDC REQR/950810/3900, when signed, will require CG, MCCDC to publish annually (in September) a list of software applications area standards. This message identifies COTS/GOTS (government off-the-shelf) software application area standards for FY 1996 and each successive FY thereafter.

2. For an application area in which a standard has not been designated (those listed as to be determined (TBD)), standards will be determined upon completion of the standards evaluation process.
3. In some cases, like Windows '95, Banyan Vines V6.0, Smartsuite upgrade, Defense Messaging System (DMS)-compliant electronic mail, current evaluations are ongoing and standards will be designated upon completion of the standards evaluation process.
4. The following is a listing of the approved standard software products by applications area. For individuals performing tasks in one of these applications areas, these software packages are those authorized for purchase and use on USMC personal computer-class systems.

<u>Application Area</u>	<u>Minimum Standard</u>
Basic Requirements:	
Disk Operating System (DOS)	MS-DOS 5.0 *NOTE 1
Graphical User Interface	MS-Windows 3.1
Network OS	Banyan Vines 5.54(20)
Standard Issue:	
End User Computing	Lotus Smartsuite 2.0
Word Processing	Ami Pro (V2.1)
Database	Approach (V2.1)
Graphics	Freelance Graphics (V2.0)
Spreadsheet	Lotus 1-2-3 (V4.01)
Calendar	Organizer (V1.0)
Electronic Mail (E-Mail)	Banyan Mail E-Mail
(E-MAIL) Graphical User Interface (GUI)	Happy Mail 1.19
Electronic Forms Package	Form Flow 1.1
Message Preparation	Message Text Format Editor (MTF Editor) (V3.4) & Distributed Plad Verification System (DPVS)
Message Delivery	Message Dissemination Subsystem (2.5)
Network Dial-in	Banyan PC Dial-in
Programming Language (Developmental)	ADA
Workgroup Computing	Lotus Notes (V3.0)
Virus Scan	Norman Defense Data Systems Anti-Virus

5. Commands, functional managers, and information technologies (IT) program managers should ensure that their future IT initiatives are in compliance with the above listed standards.

*NOTE 1: If a new computer comes with a higher version of DOS, you are authorized to use that version (i.e. DOS 6.0 or 6.2).

4005. SECURITY

1. General. Hardware and software are easily stolen. They have obvious value, but are even more valuable in terms of their operational capability. Units and sections are responsible for providing adequate security measures to protect their equipment and information from illegal, unauthorized, or accidental modification, destruction, or disclosure.
2. Terminal Area Security Officer (TASO). TASOs are responsible for ensuring local compliance with MCB, Camp Butler TASO standing operating procedures. TASOs must know all of the users in their cognizant area and maintain strict control over user access (ACID).
3. TASO Assignment. The commanding officer or officer-in-charge will appoint two TASOs in writing. The TASOs may be officers, enlisted, or civilian personnel. A copy of the appointment letter must be forwarded to the RASC Security Officer via the Division G-6/ISMO. The appointment letter is in standard Naval letter format and will include:
 - a. The name, rank, and RTD of the individual appointed.
 - b. The name and rank of the previous TASO.
 - c. The department of the TASO account
 - d. TASO's telephone number
4. TASO Training. TASO training will be provided as required. Training quota requests can be arranged via the Division G-6/ISMO. These classes are designed to provide TASOs with their initial password and will teach them how to assign, initialize, maintain, and deactivate user accounts.
5. Data Categories. Data is categorized into three levels according to the degree to protection required against accidental or deliberate modification, destruction, or disclosure. The degree of protection required is determined by the potential impact of the modification, destruction, or disclosure of the data. The levels are categorized as follows:
 - a. Level 1 is classified data.
 - b. Level 2 is unclassified data requiring special protection, such as "Privacy Act" or "For Official Use Only" (FOUO) data.
 - c. Level 3 is all other unclassified data.
6. Safeguarding Material. Material will be safeguarded as appropriate for the level of data assigned and shall bear appropriate security markings.
 - a. Level 1 data will be checked in and out of secondary control points. The media should be treated as classified working papers and kept under strict control due to the ease of duplication.

b. Level 2 data should be marked either as "Privacy Act" or "FOUO" and controlled in the same manner as Level 1. Unit manpower data bases are an example of Level 2 data.

c. Level 3 data should be marked "Unclassified" with the contents of the data listed on the label.

7. Guidance. The following guidance is provided when processing classified data

a. Each component of an End User Computer Equipment (EUCE) suite must be labeled to indicate the highest classification level that can be processed on the computer.

b. Classified processing is only authorized on computers that are dedicated for classified only.

c. Ensure that the computer is in a secure location where access can be controlled. As with any classified document preparation, only those personnel with a need to know and proper clearance and access levels are authorized in the immediate area.

d. The classified computer cannot be connected to an unclassified modem, LAN, or any other external means of communication.

e. All reports generated must be handled and destroyed in the same manner as other classified documents.

f. Magnetic storage media must be locked in a container certified to store classified documents. This includes both diskettes and the hard disk drives. If a hard disk drive is damaged or must be repaired, the disk must first be sanitized of all classified data before entering the maintenance cycle. If you are unable to read the disk drive, the drive must be treated and handled the same as a classified document. Printer ribbons must also be properly secured and/or destroyed, as appropriate.

g. Magnetic media must be clearly labeled, with a plain white label as containing classified information and the level of classified information resident on the media.

h. The transmission of classified information is strictly forbidden unless the transmission path is secure (i.e. STU III or on the Secret Internet Protocol Routing Network (SIPRNET)).

i. To declassify a hard drive, use Norton Utilities wipe disk. The entire disk must be erased.

8. Colored Diskettes. Colored diskettes containing classified information are subject to regulations for handling classified working papers. Colored diskettes or colored stickers are used to easily distinguish the classification of the information being processed. The following colors will be used to distinguish classification levels on diskettes.

Orange	Top Secret
Red	Secret
Blue	Confidential
Yellow	SCI (SCIF ONLY)
Black	Unclassified

9. Commanding Officer/Staff Section Head Responsibilities. The commanding officer/staff section head is directly responsible for safeguarding all EUCE under his/her control. Without the support and attention of the command, any security procedures implemented will not be successful.

10. End User. While the commanding officer/staff section head is responsible for the security of EUCE in the unit/section, the end user has an inherent responsibility and duty to protect the equipment, software, and data. The following guidelines are suggested:

a. Establish lock-up procedures for hardware, software packages, diskettes when not in use.

b. Establish and use standardized back-up procedures for locally created data files.

c. Use USMC computers and software for official use only.

d. Do not permit unauthorized removal or use of hardware, software, or data files.

11. Physical Security. The objectives of physical security measures at any site are to protect human, physical, and data assets by reducing their vulnerabilities.

a. Positive physical access controls will be established to eliminate unauthorized entry into controlled areas. Consideration should be given to access lists, positive identification control, and placing the EUCE in a low-traffic area.

b. Physical access to data files, software, and documentation should be restricted to individuals who require access in the performance of their official duties.

c. The effects of fire, floods, and other natural disasters should be minimized to prevent unnecessary damage, loss, or exposure to uncleared emergency response personnel.

d. Environmental protection is necessary to protect the equipment media from unnecessary or harmful temperatures, extreme humidity, and magnetic damage.

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(1) Sustained operation of equipment outside of its normal operating limits may result in degraded equipment performance. Different makes of equipment have different operating parameters. Check the owner's manual when in doubt.

(2) Data stored on diskettes or hard drives are susceptible to damage from exposure to magnetic fields. Storage media should be positioned at least 20 inches from any device that may generate magnetic fields (e.g., typewriters, telephones, monitors, Fax machines, etc.)

e. The use of hardware security features such as desktop anchor pads or cable lock down devices for computers should be procured and installed, where necessary.

f. EUCE should be placed in an area that can be securely locked or under surveillance when not in use.

g. No smoking, eating, or drinking in the area around the EUCE

12. Personnel Security. The number of personnel who have access to EUCE and the data it manipulates increases daily. It can be difficult to protect information unless the unit/section adopts an aggressive security program to educate personnel. Every unit/section will include EUCE security as part of their security program to include initial counseling sessions and periodic security debriefs.

a. Each EUCE user will be given a security brief by their Information Security Coordinator (ISC) upon arrival or as soon as practical thereafter. It should include the type of equipment used, information processed, its security level, and the importance of safeguarding the EUCE environment.

b. Periodic security instructions should be given to refresh the users' understanding of the importance of data security.

c. Each EUCE user will be given a security debrief by their unit ISC prior to departure from that unit. The purpose of this debrief is to remind the user that they still have a responsibility to protect the information they were privileged to view.

3. Software Security

a. All software purchased from vendors is licensed and acquired for a particular requirement. Installing software on more than one machine may leave the violator open to civil and/or military prosecution.

b. Unauthorized copies of licensed software will not be made and back-up copies will be strictly controlled.

c. Unauthorized copies of software will not be installed or used on Division-owned computers.

d. If a particular software application is not available, the G-6/ISMO can authorize the test and evaluation of that software to determine whether it meets a specific requirement. The software being tested must be a licensed copy.

14. Freeware/Shareware/Games. Freeware, shareware, and computer games are applications that are often retrieved from bulletin board services or are passed between friends and associates. These types of programs are very susceptible to viruses. Computer programs that have not been approved and purchased by the government are expressly forbidden on government equipment. A simple rule applies: if the program was not purchased through approved government procurement channels, DO NOT use it on government equipment.

15. Commercial Applications. Commercial application packages such as AmiPro are delivered to the user on diskettes and are clearly marked. These packages will be stored in a suitable container. No additional markings will be required on vendor supplied diskettes. These diskettes will be treated as unclassified, and diskettes should be backed up and protected. Unauthorized copies of vendor supplied applications, (e.g., for personal use) will not be made as such action constitutes a violation of copyright laws.

16. Write Protect Tabs. Most diskettes containing commercial software will be write protected before inserting into a computer. This involves placing a write protect tab over the write protect notch on the side of diskette. This prevents unintentional writing on and or accidental destruction of commercial software.

17. Virus Scan. At one time viruses were only spread through the use of pirated and unauthorized software. Today this is no longer true; computers are being infected through authorized use of software. Each computer in the Division will have the current authorized virus protection software installed. This software checks the memory, partition table, boot sector, system files, and itself for viruses. If a virus is found, a warning message will be displayed stating the file name and name of the virus. If this happens, report the incident to the ISMO help desk. Maintain custody of all working diskettes so they can be tested for the virus once the G-6/ISMO checks the computer or provides instructions on the proper procedures to clean the computer. Diskettes should be checked on a regular basis for viruses. All diskettes must be checked prior to copying or executing files from a floppy disk drive.

4006 MESSAGE DISSEMINATION SUBSYSTEM (MDS)

1. General. The primary function of Message Dissemination Subsystem (MDS) Multiple PLA Edition with Profiler and E-Mail Link is the automatic dissemination of organizational Automatic Digital Information Network (AUTODIN) messages to various offices as MDS users or E-mail addressees. This dissemination is based on the office code distribution and Standard Subject Identification Code (SSIC) profiles. MDS is a software application which resides on a LAN file server. Messages are made available to MDS for distribution via MCB Camp Butler Telecommunications Center Message Routing System.

2. Establishing an Account/Authorization to Use. MDS user accounts are established by billet. Local MDS administrators maintain user accounts by billet description and assign passwords to enable users to access MDS.

3. Standard Subject Identification Code (SSIC) Profiles. Messages are distributed throughout MDS by the use of profiles. Profiles are key words or phrases that may form a subject identical to those listed in a message that the software will search for. All individual users are tasked to provide a list of profiles they require in order to program MDS to properly distribute message traffic.

4. Operating Procedures. The Marine Telecommunications Center (MTCC) Camp Butler provides AUTODIN telecommunications service for the CG, III MEF, 3d MarDiv, and all units/sections located on Okinawa. As message traffic comes into the MTCC it is routed to MDT (Message Distribution Terminal). MDT then separates classified from unclassified message traffic and passes the message traffic to the Gateguard program. Gateguard ensures that the messages meet the classification authorized for transmission over that network and then distributes the message traffic to the Message Routing System (MRS). MRS then routes the message traffic via the Banyan Vines Network to the appropriate unit's Message Dissemination Subsystem (MDS) which routes messages to the individual users.

a. Drafting/Sending Messages. Messages are drafted per instructions contained in NTP 3(H) and the current edition of MTF Editor Software. After messages are drafted in the MTF format, each section sends their messages to the MTCC Camp Butler via a section Organizational Mailbox (OMB) for transmission. The outgoing messages are sent as E-mail attachments. The precedence and DTGs are included in the subject line of the E-mail. Each E-mail sent is certified for proper accountability.

b. Receiving Messages. MTCC provides automatic distribution of message traffic to all outlying units via the Banyan Vines network. The appropriate unit's MDS routes all incoming messages to selected users

c. Location of Message Files/Recovering Old Messages. Message traffic is electronically stored for a period of 30 days. Any message that is required in excess of 30 days can be obtained from the unit Adjutant's Office.

d Classified Message Traffic

(1) Secret/Confidential Messages. As established in the current edition of OPNAVINST 5510.1 (Information Security Program Regulations), confidential and secret messages no longer require a signature at the communication center. Staff sections are required to establish procedures for control and destruction of all classified messages in their custody.

(2) Top Secret Messages. Top secret messages will be delivered to the Top Secret Control Officer (TSCO) for distribution. All copies will be numbered and signed for.

3 Messages Requiring Special Handling

(a) Special Category (SPECAT) Messages. SPECAT messages are always classified. These messages will be handled according to their classification and in accordance with specific written instructions provided by the designated control officer for the "code word" message.

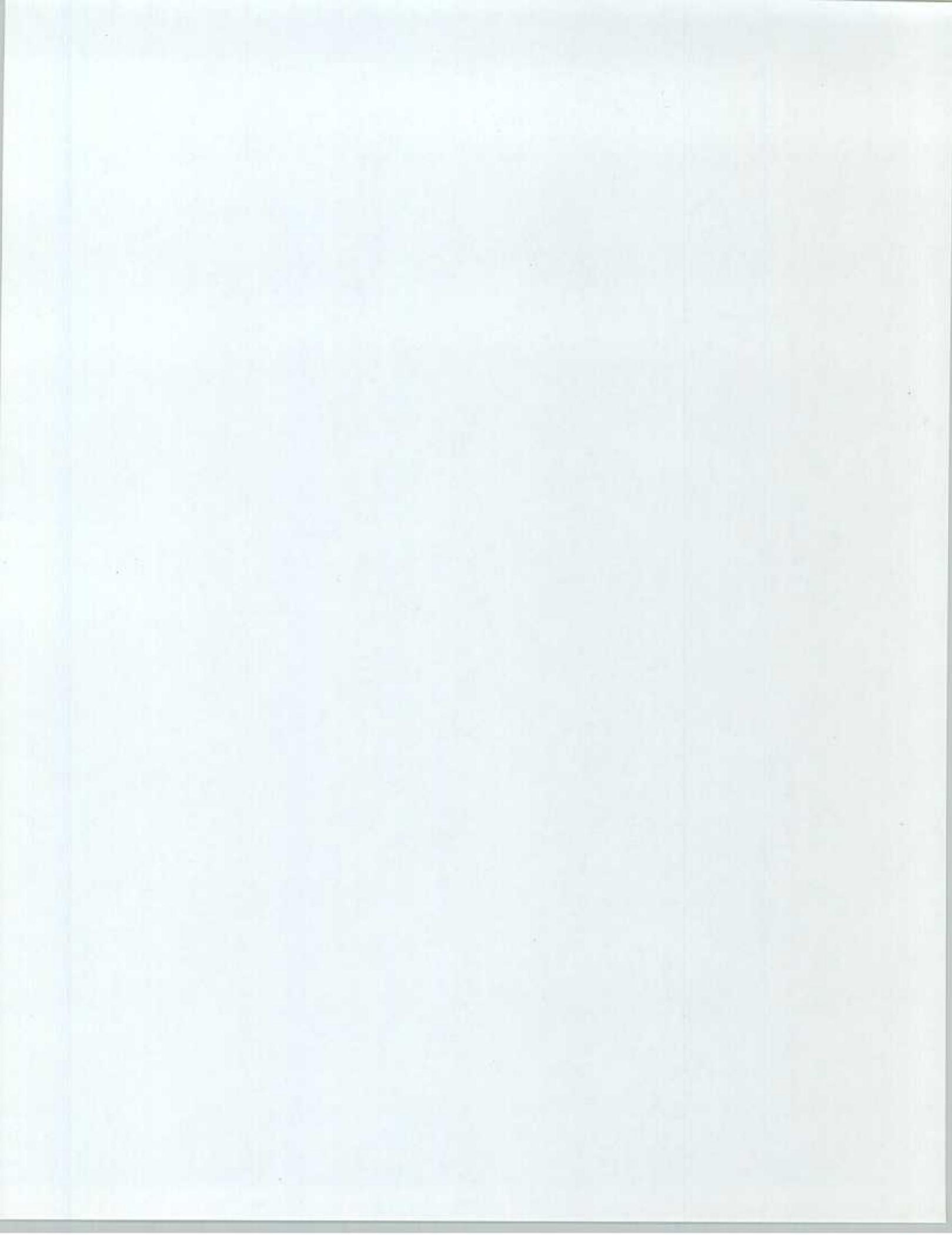
(b) During working hours, SPECATs will be handled as directed by the control officer. After working hours, SPECATs will be handled per subparagraph 4006.4.d(3)(e) below. All top secret SPECATs will be handled per subparagraph 4006.4.d(2) above.

(c) Limited Distribution (LIMDIS) Messages. LIMDIS messages will be distributed per the current edition of DivO P2130.1. Distribution of LIMDIS messages will be to the staff section having primary staff cognizance as indicated in the current edition of DivO P2130.1.

(d) Personal For. "Personal For" messages will be electronically routed to the addressee, or to the Staff Secretary when the message is for the Commanding General or Chief of Staff.

(e) After Working Hours. After working hours, the MTCC will notify the Command Duty Officer (CDO) of receipt of messages requiring special handling.

4007. E-MAIL DEPLOYMENT PROCEDURES. Garrison E-mail accounts and deployed E-mail accounts are separate systems. The user is responsible for informing the ISMO of the deployment and for requesting a deployed account. The user will not be able to sign on to their garrison accounts while deployed. Users requiring information from their garrison accounts must copy it to diskette and take it with them. At a predetermined time, the ISMO will begin automatically forwarding all new mail addressed to the user's garrison account to their deployed account. Before re-deploying the ISMO will coordinate a deployed cutoff date and time. When possible the ISMO will forward the entire contents of the users deployed accounts back to their garrison accounts. Users would be prudent to capture important information on disk prior to terminating their deployed accounts.



3D MARINE DIVISION COMMUNICATION-ELECTRONICS SOP

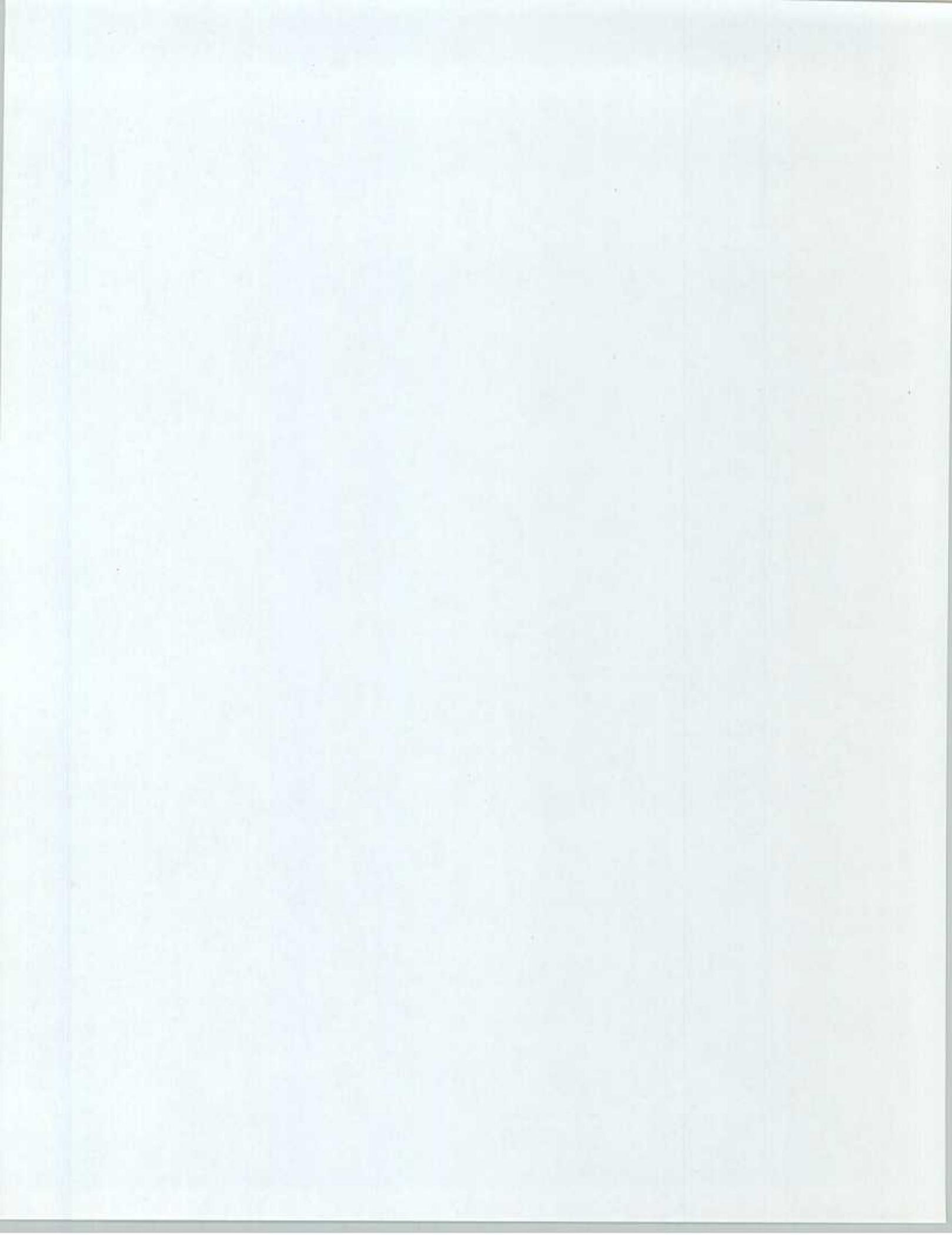
CHAPTER 5

COMMAND, CONTROL, AND COMMUNICATIONS (C3) PROTECTION

	<u>PARAGRAPH</u>	
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COMMUNICATIONS SECURITY (COMSEC)	5003	
INFORMATION REQUIRING PROTECTION/ESSENTIAL ELEMENTS OF FRIENDLY INFORMATION (EEFI). .	5004	
AUTHENTICATION .	5005	
ELECTRONIC COUNTER-COUNTER MEASURES (ECCM)	5006	

FIGURE

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3D MARINE DIVISION COMMUNICATION-ELECTRONICS SOP

CHAPTER 5

COMMAND, CONTROL, AND COMMUNICATIONS (C3) PROTECTION

5000. GENERAL. C3 protection is that division of Command, Control, and Communications Counter-Measures (C3CM) comprising measures taken to maintain the effectiveness of friendly C3 despite both adversary and friendly Counter-C3 actions.

5001 MEACONING/INTERFERENCE/JAMMING/INTRUSION (MIJI)

1 General

a. Interference from unwanted signals in a radio receiver may be unintentional (from friendly or natural sources) or intentional (from enemy sources). Many of our adversaries possess a substantial and sophisticated Electronic Warfare (EW) capability.

b. The importance our adversaries place on EW cannot be over-emphasized. Correct and rapid response to enemy EW efforts is very important.

2. Definitions

a. Meaconing. Meaconing is the transmission by the enemy of false navigational signals to confuse or hinder the navigation of aircraft and ships and to confuse ground stations.

b. Interference. Interference is any natural or man-made radiation of electrical energy that causes difficulty in the reception of signals. For the purpose of this SOP, interference is any unidentified radiation that causes an undesirable effect on friendly communications or communications equipment.

c. Jamming. Jamming is the deliberate obliteration or disruption of friendly use of a particular frequency or portion of the spectrum. Jamming is intended to prevent the effective use of the friendly communication systems or devices.

d. Intrusion. Intrusion is the intentional insertion of radio signals into friendly transmissions to deceive or confuse friendly operations (e.g., Imitative Communications Deception (ICD) and Imitative Electronics Deception (IED)).

Operator Responsibilities

a. Radio operators are directed to try to "work through" jamming using the following methods.

Remain calm

Reduce transmission speed

Continue to operate.

Observe radio discipline

- (5) Do not admit to being jammed over the air.
- (6) Adjust the fine tuning, gain (or volume) control, bandwidth selector and/or other controls peculiar to the equipment being used.
- (7) Increase transmitter power
- (8) Re-orient or re-site the antenna or change the antenna polarization

b. If the above measures are unsuccessful in countering the MIJI, the net control station will direct a change in operating frequency. Such direction will be passed by any available means (see KICK procedures listed on the radio guard chart). If no other means are available, or direction is not being received from the NECOS, units will monitor assigned alternate frequencies to determine if a shift has been made. Units should continue to pass traffic on the jammed frequency to deceive the enemy about the success of his jamming.

5002. FREQUENCY INTERFERENCE REPORTS (FIR). The FIR is a short report used to facilitate the rapid reporting of interference. The FIR is not a substitute for and should not be confused with MIJI reports. The FIR should be submitted to the G-2 (info SYSCON) over any available secure communications circuit in the most expeditious manner possible. Once the FIR is received, it is verified by local monitoring of the frequency affected then forwarded for radio Direction Finding (DF) action. The estimated location is then provided to the G-3/S-3 for a possible weapons response. The FIR is an unclassified report; MIJI reports are always classified at least confidential. (See Figure 5-1 for FIR format).

5003 COMMUNICATIONS SECURITY (COMSEC)

1. General Definition. Per JCS Pub 1-02, COMSEC is the protection resulting from all measures designed to deny unauthorized persons information of value which might be derived from the possession and study of telecommunications or to mislead unauthorized persons in their interpretation of the results of such possession and study. Communications security includes the following:

a. Cryptosecurity. Cryptosecurity is that component of communications security that results from effective use of technically sound crypto systems.

b. Transmission Security. Transmission security is the component of communications security that results from all measures designed to protect transmissions from interception and exploitation by means other than cryptoanalysis.

c. Emission Security. Emission security is the component of communications security that results from all measures taken to deny

unauthorized persons information of value that might be derived from intercept and analysis of compromising emanations from crypto equipment and telecommunications systems.

d. Physical Security. The component of communications security which results from all physical measures necessary to safeguard classified equipment, material, and documents from access thereto or observation thereof by unauthorized persons.

2. COMSEC Procedures. COMSEC procedures will be emphasized during all training, exercises, and operations. Units will make every effort to protect all communications means by practicing the following:

a. Make maximum use of operational and numerical codes authentication, and visual signals.

b. Eliminate excessive radio checks. Radio checks should be made only when establishing a net, after crypto restarts, and when necessary to re-establish circuit reliability.

c. Ensure that all radio operators and net direct-use actuals are fully qualified in ACP-125 procedures and use effective transmission security procedures. The use of lengthy, outdated procedures ("I say again all after", or "I spell phonetically" etc.) is prohibited. Clear and concise transmission of voice traffic must be the rule. Communications supervisors will constantly monitor their operators and ensure transmission brevity.

d. The use of plain text call words on secure circuits is authorized but only daily changing call signs will be used on non-secure circuits.

e. Encourage optimum use of messenger service reserving radio circuits to transmit information that requires the added speed afforded by radio.

f. Cryptographic support is the responsibility of each command

g. The correct cryptographic keying material for the exercise or contingency will be specified in the Division Standing Annex K.

h. All unit S-6 Officers/Chiefs will effect continuous coordination with their CMS custodians to ensure that their unit's cryptographic needs are met. Inform this headquarters (ATTN: G-6) of keymat shortfalls.

i. Loss or compromise of classified crypto material will be reported immediately per the CMS-1.

5004. INFORMATION REQUIRING PROTECTION/ESSENTIAL ELEMENTS OF FRIENDLY INFORMATION (EEFI)

1. BEADWINDOW Procedures. One of the primary factors contributing to the exploitation of non-secure circuits is the failure of the NECOS to exercise positive control over subscribers. BEADWINDOW procedures are designed to assist NECOS. These procedures provide a quick means of informing a

station that it has just disclosed an EEFI which could provide the enemy information of intelligence value. A properly functioning program provides increased circuit discipline, operator awareness, and attention. When EEFI disclosure is noted, the NECOS will immediately call the originator of the disclosure and say "BEADWINDOW" coupled with the appropriate number of the EEFI disclosed (below). If the NECOS does not immediately issue a BEADWINDOW report, or if the NECOS is the disclosing station, any station on the net can initiate the report. The only reply to a BEADWINDOW is "ROGER OUT." The EEFI list will be posted conspicuously near all unsecure voice positions.

2. BEADWINDOW Description. The following numbering system is used with BEADWINDOW Procedures

<u>NUMBER</u>	<u>DESCRIPTION</u>
01 POSITION	Friendly or enemy position, movement, or intended movement; course speed, altitude, or destination of any air, sea, or ground element, unit, or force.
02 CAPABIL- ITIES	Friendly or enemy capabilities or limitations. Force composition or identity, capabilities, limitations, or significant casualties to special equipment, weapon systems, sensors, units, or personnel. Percentages of fuel or ammunition remaining.
03 OPERATIONS	Friendly operations, intentions, progress, or results. Operational or logistic intentions; assault objectives; mission participants; flying programs; mission situation reports; results of friendly or enemy operations.
04 EW	Friendly or enemy EW/EMCON intentions, progress, or results. Intention to employ ECM, objectives of ECM, results of friendly or enemy ECCM, results of ECM, present or intended EMCON policy, equipment effected by EMCON policy.
05 PERSONNEL	Friendly or enemy key personnel. Movement or identity of friendly or enemy flag officers; distinguished visitors; unit commanders; movements of key maintenance personnel; indications of equipment limitations.
06 COMSEC	Friendly or enemy COMSEC locations. Linkage of codes or codewords with plain language; compromise of circuit designators; linkage of changing callsigns with previous callsigns of units; compromise of encrypted/classified callsigns; incorrect authentication procedure.
07 WRONG CIRCUIT	Inappropriate transmission. Information requested, transmitted, or about to be transmitted which should not be passed on the subject circuit because it either requires greater security protection or is not appropriate to the purpose for which the circuit is provided.

5005 AUTHENTICATION

1. General. Authentication systems prevent unauthorized (enemy) stations from entering friendly radio nets to disrupt or confuse operations. The only authentication systems authorized for use are those produced by the National Security Agency (NSA). There are two methods of authentication that are authorized for use: challenge and reply and transmission authentication. The distinction between the two is that challenge and reply requires two way communications, whereas transmission authentication does not. The AKAC-1553, PACOM voice authentication system will normally be used by all Division organizations unless otherwise directed by higher headquarters. The authentication system is self-explanatory.
2. When To Authenticate. NWP-4 and ACP-122 explain when authentication should be employed. Within the Division, authentication is mandatory under the following conditions on non-secure radio nets:
 - a. When any station suspects imitative deception on any circuit, e.g contacting a station after one or more unsuccessful attempts to contact that station.
 - b. When any station is challenged or requested to authenticate. Stations will not break an imposed radio silence for the sole purpose of authenticating.
 - c. When directing radio silence, lifting silence, or requesting a station to break an imposed radio silence.
 - d. When transmitting operating instructions or orders that affect the military situation, e.g. closing down a station, net, or watch; changing frequency at other than normally scheduled changes; directing establishment of a special communication guard; requesting artillery fire support; directing relocation of units; etc.
 - e. When transmitting a plain language cancellation of a previously transmitted message, request, or report.
 - f. When making initial radio contact or resuming contact after prolonged interruption.
 - g. When transmitting to a station that is under radio silence
 - h. When authorized to transmit a classified message in the clear
 - i. When station called does not respond to messages sent in the blind (use transmission authentication).
 - j. Authentication is not required when making initial contact after a scheduled call sign and frequency change since only bona fide stations will know their assigned call sign and frequency for the time period in use.

5006. ELECTRONIC COUNTER-COUNTER MEASURES (ECCM)

1. General. ECCM consists of those friendly actions taken to conceal friendly emitters or deceive the enemy as to their location. Command posts or weapon systems cannot survive on the modern battlefield if their electronic emitters are easily located. Survival depends on the development and use of ECCM techniques designed to reduce the effectiveness of enemy detection and location devices.

2. GINGERBREAD Procedures. The term GINGERBREAD, described in ACP 125, is used to alert net stations that "Voice imitative deception or intrusion is suspected on this net." GINGERBREAD procedures for unsecure voice circuits within the 3d Marine Division are as follows:

a. Any station failing to authenticate correctly two times in succession will be treated as an unauthorized subscriber on the net

b. Any net operator who suspects there is an unauthorized subscriber on the net will announce the term GINGERBREAD.

c. The station reporting GINGERBREAD will establish its own authenticity by the use of transmission authentication. If required, challenge and reply authentication may be used to establish further proof of the reporting station's authenticity.

d. The station being imitated should use transmission authentication to validate its transmission.

e. Unauthorized transmissions from the station being imitated will be challenged until the imitating station abandons its efforts.

f. The NECOS will submit a MIJI report as soon as GINGERBREAD is announced. (See Figure 5-2 for MIJI report format).

3D MARINE DIVISION COMMUNICATION-ELECTRONICS SOP

FIR REPORT FORMAT

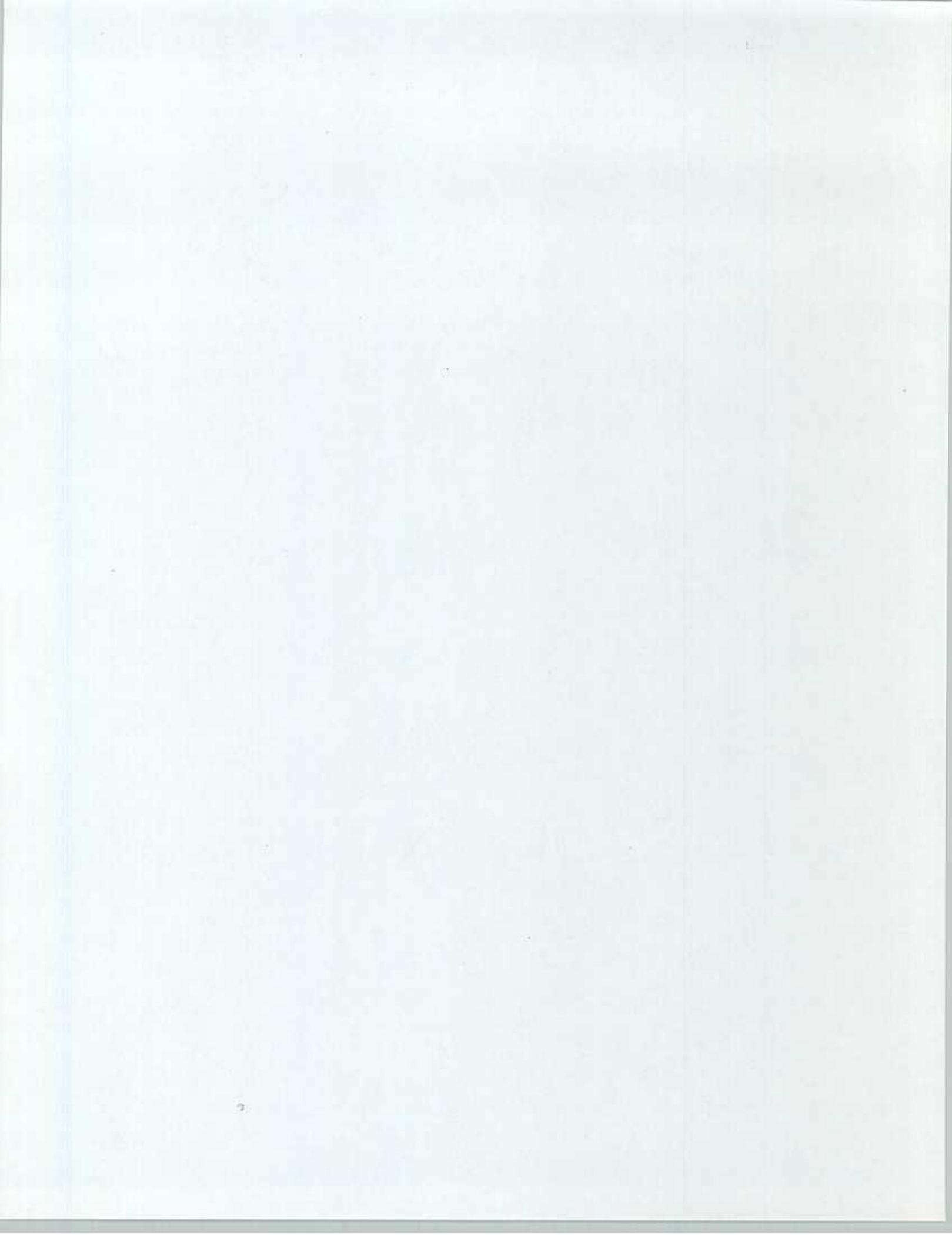
FM: (Unit Experiencing Frequency Interference)
TO: CG THIRD MARDIV//G-2/G-6//
INFO: (Chain of Command and Other Commands on Affected Net)
BT
UNCLAS
SUBJ: FIR
1. Type of Interference
2. Unit Experiencing Interference
3. Frequency(ies) Affected
4. Time of Interference
BT

Figure 5-1. FIR Report Format

MIJI REPORT FORMAT

FM: (Unit Experiencing MIJI Incident)
TO: CG THIRD MARDIV//G-2/G-6//
INFO: (Chain of Command and Other Commands on Affected Net)
BT
CONFIDENTIAL (WHEN FILLED IN)
SUBJ: (EXERCISE NAME) MIJI REPORT NO _____
1. Unit ID, Location, CallSign
2. Equipment Affected
3. Frequency and Time
4. Type of MIJI, Characteristics, Effectiveness
5. Impact of MIJI on Current Operations
6. Measures Taken to Minimize Effectiveness
7. Additional Information
8. POC/Section
DECL: As required
BT

Figure 5-2. MIJI Report Format



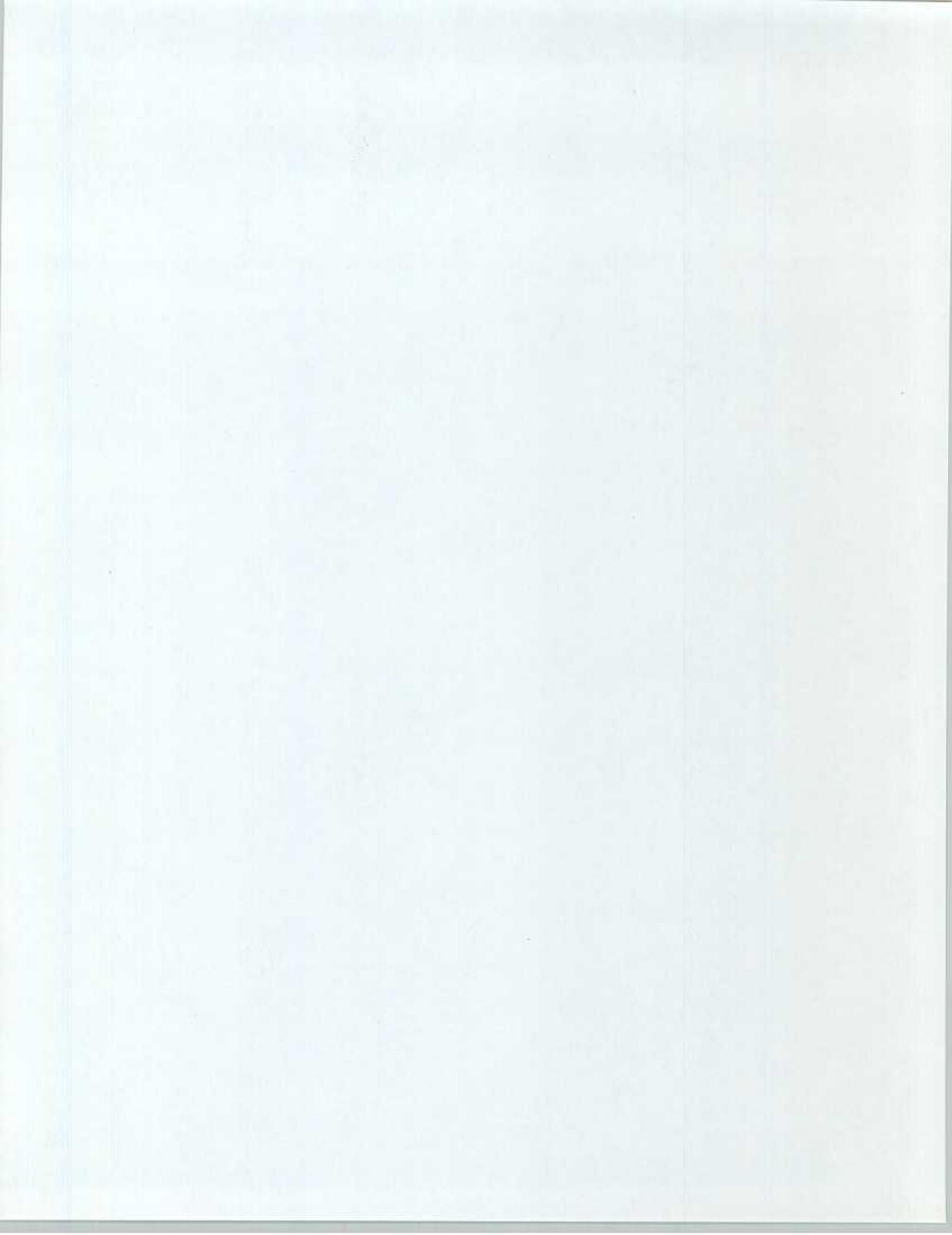
3D MARINE DIVISION COMMUNICATION-ELECTRONICS SOP

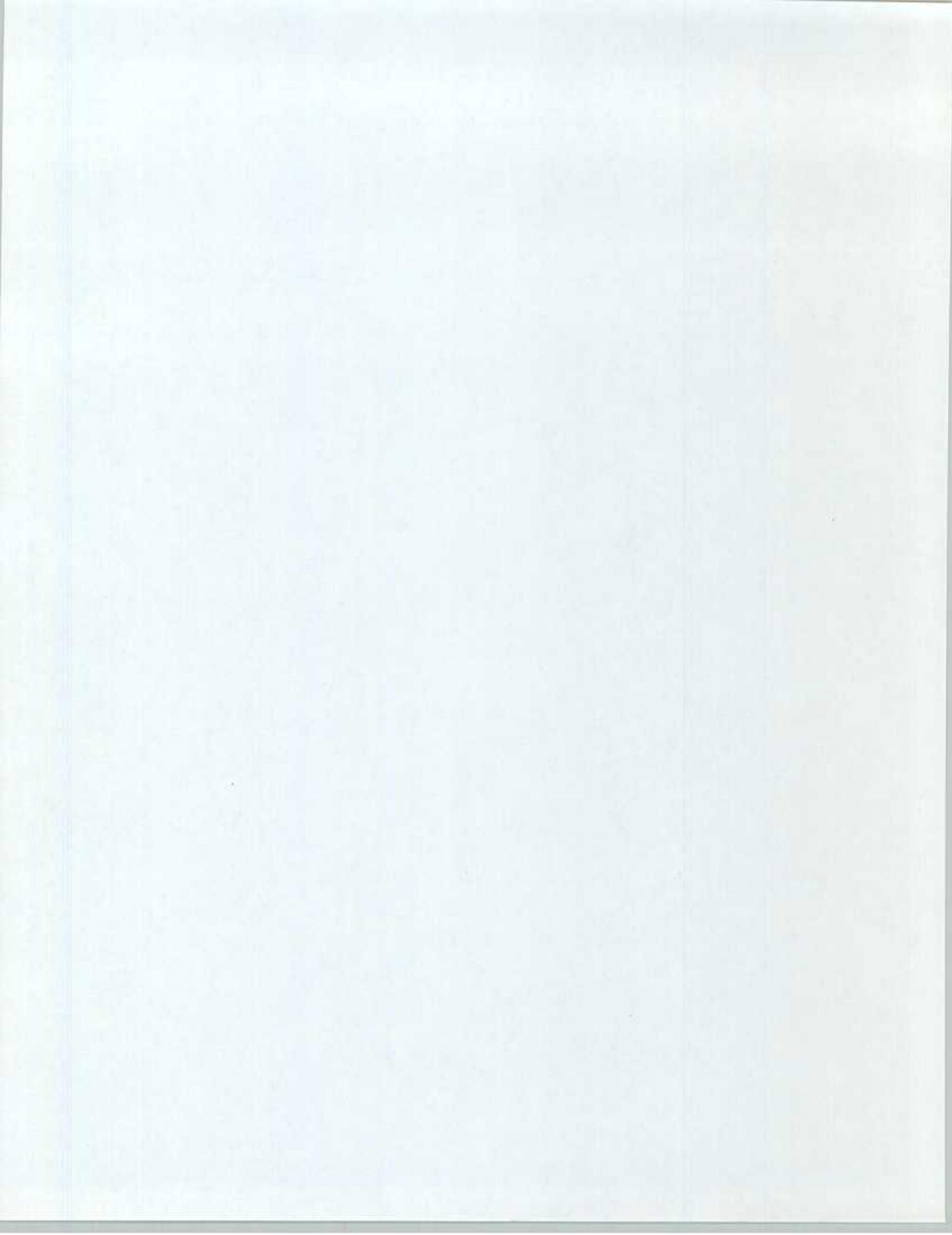
CHAPTER 6

VISUAL AND SOUND COMMUNICATIONS

PARAGRAPH

GENERAL.	6000	
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HELICOPTER LANDING SITE MARKINGS . .	6004	
SOUND SIGNALS	6005	





CHAPTER 6

VISUAL AND SOUND COMMUNICATIONS

6000. GENERAL

1. Visual and sound signals are a supplementary means of communications available to all units/organizations. Because of the vulnerability of radio communications to direction finding, interception, and imitative deception, the use of visual and sound signals is highly encouraged. Visual and sound signals are especially useful at the small unit level in conjunction with limited radio transmissions or radio silence. Visual signals are transmitted by flares, lights, pyrotechnics, panels, flags, hand and arm signals, and other prearranged means. They are suitable for transmitting prearranged signals over short distances. Good visibility and line-of-sight transmission paths are essential.

2. Simplicity is essential for the successful transmission of visual and sound signals.

a. Standard colors (red, white, yellow, and green) are the only ones that can be clearly seen under varying visibility conditions. Combinations of colors should be avoided.

b. Lengthy or complex signals should be avoided. There is a danger that the observer will see only part of the signal and misinterpret its meaning.

c. Enemy forces are likely to use similar visual and sound communications means for the purpose of misleading or confusing friendly forces as well as controlling/directing the actions of their forces. Therefore, the signals used, especially pyrotechnic and smoke signals, must be well-coordinated and the source of origin should be identified whenever possible.

6001. VISUAL COMMUNICATIONS1. Pyrotechnic Signals

a. Pyrotechnics vary in color and type. Pyrotechnic signals are used for identification of friendly units, controlling supporting fires, and marking targets. The chief value of pyrotechnics is the speed with which certain information can be transmitted to large numbers of units or personnel simultaneously.

b. Communications by pyrotechnics are limited to prearranged signals and shall be employed only as indicated herein. Meanings assigned to pyrotechnic signals will not be altered.

c. Special signal meanings required, but not assigned herein, will be requested from the 3d Marine Division, G-6.

d. Any red pyrotechnic light displayed singularly or in succession is an international signal meaning aircraft in distress.

- e. White Star Parachutes will be used for illumination only.

<u>SIGNAL</u>	<u>MEANING</u>
Red Star Parachutes*	Need Aid, In Distress (ACTUAL EMERGENCY ONLY)
Red Star Cluster*	Need Aid, In Distress (ACTUAL EMERGENCY ONLY)
Green Double Star	Recognition/Identification of Friendly Units
White Star Cluster	Cease Fire
White Phosphorus	Marking Target Location

*Pyrotechnic signals will be visible by non-military observers. The red pyrotechnics signal will be used judiciously and only to signify a real emergency.

2. Smoke Signals

- a. Smoke signals displayed by ground units are:

<u>COLOR</u>	<u>MEANING</u>
Green	Restricted exclusively to controller personnel to indicate impacting fire of all types air-to-ground, artillery, mortar, automatic weapons, nuclear, biological, and chemical (NBC). Controllers will verbally specify type of fire. Marks position (ACTUAL EMERGENCY ONLY)
Yellow	As designated
Violet	As designated

b. After a ground unit is in radio contact with a helicopter, the following procedures will be followed to identify the landing area if desired by mission commander:

Pilot: "Request you pop smoke. I will identify color

Unit "Roger, popping smoke

Pilot "See your (color smoke."

Unit: "That is correct" or "Negative"

(White smoke will not be used to mark friendly positions or LZs).

3 Flag Signals

- a When displayed from tank turret:

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<u>COLOR</u>	<u>MEANING</u>
Red	Tank in distress, require infantry assistance. (ACTUAL)
Orange	Low on fuel or ammunition; pulling back to replenish.
Green	Request infantry contact on tank-infantry telephone

When displayed from AAV:

Blue/White Checks Vehicle in distress. (ACTUAL)
(November Flag)

6002. AIRCRAFT MANEUVER SIGNALS (FIXED WING). Aircraft maneuver signals are as follows:

<u>AIRCRAFT MANEUVER</u>	<u>MEANING</u>
360 degree left turn	Display CP Identification
360 degree right turn	Mission Completed.
Rock wings	Message or display understood.
Yaw right/left	Stand by for message drop.
Circle right/rocking wings	Am trying to contact you by radio

6003. PANEL SIGNALS. Panel signals are used to communicate with aircraft and/or as a means of recognition and identification. The two types of panels are:

1. Panels AP30C (black) and AP30D (white) are used to mark landing sites and communicate emergency signals or numerical codes from ground forces to aircraft.
2. Panels VS4/U (fluorescent red) and VS6/U (fluorescent yellow) are used to identify units in helicopter landing sites and identification of friendly forward positions for close air support missions.

NOTE: When panels are utilized it is critical that they be firmly staked to the ground.

6004. HELICOPTER LANDING SITE MARKINGS

1. Marking Helicopter Landing Sites (Daylight)
 - a. Helicopter landing sites will be marked with an equilateral triangle using either AP30C or AP30D panels. The panel set selected must contrast with the landing site surface to be easily recognized by overhead aircraft.
 - b. Wind direction will be indicated by placing a pole at the

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northeast corner of the site. The pole will be approximately 3 feet high and affixed with streamers, a flag, or a pennant of sufficient length and color to be observed by the pilot.

c. The type of unit establishing the site will be designated by placing one or more panels (VS-4/U or VS-6/U) in the center of the triangle as follows:

<u>UNIT</u>	<u>IDENTIFICATION</u>
Infantry/Recon	One yellow panel (VS-6/U) in the center of the triangle
Artillery/Tanks	One red panel (VS-4/U) in the center of the triangle
Aviation	Two yellow panels (VS-6/U) in the center of the triangle
Service Support	Two red panels (VS-4/U) in the center of the triangle

d. The unit size will be designated by placing one or more 144" X 8" panels from the AP-30/C or AP-30/D panel set directly above and centered at the top of the inverted triangle as follows:

Company/Battery	Roman Numeral One
Battalion/Squadron	Roman Numeral Two
Regiment/Group	Roman Numeral Three
Division	Letter "X"

2. Marking Helicopter Landing Sites (Night)

a. The boundaries of sites used for night operations will be marked with at least four low-intensity lights on the outer perimeter of the site. The entire area between the lights must be suitable for landing.

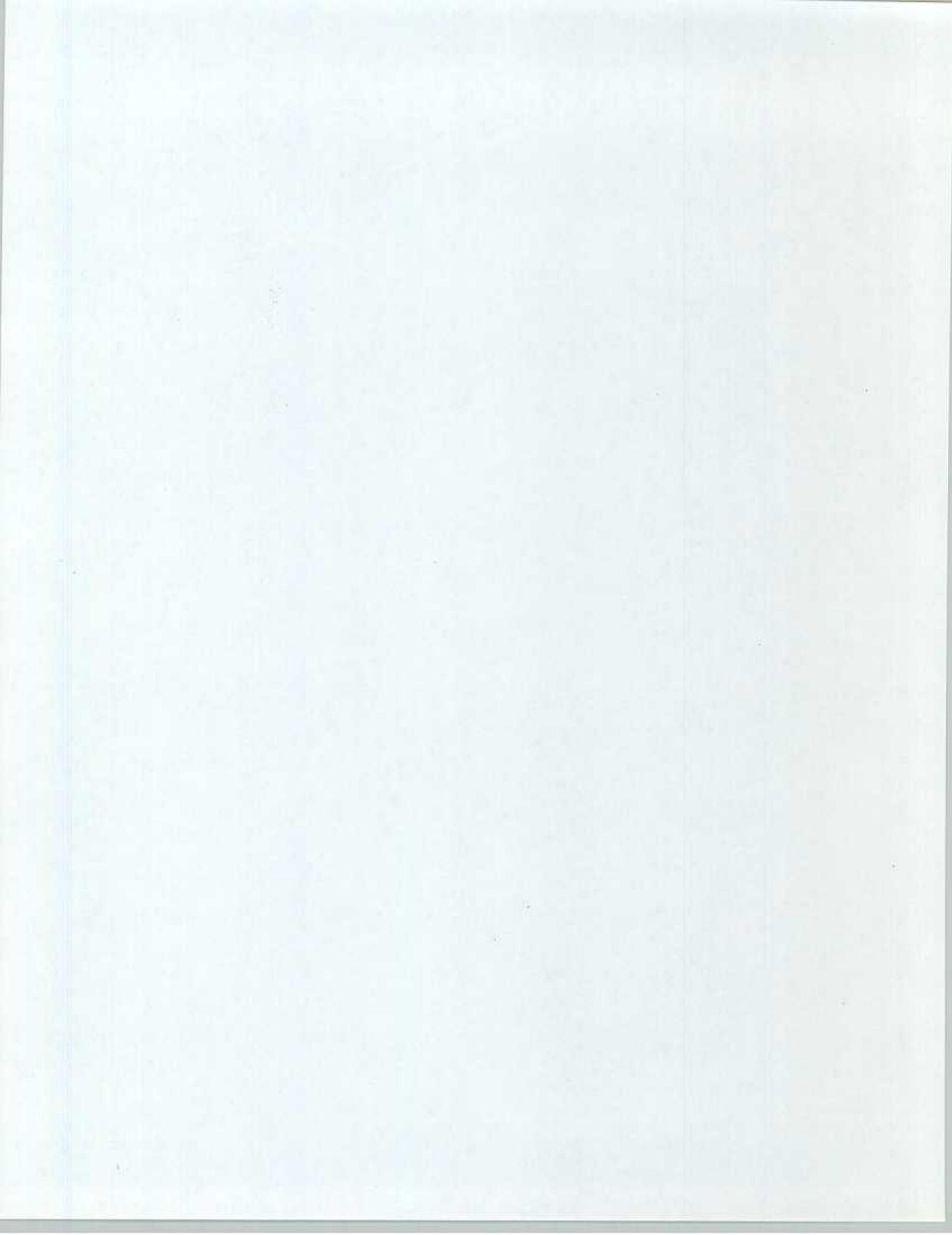
b. If lights from vehicles are used, they should be aimed into the wind (to serve as a wind direction indicator for the pilot) and located well off the landing site. Place a piece of suitable material over the top of the lights (like a visor) to shield them from the pilot's direct vision and deflect the light onto the landing surface.

c. To safely control the use of multiple landing sites in close proximity to each other, the senior ground commander is responsible for coordinating the marking, manning, camouflaging, and reporting of a each landing site with the owning unit.

6005. SOUND SIGNALS

1. General. Sound signals incorporate the use of loud speakers, bullhorns, sirens, gongs, bells, whistles, public address sets, etc. for the dissemination of alerts, warning, ground/airborne propaganda broadcasts, and riot control. They are also extensively employed during amphibious operations to control boats and beach operations.

2. NBC Alert. The signal indicating biological or chemical attack will be a wavering siren for three minutes. "All clear" will be signaled by a steady siren for one minute.



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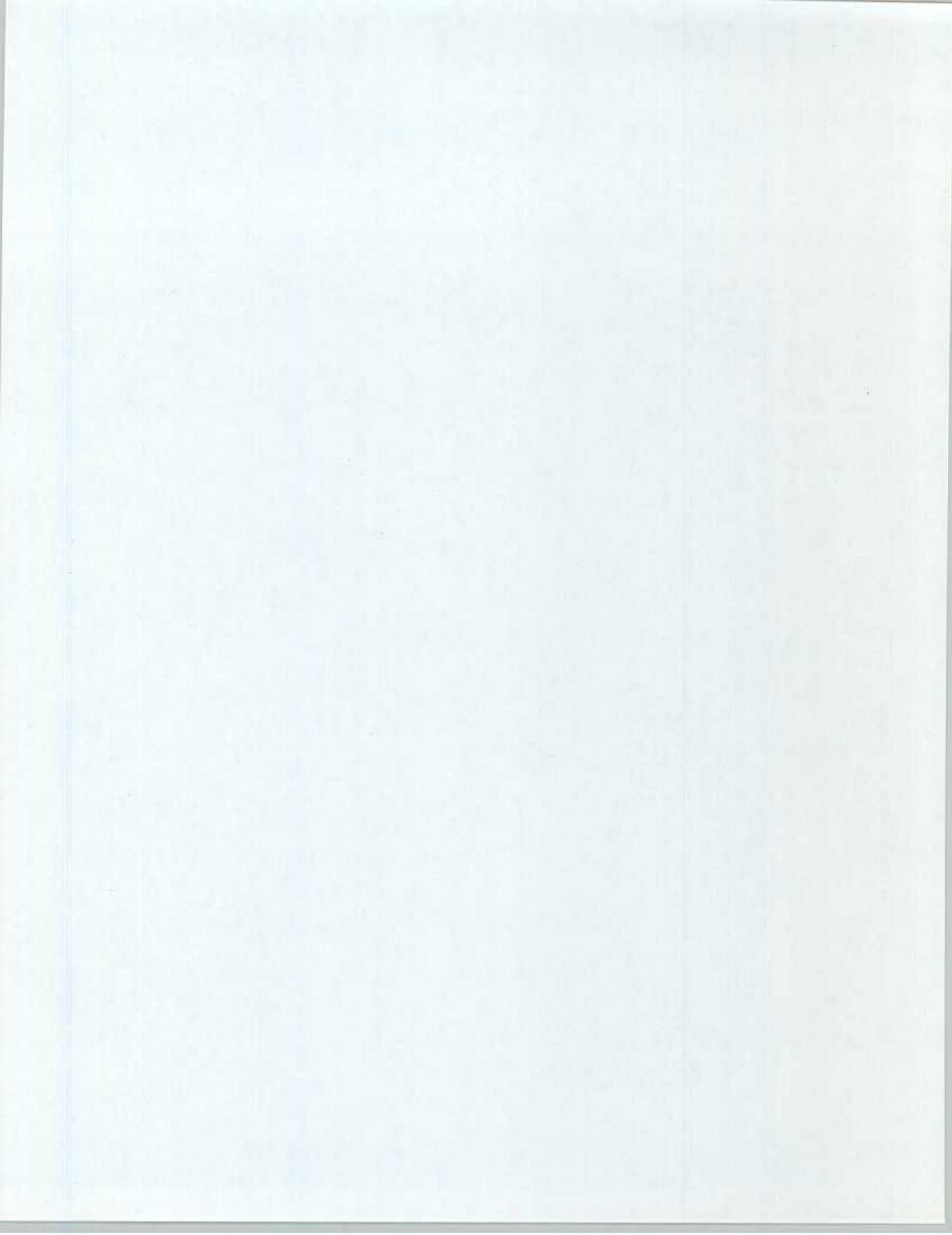
CHAPTER 7

COMMUNICATIONS CONTROL (COMMCON)

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CHAPTER 7

COMMUNICATIONS CONTROL (COMMCON)

7000. GENERAL. Communications control (CommCon) is the method through which the 3d Marine Division directs, controls, coordinates, plans, and evaluates its communication system. CommCon is divided into Systems Control (SysCon), and Technical Control (TechCon). The AC/S, G-6 is responsible for the System Planning and Engineering (SPE) function and the overall effectiveness of the communication system. Communications systems are vulnerable to enemy hostile actions and equipment failure. Multiple radio paths and circuit redundancy should always be a planning consideration.

7001. SYSTEMS PLANNING AND ENGINEERING (SPE). SysCon includes both SPE and the Operational Systems Control Center (OSCC). Two fundamental principles form the foundation for CommCom operations. First, flexibility and redundancy are designed into the overall system and second, we restore then repair all failed circuits and systems. CommCon is found in various degrees of complexity of structure and procedures at all organizational levels within the Division.

7002. OPERATIONAL SYSTEMS CONTROL CENTER (OSCC). At all organizations the OSCC is responsible for the daily operation and maintenance of the communications system. This includes the compilation of statistics and reports and maintaining current information on availability of communications equipment and resources.

7003. TECHNICAL CONTROL FACILITY (TECHCONFAC). At all organizational levels, the TECHCONFAC exercises centralized technical supervision over the installation, operation, and maintenance of the communications system. The TECHCONFAC must have a means of gaining access to all circuits and be capable of monitoring performance testing, signal conditioning, and circuit rerouting.

7004. RESPONSIBILITIES

1. Communications Company, Headquarters Battalion will install and operate the Division's OSCC and TECHCONFAC. Subordinate Division communications elements will establish OSCCs and TECHCONFACs within their capabilities. Communications coordination will normally be accomplished over GCE 4 NET, the Division Radio Wire Interface (RWI) circuit.

a. The Division OSCC will accomplish the following tasks:

(1) Implement and control the communications system at the Division command post(s).

(2) Monitor system performance and coordinate actions required to restore system outages.

(3) Coordinate with senior, subordinate, and adjacent OSCCs as required.

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(4) Serve as the focal point for service and maintenance requests from communication system users.

(5) Maintain current status on all circuits.

(6) Provide updated communication status reports to the Division G-6, per Figure 7-1, via the Deployed Wide Area Network (DWAN) every six hours or as directed.

(7) Manage spare frequencies for the Division and assign additional and alternate frequencies, as required. Inform the G-6 via the communications status report of additional frequencies assigned or changed due to frequency interference or conflict.

b. The Division TECHCONFAC will accomplish the following:

(1) Exercise centralized technical supervision over the installation, operation, and maintenance of the communications system.

(2) Supervise transmission quality.

(3) Coordinate the employment of trouble teams

(4) Maintain a capability to establish alternate signal paths when primary paths are disrupted.

(5) Direct appropriate troubleshooting procedures to isolate faulty terminal equipment.

2. Subordinate OSCCs/TECHCONFACs will accomplish all functions of paragraph 7004.1(a) for their units and the following:

a. Advise the senior OSCC of critical supply shortages and maintenance problems that will prevent/inhibit mission accomplishment.

b. Advise the senior OSCC when they or a subordinate secures from a net. All units must maintain positive communications with the senior OSCC during system disestablishment and retrograde operations.

7005. COMMUNICATION SYSTEM. It is important that all Division communicators have an appreciation for the "communication system." A communications system is the integration of interdependent elements, i.e. single channel radio (HF, VHF, UHF, SATCOM), multichannel radio systems, Tactical Automatic Switching Systems (TASS), LAN/WAN/DWAN, data communications centers, and OSCCs/TECHCONFACs. Personnel and SOPs are also considered elements of the communication system. Only when viewed as a system, can the communicator correctly identify inadequacies and problem areas and develop appropriate restoration solutions. Each exercise is different. The communication system must be tailored to support the mission. The following diagrams depict the typical ashore communications architecture of the III MEF and 3d Marine Division. (See Figures 7-3 and 7-4.)

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COMMUNICATIONS STATUS REPORT

- 1. UNIT _____
- 2. DATE/TIME OF REPORT _____
- 3. AUTODIN MESSAGE VOLUME _____

	<u>INCOMING</u>	<u>OUTGOING</u>
FLASH	_____	_____
IMMEDIATE	_____	_____
PRIORITY	_____	_____
ROUTINE	_____	_____

4. DEADLINED COMBAT ESSENTIAL EQUIPMENT

<u>NOMENCLATURE</u>	<u>CAUSE</u>	<u>EST TIME RPR</u>	<u>REMARKS</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

5. COMSEC/CMS PROBLEMS

6. SIGNIFICANT EVENTS

NEW FREQ ISSUED

8. FREQ CHANGES BECAUSE OF INTERFERENCE

Figure 7-1. Communication Status Report

3D MARINE DIVISION COMMUNICATION-ELECTRONICS SOP

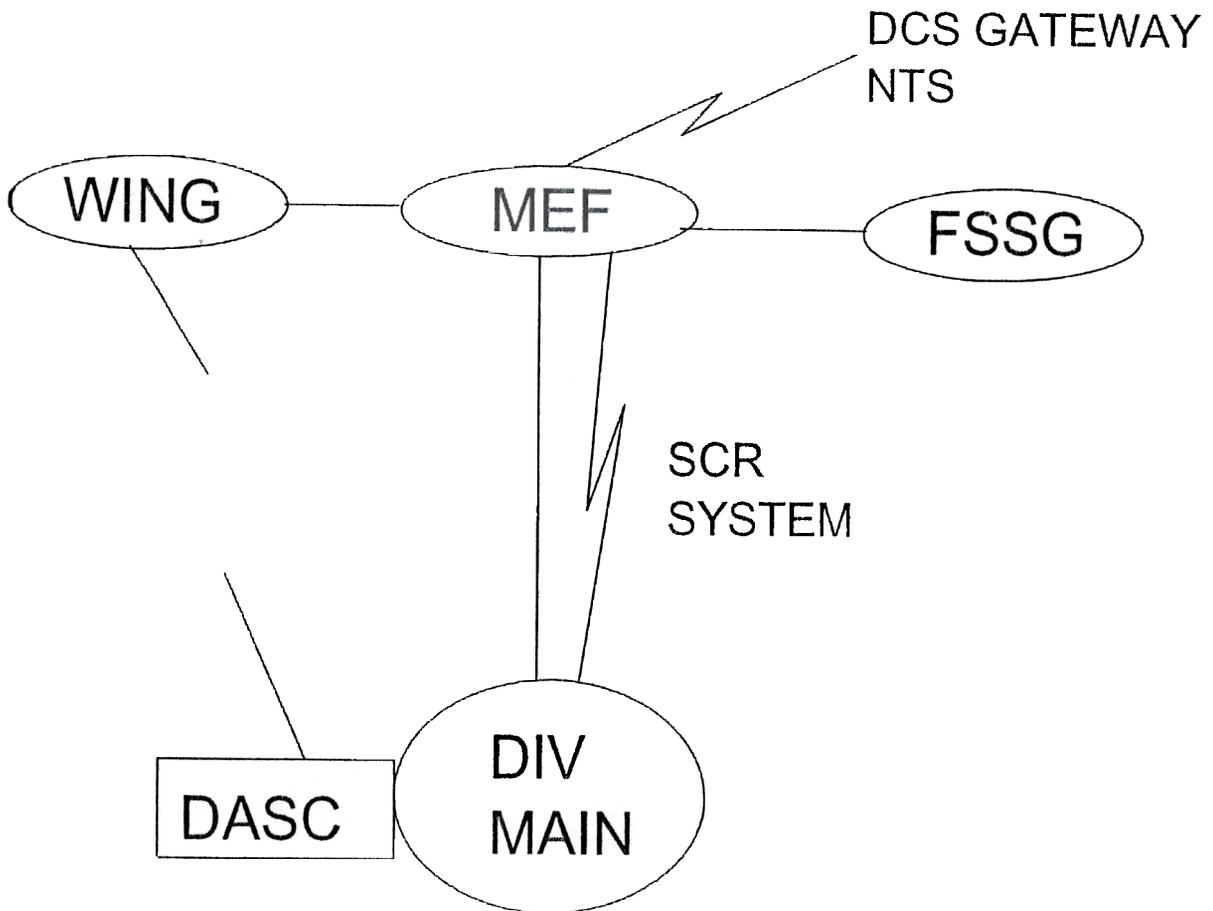


Figure 7-3. Typical III MEF Backbone System

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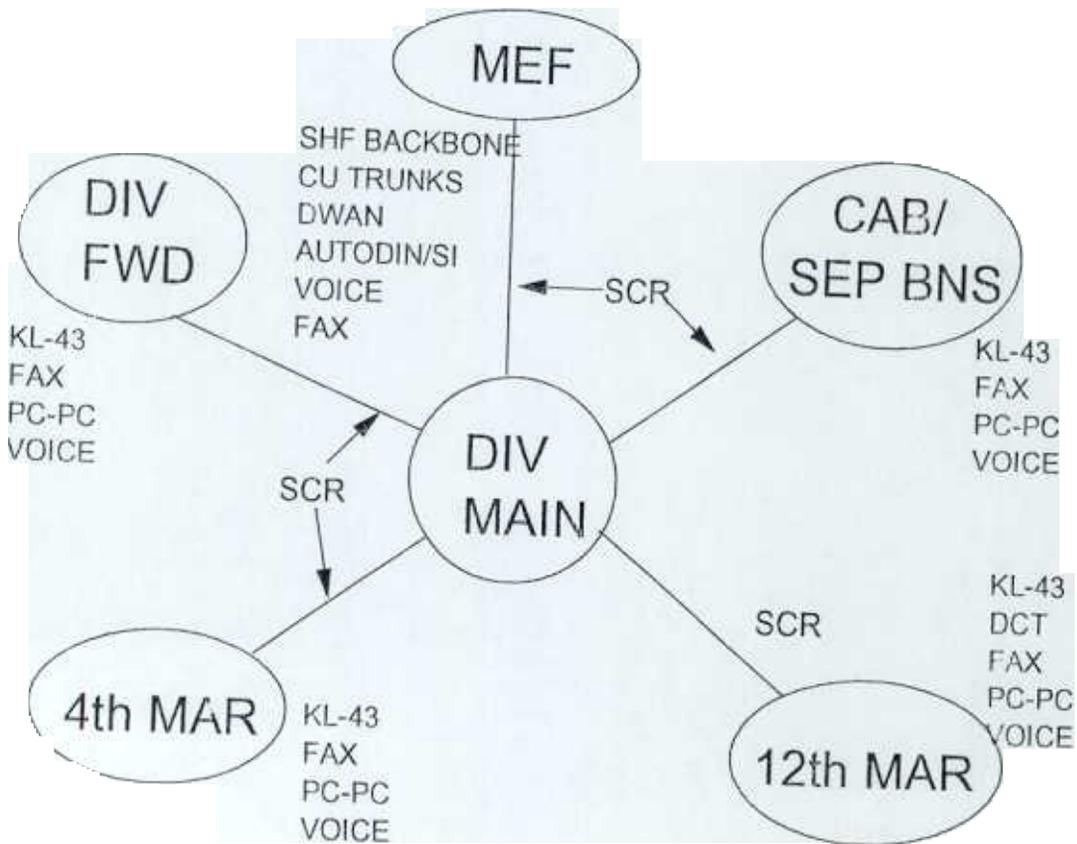


Figure 7-4. 3d Marine Division Communication Architecture

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CHAPTER 8

COMMUNICATION-ELECTRONICS MAINTENANCE

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8002 STAFF RESPONSIBILITIES

1. General. For the purpose of comm-elec maintenance, all communications supervisory personnel addressed herein are considered to be maintenance managers and shall function per the provisions set forth in MCO P4790.2_.
2. S-6 Officer. The S-6 Officer (CommO) is responsible to the commander for the management, control, and supervision of tasks directly associated with the performance of comm-elec maintenance within the unit. He/she is responsible to the unit commander for the efficient use of personnel, material, facilities, time, and money available to attain a high state of readiness of all comm-elec equipment.
3. Commodity Managers. The S-6A, Comm-Elec Maintenance Officer (CEMO), and Comm-Elec Maintenance Chiefs (CEMCs) are responsible for the equipment and maintenance programs in their commodity areas. They will:
 - a Monitor maintenance programs and policies
 - b Monitor deadline rates and aggressively strive to upgrade the unit's combat essential equipment status.
 - c Advise the S-4 and MMO of critical maintenance problems and recommend courses of action to remedy these problems.
 - d Coordinate the introduction of new equipment and the establishment of supporting maintenance programs with the G-6.
 - e Implement effective equipment modification, calibration, preventive maintenance, corrective maintenance, and publication control programs.
 - f Effect procedures for the review of publications programs in coordination with the S-1/Adjutant (ADJ) and MMO.
 - g Advise the commanding officer on those maintenance functions that will adversely impact readiness or training in accordance with unit SOP.
 - h Plan maintenance work based on the maintenance authorized, priority, level of personnel experience, tactical situation and availability of parts, tools, test measurement diagnostic equipment (TMDE), and equipment.
 - i Periodically inspect equipment to ensure that required records are properly maintained and that maintenance performed conforms to specific standards of quality.
 - j Use maintenance data to evaluate equipment performance for submission of PQDR reports.
 - k Use maintenance data to evaluate maintenance production
 - l Maintain close liaison with the MMO, G-6, and the S-1/ADJ to anticipate and preclude personnel shortages within their sections.

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8003 DESKTOP PROCEDURES AND TURNOVER FOLDERS

1. Frequent changes of key personnel within units normally results in a loss of expertise and breakdown in the continuity of operations. Proper use of desktop procedures and turnover folders will help alleviate this problem and improve overall unit efficiency.

2. Desktop Procedures

a. Desktop procedures are not intended to be all inclusive, rather a list of procedures pertinent to the everyday operation of a specific billet involving administrative and/or management functions. Desktop procedures will contain, at a minimum, the following:

- 1 Billet.
- (2) Basic tasks and procedures.
- (3) Current references.
- (4) Points of contact/phone numbers/relationship.
- (5) Required reports.

b. The following billets (within the operating and maintenance sections) will establish and maintain desktop procedures:

- (1) Marine Integrated Maintenance Management System (MIMMS)
- (2) Shipping and Receiving (S&R) clerks.
- (3) Calibration NCOs
- 4 Modification NCOs.
- 5) Publication clerks
- (6) Supply NCOs
- 7 Tool Control NCOs.
- (8) Safety/Hazmat NCOs
- (9) Quality Control NCOs.
- 10) Embark NCOs.
- (11) Training NCOs.
- (12) Records Clerks.
- (13) Battery NCOs
- (14) Section Chiefs.

3. Turnover Folders

a. Turnover folders will include information about policy, personnel, status of pending projects, references, management controls, functioning of the section, and ways and means of accomplishing routine and non-routine tasks. Any other amplifying information which would be of any value to a newly assigned individual will be included. Turnover folders will contain, at a minimum, the following:

- (1) Billet title.
- (2) To whom the individual occupying the billet reports to and subordinate billets.
- 3 Mission of the billet
- 4 Principal functions involved in accomplishing the mission.
- (5) Tasks and basic operations regularly performed
- (6) References.
- (7) List of required reports/submission dates/to whom the reports are submitted.
- (8) Relationships with activities both in and out of the chain of command to include coordinating functions and types of matters on which these agencies are contacted.
- (9) Personal contacts, listing telephone numbers and billet titles. Purpose for contact will be stated.

Miscellaneous information to assist your relief.

Past, pending, and anticipated projects and the status of each.

b. The S-6 Officer/Chief and CEMO/C will maintain a turnover folder. Combined turnover folders may be utilized provided they meet the above listed requirements. Radio Chiefs, Wire Chiefs, and ISMO Chiefs will maintain individual turnover folders.

8004. MAINTENANCE POLICY

1. This paragraph is to be used to effect maintenance management functions except where directives issued by higher headquarters take precedence. Procedures for the conduct of maintenance management are augmented by the 4790 series directives published by the 3d Marine Division and Headquarters Marine Corps.

2. It is Division policy to maintain the maximum percentage of operationally ready/mission capable equipment utilizing an effective corrective maintenance program. A high state of equipment readiness is

required to meet Division training requirements and other taskings as may be directed by higher headquarters.

3. Maintenance operations will be conducted within the authorized levels/echelons of maintenance per the command's Table of Organization (T/O) mission statement. Emphasis will be directed towards those maintenance requirements which ensure a high state of equipment readiness as outlined below:

- a. Preventive Maintenance (PM)
- b. Corrective Maintenance (CM)
- c. Equipment Inspection
- d. Equipment Recovery
- e. Equipment Modification.
- f. Equipment Calibration
- g. Support Equipment.
- h. Support Publications/Manuals
Maintenance Supervision.
- j. Quality Control (QC)

4. PM and CM programs will be established and administered per the procedures and policies set forth in this SOP and those published by higher headquarters. The commodity managers will adhere to proper PM and CM practices commensurate with their authorized levels of maintenance.

5. Operator (1st echelon) preventive maintenance will be performed at the lowest level by qualified/trained personnel per applicable technical manuals.

6. Requests for temporary increases in echelons of maintenance on a case-by-case basis, required to accomplish the mission, will be forwarded via the chain of command. A thorough review of the command's present T/O mission statement will be conducted to determine if a permanent increase is required. A temporary increase in authorized echelon of maintenance, if approved, is valid for six months, at which time another request must be submitted to continue the authority.

7. Equipment requiring repairs which exceed the command's authorized echelons of maintenance will be evacuated to the ELMACO, 3d FSSG.

8. Only properly licensed personnel will operate equipment and they will have that license in their possession throughout equipment operation. At no time will an individual operate an item of equipment that he/she is not properly licensed to operate.

8005 ALLOCATION OF MAINTENANCE TRAINING/TIME

1. The importance of maintenance training (vehicle operator PM as well as comm-elec) cannot be over-emphasized. Maintenance training will receive the same priority and emphasis as that given operation and tactical training.
2. Commanders and commodity managers will ensure that adequate time is allocated to complete required equipment maintenance following deployments, exercises, and training.
3. Scheduled PM services will be conducted per applicable equipment technical manuals, MCO P4790.2__, and TM-4700-15/__. When possible, the assigned operator will accompany the equipment during any required PM. All maintenance will be conducted under the supervision of qualified/trained personnel.

8006 SHOP OPERATIONS

1. The commodity managers are responsible for effective internal organization and operation of commodity maintenance shops. Emphasis will be placed on procedures which ensure systematic forecasting and scheduling of equipment maintenance, orderly work flow, and safe and efficient use of resources to include a functional quality control program.
2. Shop organization in commodity sections will include the designation of key personnel as to billet title, authority, and responsibilities. Additional billets may be established that are considered essential to shop operations. At a minimum, the below listed billets will be designated in writing.
 - a. Maintenance Chief. The Maintenance Chief assists the S-6 Officer in maintenance functions. As directed by the S-6 Officer, he/she supervises, controls, directs, and ensures the continuity and performance of the section. As the senior enlisted within the maintenance section, he/she is responsible for the job assignment and career development of assigned personnel.
 - b. Section Chiefs. The Section Chiefs supervise, direct, and control assigned personnel to accomplish specified maintenance missions as directed by the CEMO/C.
 - c. Quality Control NCO. The Quality Control (QC) NCO ensures that repaired equipment is thoroughly inspected to determine if maintenance actions have been properly completed (to include the performance and recording of applicable modifications). He/she ensures that equipment and shop records are complete and correct per applicable technical manuals and directives.
 - d. Tool Room/Tool Control NCOs. The Tool Room/Tool Control NCO ensures the control and accountability of tool sets, kits, and chests in order to provide serviceable and readily available tools/equipment to maintenance personnel for use in maintenance operations.

e. Supply Clerk. The supply clerk ensures proper, accurate, and timely processing of requisitions for supplies, parts, and materials. supply clerk is responsible for the receipt and issuance of supplies through correct accounting procedures for maintenance operations.

f. MIMMS Clerk. The MIMMS clerk assigns equipment repair order (ERO) numbers and monitors processing of EROs within the maintenance shop, commensurate with applicable manuals and directives.

g. Publications Clerk. The publications clerk ensures that both the technical library and directives are maintained, accounted for, and kept current.

h. Calibration NCO. The Calibration NCO ensures that both equipment requiring calibration and equipment record jackets are maintained per current references.

i. Safety NCO. The Safety NCO ensures that all safety requirements and directives are implemented per applicable references.

j. Shipping/Receiving NCO. Ensures proper induction of equipment into the maintenance cycle and facilitates the return of equipment to the owner upon completion of required maintenance actions.

k. Modifications NCO. Ensures that all modifications are performed and recorded on all equipment per applicable references.

l. Records Clerks. Ensures record jackets are maintained and EROs opened on equipment as necessary and per applicable references.

3. Equipment Repair Order (ERO) NAVMC 10245

a. Maintenance actions which fall within the guidelines prescribed in TM 4700-15/1_ will be recorded and properly completed on an ERO. Operator (1st echelon) preventive maintenance (PM) will not be recorded on the ERO. An ERO will be utilized for SL-3 replenishment, to request maintenance on comm-elec equipment and to evacuate work to higher echelons of maintenance. The ERO will be prepared and completed per TM 4700-15/1_ and UM 4790-5. All defects and their corresponding codes will be recorded in the "Description of Work" column of the ERO along with the Julian date in parenthesis.

b. Each ERO will be signed (authorized by) and a priority assigned by individuals commensurate with the authority designated by the unit commander in writing. The authorization list will be promulgated in accordance with DivO P4790.1_. Commodity managers will notify the MMO when changes in personnel occur and authorization list updates are required. Authorization lists will be maintained for one year from the date of revision.

c. Priorities assigned for equipment repair and repair parts requisitioning will be assigned per the criteria established in MCO P4400.16_. Not Mission Capable Supply (NMCS) and Not Mission Capable Maintenance (NMCM) indicators will be assigned per UM-4400-124 and only

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for priorities 02 through 05. Commodity managers will ensure that priorities and indicators are consistent with the actual urgency of need. The following recommended relationships between category codes and ERO priority assignments will be used:

<u>CAT CODE</u>	<u>FAD II</u>
M	02/05
X	05
N	12
P	02/05
S	12
K	02/05/12
C	02/05/12
O	12
D,F,H, (sec rep)	02/05

d. If the equipment is deemed mission essential by the commanding officer, category code "K" EROs may be assigned an 02 priority.

e. Category code "C" EROs will be of at least the same priority no higher than the base ERO priority.

f. All readiness reportable items, as listed in the current edition of MCBul 3000, that are deadlined will be assigned a priority of at least 02/05, if properly justified, dependent upon total on hand assets and/or operational commitments.

g. Priority and category code changes will be made as deemed necessary by authorized personnel to effect required maintenance actions. The changes will be commensurate with actual urgency of need and the applicable manuals and directives.

h. ERO priority upgraded to 02 will be forwarded to the MMO for signature by the unit commander or in his absence the acting commander. The authorizing signature will be entered in the "mechanics signature" column of the ERO following an entry in the "description of work" column of "request priority upgrade to 02, category change to ____." The authorizing individual will also line out the original priority, enter the new priority, line out the original category code, circle the new category code, and line out the original authorization signature. The initials of the authorizing individual will be entered next to each change.

i. Commodity managers will ensure that all associated supply requisitions are upgraded accordingly, and NMCS or NMCM designators are entered on the ERO Shopping List (EROSL), as appropriate.

8007. EQUIPMENT THAT EXCEEDS MAINTENANCE CAPABILITIES

1. Equipment which exceeds the unit's maintenance capabilities will be evacuated to the next higher echelon of maintenance. The following conditions apply:

a. Equipment exceeds the authorized echelon of maintenance.

b. A mission/combat essential item is deadlined for lack of facilities or required skills for repair.

2 The following procedures are established for equipment evacuation:

a. An ERO will be used to initiate all requests. The ERO will reflect job status 29 (AWT EVAC) until the equipment is actually evacuated and the reason for the evacuation in the "Description of Work" column of the ERO.

b. All organizational PM will be performed to the maximum extent that will not preclude the performance of maintenance by the higher echelon activity. PM will include lubrication, servicing, and thorough cleaning prior to evacuation. All requisite ERO annotations will be made.

c. All collateral equipment, except that equipment required by the higher echelon activity to perform maintenance, will be removed and securely stored prior to evacuation.

d. When an item of equipment is under investigation, the authorized individual must ensure that all investigation efforts are completed before authorizing CM.

8008 PERFORMANCE OF MAINTENANCE SERVICES

1. Preventive Maintenance (PM). PM is the necessary, routine care and servicing performed by qualified personnel to maintain equipment in a satisfactory operating condition, thereby reducing CM requirements. A systematic PM program of inspecting, cleaning, servicing, lubricating, and adjusting is the key to maintaining equipment readiness. It is the owning unit's responsibility to perform required PM services.

a. In order to be effective, the unit PM program must be forecasted by planning for and ensuring the availability of adequate maintenance resources and the PMs are scheduled and conducted per applicable technical manuals. PM services are cyclic in nature and include:

(1) First echelon PM performed by trained equipment operators before, during, and after equipment use or on a daily, weekly, monthly, and as directed basis as outlined in MCO P4790.2_.

(2) Second echelon or higher PM is performed by trained maintenance personnel on a calendar (annually or biennially), mileage hours of operation, or on an as directed basis.

b. First echelon PM will be performed by trained operational personnel per the applicable equipment Technical Manual (TM) under direct supervision of the section chief. There is no requirement to maintain a schedule of first echelon PM.

c. Second echelon and higher PM, when directed, will be conducted by trained maintenance personnel per the applicable TMs under direct supervision by the section chief. PM services, for MRC vehicles, will be scheduled utilizing form NAVMC 10561. PM services will be initiated utilizing an ERO and be recorded per TM-4700-15/1_.

d. PM services may be deferred or intervals changed on a case-by-case basis upon approval by the Commanding General. Reasons for deferral include:

- (1) Equipment on Administrative Deadline (ADL)
- (2) Equipment has low usage
- 3) Equipment in storage (i.e. CRSP).

e. End items procured with a manufacturers warranty will have PM services performed as indicated in applicable TMs until expiration of the warranty period. End items procured under a warranty are identified by applicable material fielding plans.

2. Special PM Services. In order to meet operational requirements, special PM services must be integrated to ensure equipment readiness. Special PM services to support operational requirements will be conducted as follows:

a. A Limited Technical Inspection (LTI) will be performed on all equipment prior to and upon return from deployment or temporary loan (temp loan) in support of training or operational commitments. This service will determine both equipment completeness and performance criteria and will be recorded on the applicable LTI checklist (See paragraph 8022 & Figure 8-2).

b. Equipment that has been exposed to salt or fresh water, mud, or sand will be thoroughly serviced per the minimum standards established by the applicable TM along with TI-2005-25/2, as soon as possible to prevent equipment degradation.

3. Corrective Maintenance (CM). CM consists of those maintenance actions performed by qualified/trained maintenance personnel to restore an item of equipment to a specific operating condition. The owning unit is responsible for the timely performance of CM actions within its authorized echelon of maintenance. CM requirements that exceed the unit's authorized echelon of maintenance will be evacuated to the designated maintenance support activity. The CM process commences when an item of equipment is reported as requiring CM. It terminates when the item is restored to a serviceable condition or is declared non-repairable.

4. Maintenance Process. In order to increase conduct and management efficiency, the CM process is divided into four phases. These phases are the equipment acceptance phase, equipment induction phase, active maintenance phase, and the maintenance close-out phase.

a. Equipment Acceptance Phase. During this phase, demands on maintenance resources are initiated, and the maintenance shop schedules the equipment for repair, conducts an initial acceptance inspection, and

assigns the equipment to the appropriate work section within the repair organization.

(1) Acceptance Scheduling. The purpose of acceptance scheduling is to have equipment requiring maintenance arrive at the maintenance facility at or after the time the required maintenance resources are available. Close coordination between the operational sections and the maintenance section is helpful to facilitate this scheduling.

(2) Acceptance Inspection. The purpose of the acceptance inspection is to ensure that the defective item is complete and prepared for the required maintenance. An initial diagnosis of the equipment is required in order to determine what course of action to follow during the active maintenance phase. The following procedures will be utilized:

(a) Determine that the equipment is complete and that appropriate operator maintenance, including cleaning, has been performed. Record jackets and components not required for maintenance actions may be returned to the equipment owner after ERO annotations have been made.

(b) Verify that the information on the ERO is correct.

(c) Perform an initial diagnosis of the equipment failure/component malfunction to determine required maintenance actions. Ensure that the ERO has the correct defect, category, and priority code assigned.

(d) Accept the equipment by signing the "accepted by" block on the ERO.

b. Equipment Induction Phase. Induction is the physical commitment of the ERO and associated equipment requiring maintenance to the assigned shop section.

c. Active Maintenance Phase. Production actions performed following the induction of the ERO and its associated equipment into the maintenance section of the shop constitutes the active maintenance phase. This phase is performed in a sequence of logical steps designed to ensure that required maintenance is conducted in an efficient and effective manner. During this phase, continual emphasis is placed on quality control of the maintenance actions and tasks performed. The steps taken during this phase include:

(1) Inspection of Equipment. Personnel assigned to perform the required maintenance will perform a detailed inspection of the equipment when inducted into the shop. This inspection includes:

(a) Locating, identifying, and inventorying the equipment, components, and equipment records not returned to the owning unit during the acceptance inspection.

(b) Verifying all paperwork associated with the required maintenance is complete and accurate.

(c) Determining the status of all required modifications. This check involves the physical examination of the equipment, appropriate

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records, the SL-1-2, and TI-5600s

(2) Preparation for the Performance of Maintenance Actions. This preparation includes the assembly of the appropriate TMs or other technical data as well as support TMDE to perform the maintenance action.

(3) Isolation of the Cause of the Equipment Malfunction. Through the use of appropriate TMDE and procedures described in the applicable TMs the probable cause of equipment failure is isolated.

(4) Procurement of Required Materials and Repair Parts. Maintenance personnel, prior to requisitioning parts and materials, will research and verify their requests.

(5) Fault Correction/Performance of PM Services. Required maintenance will be accomplished per applicable TMs and accepted maintenance practices. Completed maintenance actions will be recorded on the ERO and entered into equipment records, as appropriate, to provide information for future management decisions.

(6) Equipment Check-Out. Quality control requires a complete equipment check-out to determine that required maintenance actions have been completed by qualified personnel under actual or simulated operational conditions. Equipment which does not meet required performance standards or which does not perform satisfactorily will be rejected and recommendations made for further maintenance action. At this time, associated modification control records will be reviewed for completeness.

(7) Clean Up of Shop Area. Time and resources must be allocated to clean up the maintenance area. Support and TMDE, including tools, must be cleaned, serviced, and inventoried in order to be ready for future use.

d. Maintenance Close-Out Phase

(1) The close-out phase commences when the required maintenance has been performed and the serviceable item is ready to be returned to the using unit.

(2) Commodity managers will ensure that the close-out phase is accurate, complete, and coordinated.

8009. RECORDS

1. Maintenance records provide the basis for the equipment maintenance program. Their proper utilization enables analysis and evaluation of maintenance performance and aids in identifying deficiencies prohibiting optimum unit performance. Maintenance records are designed to provide management (both in the field and at Headquarters Marine Corps) the necessary maintenance information for preparing required reports and as a basis for management decisions.

2. The current edition of TM 4700-15/1_ establishes procedures for the preparation and maintenance of equipment records. It is Division policy that all equipment records within the Division be in strict compliance with

the provisions contained in this directive

3. The preparation, care, and handling of equipment maintenance records is the responsibility of all commodity managers. Commodity managers are responsible for the proper upkeep of equipment maintenance records within their organizations. An equipment record folder will be maintained for each principle end item. The equipment record folder will contain the following (see figure 8-1):

a. LTI sheets - The most recent LTI sheet will be maintained. In the case of equipment turnover/transfer, the LTI sheets will be maintained for one year.

b. A completed white copy of all applicable EROs (to include SL-3) and completed LTI sheets. The completed ERO white copies will be maintained for one year from the repair completed date on the ERO. If it is the only maintenance ERO in the jacket, it will remain in the record jacket until replaced by another maintenance/calibration ERO.

c. Completed copies of Product Quality Deficiency Reports (PQDR) will be maintained when required.

d. All comm-elec equipment with an SL-3 extract or accurate dated inventory listing of equipment components, (from an SL-3 or appropriate publication) will be inventoried per MCO P4400.150_ and MCO P4790.2_. If no publications are available, a locally generated, authorized components listing will be utilized.

e. An SL-3 inventory signature page will be maintained to document the inventory by both the supervisor and the Marine conducting the inventory. The supervisor will witness an accurate inventory and will verify that the equipment is properly PM'd by virtue of his/her signature. Completed signature pages will be maintained for a minimum of one year.

f. Operator PM requirements will be maintained. PM requirements should be a dated TM extract or form, if applicable. If no extract is available, a generic PM requirement sheet may be promulgated by the S-6 or CEMO.

4. The MMO and the commodity managers will conduct a joint semiannual review of all records to ensure that a valid requirement for continued use exists and that records conform to requirements of higher authority. Local records are discouraged and will only be used when it is determined that records required by higher headquarters will not satisfy operational requirements. Copies of local records will be forwarded to CMC (Code LMM) for evaluation of Marine Corps-wide applicability.

8010 PUBLICATIONS

1. Publications (technical and directive) are some of the most important tools for maintenance management. They are essential to the proper conduct of equipment maintenance programs at all echelons. A complete allowance of required maintenance publications is required to be maintained. Authorized publications required by all subordinate units, sections, and commodities will be on hand or on order. Those on hand will be maintained so that all

personnel who require their use will know of their availability and are trained in their use. Failure to have required publications on hand, or lack of knowledge regarding their proper use, renders this necessary asset useless and adversely impacts maintenance support and maintenance performance. General information concerning technical publications is contained in MCO 5215.1_. Technical libraries will be established per MCO 4790.2_ to ensure the availability, currency, and maintenance of the organization's technical publications libraries.

a. All technical publications will be validated quarterly with the SL-1-2 and the SL-1-3.

b. All commodity managers and staff sections will conduct a semiannual validation with the S-1/Adj of all on hand directives using the NAVMC 2761.

2. Responsibilities. The G-1/S-1 has overall responsibility for the unit's publication control program.

a. The MMO, in conjunction with the S-1 and commodity managers, is responsible for ensuring that the proper types and quantities of technical publications are on hand. Primary areas of concern for the management of technical publications are:

(1) Continuous and timely review of the Publication Library System (PLS).

(2) Internal distribution of publications to the necessary section(s).

(3) Marine Corps Publication Distribution System (MCPDS) requisition and reconciliation.

(4) Accuracy of the Publications List (PL) which determines receipt and distribution of publications to an organization.

b. The MCPDS field user system is an on-line interactive system for maintaining the quantity of changes for publications on continuing distribution for an Individual Activity Code (IAC).

(1) The field user system provides the S-1 the ability to adjust the quantity of publication changes and revisions on automatic distribution. It also provides the ability to order base publications, annotate section requesting publication(s), maintain internal distribution and modify the PL.

(2) The distribution control point (DCP) has the capability to review (track/check) outstanding orders. Publications NCOs, during reconciliation, may obtain disk or hardcopies of their outstanding orders Status provided by MCPDS are: Processed, Back Ordered, Canceled, or Completed (has been sent).

c. The MMO is responsible for inspecting technical publications within the organization and coordinating with the S-1 on all matters concerning technical publications, including review and update of the PL.

7. Stock List Publications. These are designed to identify supply management data for all end items, components, and repair parts carried in the Marine Corps supply system. Each stock list is numbered to identify the type of stock list and, where feasible, to relate it to federal classes of items or individual items of equipment. The SL-1-1, Introduction to the Marine Corps Stock List Publications, aids personnel in the use of certain stock lists.

a. The following stock lists are of interest to maintenance and supply activities:

(1) SL-1-2, Index of Authorized Publications for Equipment Support (MICROFICHE, M/F).

(2) SL-1-3, Index of Authorized Publications Stocked by the Marine Corps (M/F).

(3) SL-3, Components listing.

(4) SL-4, Parts listing.

(5) SL-6-1, Application List for End Items and Components (M/F)

(6) SL-6-2, Application List of National Stock Number (M/F)

(7) FedLog CD ROM

8. References. All Marine Corps orders and other services publications are identified by a Publications Control Number (PCN). This eleven digit number appears in the following format: 000 000000 00.

a. The first three digits are the PCN group. This represents the type of publications (e.g., 124 stands for the SL-4, 320 stands for Army Field Manuals (FMs), 102 represents Marine Corps Directives). These groups are identified in the SL-1-3.

b. The center six digits are the control number of the specific publication.

c. The last two digits of the PCN represents changes to the basic publication. Changes will be numbered according to their sequence (e.g., Ch1 would be 01, etc.). Other services also distinguish these changes from those generated by the Marine Corps, the numbers 50 to 99 are assigned. These changes have a letter in the publication short title to identify them as changes promulgated by other services.

d. There are two reference sources for Marine Corps publications

(1) All Marine Corps directives are listed in NAVMC 2761 (Catalog of Publications). All publications in this catalog are listed either by SSIC, equipment ID number, PCN, short title, or long title.

(2) The SL-1-2 lists, by equipment ID number, the technical publications required to operate and maintain the equipment.

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9. Publications Control System. In order for publications to be managed effectively, a system must be developed, supervised, and continually evaluated by the MMO and the S-1/ADJ.

a. The five management processes of the publications control system are as follows:

DEVELOP DIRECT OPERATE SUPERVISE EVALUATE

b. There are three inter-related parts in developing the system:

(1) A publications requirement control system (what publications required).

(2) An internal distribution control system (how publications are handled to make sure the right publications get to the right place in the right quantities).

(3) An inventory control system (how publications are maintained and kept track of once they are in the library).

10. Publications Requirement Control. This is a step-by-step process beginning with what and how many publications are requested and ending with an update of the PLS. There are essentially three categories of publications: those associated with specific pieces of equipment (i.e. LO for the M998 HMMWV, SL-3 for the AN/MRC-145, TM for the RT-1523, etc.); technical publications which are not associated with specific equipment (i.e. TM-4700-15/1, SL-1-2, etc.); and non-technical publications or directives. The publications required by a commodity under a category must be determined in six steps which culminate in an updated publications listing (PL). Because of basic differences among the three categories of publications, each category will be taken separately. Steps 1 through 6 apply to technical publications (equipment associated). Steps 4 and 6 apply to the other publications (non-equipment associated).

Technical Publication (Equipment Associated)

a. Step 1. Determine what is rated or supported by the commodity by reviewing the table of equipment, any special allowances, and TMDE equipment.

b. Step 2. The next step is to determine what publications are associated with each type of equipment on the unit T/E. For this information, refer to the SL-1-2. Locate each type of equipment in the SL-1-2 by its ID number. All MIs and TIs will be held regardless of the echelon of maintenance authorized in order to operate an effective modification control program. (All MI's need not be on hand in the commodity, if a copy is on hand in the unit and located by locator sheet)

c. Step 3. The number of copies of each publication needed should be based on how many copies are needed in each library. Factors to be considered in determining the number of libraries and copies are:

(1 Shop organization and layout

(2) The quantity of each type of equipment to be supported by the library

The organization's concept of employment from T/0)

(4) The number of maintenance/operator teams that may simultaneously require a given publication.

d. Step 4. The next step is to look up the ID numbers of the end items listed in the T/E, in the SL-1-2. An ID number for non-equipment associated publications designated for comm-elec has recently been established. ID number 10203A is the comm-elec ID number. Recommended publication additions or deletions to this ID number can be suggested via NAVMC 10772.

e. Step 5. Once a determination has been made of all required publications, define the requirements for the different PCNs.

f. Step 6. Once each commodity area has determined its requirement, the next step is to consolidate those lists at the organizational level in order to update the PL. The S-1 and MMO will chair a publications board meeting with the heads of all shops and offices that have a requirement for publications. This will be done within 21 days after receipt of a new PL. During this meeting, the NAVMC 10975 or automated IDL is filled out and compared with the current PL. Based on the comparison, the S-1 will prepare the necessary correspondence to update the PL per MCO P5600.31.

12. Technical Publications (Non-Equipment Associated). The determination of requirements for technical publications which are non-equipment associated is not as clear as for associated technical publications. TM-4700-15/1_ is an example of a non-equipment associated Technical Publication. These publications must be determined by unit SOP, individual commodity SOP reference lists, ID number 10203A, checklists, and review of MCO P5600.45_ and TIs in the 5600 series. Once these publications are identified, determination of the number of copies and PCNs is accomplished in essentially the same way as described in steps 3 and 4 for technical publications.

13. Non-Technical Publications. Requirements for non-technical publications, orders, bulletins, instructions, etc. must be determined by reviewing NAVMC 2761, associated bulletins from higher headquarters, individual commodity SOPs, directives, conversations with experienced personnel, inspection reports, and checklists. The basic criteria for deciding if a publication is required is the answer to the question "Does this publication contain information I need to accomplish the mission of my shop?" The PCNs for non-technical publications are shown in NAVMC 2761 and bulletins of higher headquarters.

14. Internal Distribution Control. Internal distribution control gets a publication from its arrival in the mail room, through the S-1, MMO, commodity manager, and technical publication librarian to the shelf of the proper library.

a. In the case of technical publications received in response to a requisition (there will be a receipt in the package of the publication)

the S-1 clerk will send the whole package to the MMO who verifies the requisition and distributes the publications to the commodity area that requested the publication.

b. Publications received in the various commodities must be recorded as received on the publication control form and filed in the proper library by the publications clerk.

c. Technical publications must be kept current by changes issued as

(1) Pen Changes. Minor corrections, limited to changes that can be clearly and easily annotated, are provided as pen changes.

(2) Page Inserts. Extensive changes are incorporated into the basic publications as new page inserts. These page inserts are received with instructions for replacing the pages.

15. Inventory Control. Publication libraries within commodity areas will be established per MCO P4790.2_. Specific attention must be given to establishment of effective library inventory control. Two methods of inventory control are wall-to-wall and update inventories.

a. Wall-to-wall inventories check for publications that have been canceled, currently issued, and revised.

b. Update inventories are conducted on a periodic basis in conjunction with the issuance of an updated checklist, or SL-1-2 and SL-1-3, to ensure that all publication changes are on hand and that libraries are in an "up-to-date" condition with required quantities on hand.

c. A review of the publication control forms must be conducted and each publication checked within the library.

d. Missing publications or changes will be noted on publication control forms and ordered.

16. Requisitioning Publications. New SL-1-2s should be reviewed upon receipt to determine if additions have been made to the list of superseded or reviewed publications. Commodity managers are responsible for requisitioning publications for their respective commodities. Requisitioning publications is not an end in itself, but only the first step. Once publications are requisitioned, each requisition must be reconciled through S-1/ADJ until received.

17. Publications Reconciliation. The reconciliation program is managed by the publications distribution control point (DCP). Accordingly, care should be taken to alert S-1/ADJ regarding publication requisition status and vice versa. The DCP has the capability to review (track/check) outstanding orders. Publications NCOs, during reconciliation, may obtain disk or hardcopies of their outstanding orders. Status provided by MCPDS are: Processed, Back Ordered, Canceled, or Completed (has been sent).

18. Errors In Technical Publications. The NAVMC 10772 is not required to be sent via the chain of command, although higher headquarters receive an

information copy. Commodities will submit hardcopy NAVMC 10772s via the MMO. The reference governing use of this form is MCO 5215.17_. NAVMC 10772s can be submitted electronically to the following MCLB Albany Banyan e-mail address: LOGISTICS DATA MAINT BRANCH MB@ILS853@MCLB ALBANY. Provide the same information as you would when filling out a hardcopy NAVMC 10772 form. Electronic NAVMC 10772s may be sent directly to MCLB Albany with an info copy to the MMO unless the change affects Source Maintenance Recoverability (SMR) codes.

8011 MODIFICATION OF EQUIPMENT

1. Marine Corps equipment modifications consist of certain required maintenance actions to effect necessary design changes to improve equipment functioning, maintainability, reliability, or safety characteristics. To direct and control this program, instructions are issued in the form of MIs. Commodity managers are responsible for the application of those MIs to their respective equipment. All MIs need not be on hand in the commodity if a copy is on hand in the unit and located by locator sheet.

2. Procedures. Commodity managers will use the following procedures

a. Modifications for equipment will be identified utilizing the SL-1-2 and SL-1-3. All equipment on the unit T/E will be screened for applicable MIs.

b. Modifications will be recorded with the modification control record, NAVMC forms 11053 or 11054 per TM-4700-15/1_. A modification control record will be prepared for each item of equipment for which an MI has been issued. Additional requirements for recording MIs may be outlined in each specific MI.

c. Equipment requiring modification which cannot be performed by the owning unit due to lack of requisite skills, resources, or because it is beyond the authorized echelon of maintenance, will be evacuated to the support maintenance activity. Equipment will be evacuated with an ERO.

d. Modifications will be performed per the MI. MIs identify the specific maintenance resources, skill, and time required for completion and identify the specific echelon of maintenance authorized to perform the modification. The following procedures will be used:

(1) Upon initial receipt of equipment, it will be inspected to determine if all required modifications have been properly completed. After inspection, equipment records will be updated and EROs initiated, as required, requesting that the missing applicable modifications be applied.

(2) Equipment will be inspected during CM and PM to ensure that all applicable MIs have been properly completed. Equipment records will be updated and the equipment will be scheduled for completion of any missing modifications.

(3) The category of the MI is a determining factor in its application. All "URGENT" modifications must be accomplished at the

earliest possible time per the specified completion date. "Normal" modifications are accomplished on a planned/scheduled basis within one year of the effective date on the MI.

8012 SUPPORT AND TEST EQUIPMENT

1. Support and test equipment consists of tools, TMDE, monitoring and check-out equipment; maintenance benches, and handling devices required to perform equipment maintenance. It is comprised of the essential operating equipment for the maintenance activity, both for organic support and intermediate support. Test and support equipment is authorized by the unit's T/E and/or by special allowances. The commodity managers will review these allowances as mission, equipment supported, or echelons of maintenance change.

2. Control Procedures. Support and test equipment warrant special control to ensure proper servicing, utilization, and accountability. Organizations owning support and test equipment will ensure that:

a. Equipment is serviced per the applicable TMs. Servicing includes PM CM, modification, and calibration.

b. Equipment is utilized by trained personnel per the applicable TM

c. Adequate check-out/in procedures are utilized to ensure accountability. These procedures may include the use of a logbook for TMDE checked out for less than 24-hours within the commodity.

d. Secure storage areas will be provided and an individual will be assigned to provide proper control.

3. Calibration Control Program. The Marine Corps Calibration Control Program ensures that all authorized TMDE are maintained within the prescribed standards of accuracy for the performance of their intended functions.

a. Division calibration support for ground related TMDE is provided by the 3d FSSG calibration facility.

b. TMDE requiring calibration will be submitted to the calibration facility not longer than 15 days past its "CAL DUE DATE". Equipment may be submitted earlier due to unit operational requirements/deployments. Stagger submission of like items to preclude the total loss of test capabilities. Identification for early turn-in will be made by the commodity managers.

c. The commodity manager and MMO are responsible for establishing, maintaining, and monitoring the unit calibration program. Those duties include:

(1) Providing guidance to determine calibration requirements

2 Maintaining liaison with the calibration support facility.

(3) Inspecting commodity TMDE to ensure that calibration labels are properly affixed, equipment record jackets are accurate, and equipment is being calibrated on a timely basis.

4 Ensuring that newly received TMDE is calibrated prior to use

(5) Ensuring that all TMDE submitted for calibration have received all required PM services.

(6) Ensuring that commodities are notified monthly concerning equipment due for calibration and equipment operational checks (EOCs).

(7) Requesting "Special Calibration" designations for those items of TMDE that are not used to the full extent or only for specific ranges and functions.

(8) Requesting "Calibration Not Required" (CNR) designations for those items of TMDE which are used for other than quantitative or qualitative measurements where accuracy of the measurements is not a factor.

(9) Requesting "inactive" designations for those items of TMDE that are not used and are not anticipated for future use. TMDE so designated will be evaluated for a three year period for possible modification of allowance and deletion from the unit's T/E.

d. Upon notification, the commodity manager will submit all items of TMDE requiring calibration to ELMACO, 3d FSSG. Adequate padding will be used when transporting TMDE to and from the calibration facility. Trailers are not an adequate method of transportation and will only be used with the unit commander's authorization.

8013 SAFETY

1. Every Marine is responsible for the prevention of accidents involving personnel and equipment while performing maintenance duties. Commodity managers will incorporate safety procedures into all maintenance operations involving the use of facilities, tools, and TMDE. Corrective action will immediately be initiated to eliminate any safety hazards.

2. Commodity managers are responsible for the establishment, maintenance, and functioning of their section's safety program. He/she will ensure that procedures are incorporated and followed concerning safety in all maintenance operations.

3. The Division has implemented a comprehensive safety awareness program. The Marine Corps Ground Safety Program is established and outlined in the OSHA Manual 29 Code of Federal Regulations (CFR).

4 Refer to Chapter 1 of this SOP for further guidance

8014 RECOGNITION OF PERFORMANCE

1. Commodity managers/chiefs must continually evaluate personnel in maintenance related abilities and capabilities. Personnel will be

evaluated based upon their performance of maintenance duties commensurate with their grade and MOS.

2. Recognition of outstanding performance will be accomplished to maintain the morale and motivation of maintenance personnel. This recognition may be by direct compliment from the commodity officer, by recommendation for meritorious mast, meritorious promotion, Marine of the Quarter, certificates/letters of appreciation/commendation or recognition.

3. Correction of substandard performance is a vital function of leadership/management. Lack of training and/or motivation are common causes of substandard performance. Commodity managers are responsible for the correction of substandard performance within their sections. This can be accomplished through effective counseling, providing additional training and closer supervision, or by administrative or disciplinary action as a last resort.

8015 SUPPLY SUPPORT

1 General Information

a. The efficient conduct of a maintenance program requires that maintenance supplies are available when and where needed. This requirement is satisfied through the timely provisioning, distribution, and replenishment of repair parts and other required supplies. Units are not authorized to requisition or hold supply items involving use above their authorized maintenance echelon. CMC directives and the Commanding General, 3d Marine Division 4400 directive series set forth the policies and procedures pertaining to supply support. Supply procedures in support of maintenance include the establishment of supply issue points, positioning of supply items in proper quantities, determination of special requirements, requisitioning procedures, and the procedures for the salvage and disposal of parts and equipment.

b. Maintenance sections depend on supply to provide the repair parts and other supplies needed to conduct equipment maintenance. In order to ensure the proper functioning of the maintenance program within the unit, the following responsibilities are assigned:

(1) Maintenance Management Officer (MMO). The MMO is responsible for establishing and monitoring the coordination between the supply and maintenance sections. He/she assists in the resolution of problems which are beyond the capacity of local supply and maintenance sections.

(a) Division G-4 (MMO) is available to provide assistance to unit MMOs on any maintenance management issues that cannot be resolved.

(2) Supply Officer The supply officer provides:

Current status to commodity officers on pending
requisitions

Immediate upgrading of requisition priorities, when
required

(c) Systematic and centralized turn-in of repairable components

(d) Assistance to commodity officers in the establishment control, and replenishment of pre-expended bins (PEBs).

Commodity Managers. The commodity managers will:

(a) Provide the supply officer with timely information concerning normal and special requirements.

(b) Ensure that only required material is requested and that the proper forms and procedures are utilized to request materials.

(c) Ensure that material is properly used and that which is not used promptly returned to the issue point.

(d) Ensure that demand history is recorded for items obtained from sources outside the supply system.

(e) Ensure that outstanding requisitions are validated at least bi-weekly.

(f) Special emphasis must be placed on the necessity of continuous and close coordination between the supply and maintenance sections in order to ensure maximum unit readiness. The MMO will ensure that commodity managers and subordinate personnel are properly educated in all aspects of the supply procedures and those of higher headquarters.

8016 REPAIR PARTS REQUEST SYSTEM

1. The primary source of supply for all repair parts and materials for maintenance of comm-elec equipment is the unit's supply section. The following procedures apply:

a. System Requisitions. Requisitions for system items that have an NSN, will be requisitioned on an EROSL NAVMC form 10925. EROSLs are prepared per TM-4700-15/1_, UM-4790-5, and UM-4400.124. EROSLs are submitted for the following system requisitions:

Class IX repair parts

SL-3 replenishment items

Shop overhead material/supplies

b. Non-System Requisitions. Requisitions for non-system items, those which do not have an assigned NSN and are normally ordered by part number, will be requisitioned utilizing a ZOE format per UM-4400-124. All attempts will be made to cross match the part number to an NSN prior to ordering, i.e. FedLog, MCRL, non-system catalog, etc.

c. Open Purchase. Requisitions for items which must be acquired through a commercial vendor due to warranty contracts, blanket purchase

agreements (BPAs), or other justifiable reasons will be requisitioned utilizing a purchase order per the procedures outlined in MCO P4200.15.

d. Bills of Material (BOM). Special maintenance projects which require the pre-positioning of repair parts or modification kits will be requisitioned as bills of material per UM-4400-124.

2. Assignment of Priorities. The assignment of priority designators for repair parts will be consistent with the priority assigned to the ERO per the procedures outlined in MCO 4400.16_. Commodity managers will screen EROSLs per their assigned priority authorizations.

a. Not Mission Capable Supply (NMCS) Indicator. NMCS indicators of "N" will be assigned to parts requisitions which deadline an item of mission/combat-essential equipment. To assign the NMCS indicator, place an "N" in the NMC column of the EROSL. An NMCS indicator of "N" (indicates NMCS) will only be used in conjunction with an ERO category code assignment of "M" with a deadline control date (DCD) priorities 02 through 05. An NMCS indicator of "E" indicates anticipated NMCS and "9" indicates items requiring expeditious handling. Combat Essentiality Codes (CEC) (see chart in UM-4400-124, page 4-4-20) indicate items essential to the conduct of a mission. The CEC is found in FedLog.

b. To ensure that delays are not incurred due to internal procedures in meeting required delivery dates (RDDs), EROs and EROSLs will be processed expeditiously to allow reasonable and adequate time for supply system response. The following time frames apply for requisition processing:

Priority 01 through 08 --- Immediately, 24-hour workday basis
Priority 09 through 15 --- Within 3 days, normal workday basis

3. In order to maintain effective control over validation, reconciliation, and follow-up procedures, commodity managers will establish the following files:

a. Awaiting Document Number File. Copies of EROSLs submitted to supply that are awaiting document number assignment.

b. Awaiting Parts File (Short Parts). Copies of EROSLs assigned document numbers that have valid supply status or are awaiting supply status.

4. Cannibalization and Selective Interchange. Maintenance by cannibalization and selective interchange is an exceptional procedure and will only be authorized for mission essential combat equipment when an operational commitment is imminent and only when it appears that the required part may not be received in time. Decisions for repair by cannibalization and selective interchange will be made on a case-by-case basis through coordination between the MMO and commodity managers and upon approval by the commanding general.

5. Scrounge and Non-Supported Activities Supply System (NON-SASSY) Parts Procedures

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a. Scrounges. Repair parts scrounged from authorized sources and are ATCLASS procurable (possess an NSN) will be accounted for per local unit SOP. The ERO will reflect this procurement action in the "Description of Work" column.

b. Non-ATCLASS Parts. Repair parts procured from a commercial source, that are not ATCLASS procurable, will be annotated in the "non-ATCLASS parts" column of the ERO. The ERO will reflect all procurement action in the "Description of Work" column.

8017 REPAIR PARTS CONTROL

1. Receipt, Storage, and Utilization of Repair Parts. Repair parts and maintenance materials will be received/receipted for at the unit supply sections by authorized personnel. If the repair parts/maintenance materials cannot be installed/used immediately they will be tagged/marked with the associated ERO number and stored in the ERO parts bin (layette) until such time they can be applied. Repair parts/materials associated to an ERO will be utilized for the repair of the corresponding equipment unless the parts are transferred to another existing ERO or are no longer needed. All deadlining NMCS parts will be installed immediately upon receipt to ensure the fastest possible downgrading of equipment from deadlining status. EROs will reflect those maintenance actions performed and the parts used in the "Description of Work" column.

2. ERO Parts Bin (Layette) Procedures. ERO parts bins/layettes will be established in all commodity maintenance shops to store and control repair parts awaiting installation. Commodity managers are responsible for the management of these bins and will appoint a supply clerk to perform those functions required on a daily basis as outlined below:

a. All small repair parts and a copy of the EROSL for the same ERO will be stored together in a bin. The bin location will be annotated by the ERO number on the outside of the bin. Large items will be stored in a common area which provides adequate security from pilferage. All items, regardless of size, will be tagged or marked with the pertinent ERO number

b. ERO bins will be reconciled with all associated EROSLs at least bi-weekly.

c. EROSLs will be annotated as follows

(1) Upon receipt of repair parts, the supply clerk will verify the quantity by circling it, enter "RCVD" Julian date, and his/her initials on the left side of the EROSL under the NSN.

(2) Upon issue to the mechanic/technician, that person will enter quantity, "ISSUED" Julian date, and initials on the right side of the EROSL under the nomenclature.

(3) Annotation of the ERO is not required if all of the parts are installed upon receipt from supply (same day). However, annotation of the ERO reflecting the maintenance action is required in the "Description of Work" column.

(4) Upon transfer of repair parts (4 card transaction) to another ERO, the old EROSL document number will be circled and annotated "TRANSFERRED TO ERO NO.____", with Julian date, and initials. A "new" EROSL will be prepared and all of the original information will be annotated on it; to include "TRANSFERRED FROM" ERO number, Julian date, and initials. The old EROSL will be attached to the new EROSL and is retained until the ERO is closed.

3. Pre-Expended Bins (PEB). Pre-expended bins will be established in maintenance shops per MCO P4400.150 and UM-4400.124.

4. Excess Repair Parts. Excess repair parts and maintenance material will not be maintained by maintenance sections. All excess repair parts will be turned into the unit supply section for roll back using DD-1348.

8018. VALIDATION AND RECONCILIATION

1. Validation will be accomplished at least bi-weekly. The minimum requirements for validation are set forth in the following paragraphs

2. Daily. A shop/records clerk will accomplish the following:

a. Ensure that the EROSL has been prepared for all EROs requiring repair parts.

b. Ensure that all repair parts received from supply are assigned to the appropriate ERO and/or subsequent parts layette.

c. For EROs incurring backorder status of repair parts, a copy of the EROSL is maintained with the ERO.

3. Bi-Weekly. Once every two weeks, the CEMO/C will accomplish the following:

a. Review the daily validation procedures to ensure that they are being accomplished properly.

b. Ensure that all EROs reflect the actual condition and status of the equipment.

c. Reconcile parts layette

d. Reconcile each requisition with supply.

(1) Identify parts no longer required and cancel those requisitions or roll back excess.

(2) Identify parts received, but not shown as received, and reconcile the requisition with the DASF clerk at supply.

(3) Identify those parts not received, but shown as received, and reconcile the requisition with the DASF clerk at supply.

(4) Check the status for each requisition and request follow-up action on all requisitions having an invalid status.

8019. DIRECT EXCHANGE/MAINTENANCE FLOAT

1. General Information. The unit's capability to perform its assigned mission would be severely hampered by the lack of operationally ready equipment. The established maintenance/supply cycle is normally sufficient to maintain equipment in an operationally ready status at all times, but occasionally circumstances arise that adversely affect the state of equipment readiness. The Marine Corps Secondary Repairable Item Program was established to help alleviate some potential problems that can develop and adversely affect equipment readiness.

2. Detailed Procedures. Commodity sections will be guided by the following information for direct exchange:

a. When a secondary repairable item is turned in to the maintenance float, the customer will prepare the appropriate exchange/turn-in document EROSL and inspection tag NAVMC 1018.

b. Forward the unusable item along with the proper document required for the direct exchange/float. Ensure the item is complete and tagged IAW TM 4700-15/1_.

c. If the required item is not in stock, ensure that the maintenance float provides the proper backorder documentation.

d. Follow up on all outstanding backorders with the maintenance float on a bi-weekly basis.

3. Recommendation for Float Allowance Changes. Recommended changes to maintenance float allowances will be forwarded via the chain of command to the Division Headquarters (G-4/MMO) for consideration.

8020. NEW EQUIPMENT. Periodically new equipment is introduced into the Marine Corps for distribution to the FMF and supporting organizations. Distribution is preceded by promulgation of a User's Logistic Support Summary (ULSS). The ULSS provides instructions to concerned organizations regarding distribution, requisitioning, and support requirements, and placement in service of the new equipment.

8021 TOOL SETS, CHESTS, AND KITS

1. The commodity manager is responsible for the proper control of tool sets, chests, and kits authorized by the section. The minimum requirements of control are set forth in the following paragraphs.

2. Control. Tool sets, kits, and chests, to include Special Tool Allowances, will be authorized and maintained per MCO P4400.150_ and MCO P4790.2_. The three categories that tool sets, kits, and chests can be placed in and their required inventory intervals are as follows:

a. Those individual tool chests, kits, and sets securely stored by the section (i.e., tool room) and are not issued to maintenance personnel inventory semiannually.

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b. Those with locks and secure storage provided, issued to an individual for the exclusive use of that individual; personnel will inventory at least semi-annually and upon turn-in.

c. Those securely stored/banded by the unit supply/commodity area that are not required due to lack of personnel, etc.; inventory annually.

3. Inventories. Commodity managers/chiefs will establish locally produced SL-3 extracts, for all tool sets, chests, or kits they maintain to record required inventories. The SL-3 extract will be updated to reflect all changes to the SL-3 and dated to reflect the date of the original SL-3. The last page of the extract will have a space for the signature of the person conducting the inventory, date of inventory, and signature of the person supervising the inventory. Copies of inventories will be maintained for one year.

4. Maintenance/Replacement

a. Tools and equipment also require PM/CM. Defective tools can be a safety hazard and detrimental to the maintenance effort and readiness of this Division.

b. During scheduled inventories, tools will be checked for cleanliness and serviceability. Unserviceable tools will either be repaired, evacuated for repair, or properly disposed of through supply or DRMO.

c. Inventory shortages and/or unserviceable tool replacements will use the following procedures:

(1) The first source of replenishment will be through ServMart. ServMart lists will be prepared by commodity managers and consolidated by the MMO.

(2) The second source of replenishment will be through ATLASS. A category code "S" ERO will be opened on the individual tool set, kit, or chest and EROSLs submitted to supply, as required.

d. It is imperative that internal safeguards are established to prevent occurrences of fraud, waste, and abuse. Missing gear statements processed per current supply directives/orders will be utilized when an individual can be held accountable for missing items.

LIMITED TECHNICAL INSPECTION (LTI)

1. An LTI is an equipment inspection conducted at any echelon which has the requisite maintenance resources to obtain the degree of information required. It is limited in the fact that it does not require full examination of the equipment, but has a lesser objective such as:

a. Inspecting equipment conditions to determine the extent of maintenance required to restore the equipment to a specified condition

b. Determining the modification status of an item of equipment for which the status cannot be determined by the equipment user within the assigned echelon of maintenance.

c. Determining the eligibility of items of equipment for the Recoverable Items Program (RIP) (see DivO P4790.1_), the Replacement and Evacuation (R&E) program, or the Inspect and Repair Only as Necessary (IROAN) program.

d. During formal inspections, the LTI is used to inspect the equipment in order to evaluate the quality of the maintenance program.

2. The extent of the LTI required is determined by the intended use of the results (i.e. pre-/post-deployment, UDP turnover).

3. The Division CEMO/C is responsible for preparing local forms to be used as guides to conduct and record LTIs (See Figure 8-2).

4. First echelon LTIs will be conducted on all equipment in the following situations: pre-/post-deployment, change of the RO, and equipment temp loan within the unit. Second echelon LTIs will be conducted when equipment is temp loaned external to the unit and during the acceptance of new equipment.

8023 REPLACEMENT AND EVACUATION (R&E) PROGRAM

1. The policies and procedures for the management of the R&E program are contained in MCO P4400.82_ and TI-4710-14/1_. This program identifies and selects equipment items that meet CMC established criteria for depot level repair and replacement of those items in the operating forces with assets available from prior year rebuild programs.

2. The R&E program is implemented by an annual call for requirements submission initiated by CMC through the chain of command. These requirements, which are for the subsequent three years, are consolidated by the 3d Marine Division MMO and forwarded to CMC for approval. Approved R&E items are promulgated by CMC and a shipping schedule is published by the Inventory Control Point (ICP), MCLB Albany, GA.

3. The actions to be completed by units include:

a. Commodity managers will review TI-4710-14/1 for nomination criteria and will submit a list of nominations for the subsequent three year period to the MMO. Commodity managers select equipment for retrograde which is economically repairable and in the poorest overall mechanical condition as determined by an LTI.

b. The MMO will review nominations for accuracy and forward a consolidated list from all commodity areas to the Division MMO.

c. The commodity managers and MMOs will ensure that retrograde equipment is complete with all major subassemblies and appropriate collateral material as listed in the applicable SL-3. Collateral material will be retained by the organization for association with the replacement equipment. Retrograded equipment will not be delayed due to missing collateral material required to be evacuated with the principal item. Missing items will be noted on the LTI indicating the action that the owning organization has taken to determine culpability for the shortfalls.

d. The supply officer ensures that replaced equipment is prepared for retrograde per MCO P4030.14_.

e. The supply officer ships the retrograde item within 30 days after receipt of the R&E item.

f. A Replacement and Evacuation Report (RER) is prepared by the supply officer per MCO P4400.82_ no later than five calendar days from the date the retrograde item was turned over to the transportation facility. The shipping document number must be the same as the document number contained in the RER.

g. Upon submission of the RER, the Supply Officer forwards equipment/vehicle records, complete with LTIs and one copy of the shipping document, to the MCLB to receive the retrograde item.

h. The MMO will mark all equipment retrograded under the R&E program conspicuously with 3-inch letters: "R&E FY, SHIPPING TCN."

8024. INSPECT AND REPAIR ONLY AS NECESSARY (IROAN) PROGRAM

1. The IROAN program is established for selected major end items of equipment on a regular basis. IROAN is cost effective and adequately serves to maintain a high standard of operational readiness. Equipment retrograde is scheduled and coordinated by G-3 FSSG.

2. Once a unit has been notified to prepare an item for IROAN, the unit will follow those instructions outlined in DivO P4790.1_.

3. Comm-elec personnel routinely are involved in the IROAN program in those units that possess Light Armored Vehicles (LAVs), Amphibious Assault Vehicles (AAVs), and HMMWVs.

a. Close coordination with MMO and other regiment/battalion maintenance commodity areas is imperative.

b. CEMO/C turnover folders will contain specific guidance as to the nature of conducting an IROAN for each particular unit. For example: When conducting an IROAN for an AAV, all radios, mounts, AM-7162, and AN/VIC-2 "charlie" boxes are removed. Cables are left in place. When conducting an IROAN for a LAV, the same applies, however the AN/VIC-2 system is left alone. (Note: This illustration is "for instructional purposes only" and is subject to change.) Whenever possible, view the incoming IROAN vehicle to see exactly how it is coming from MCLB Albany to be sure of what to remove from the outgoing vehicle. Discrepancies found by MCLB Albany (i.e. missing components), will be followed up by a Report of Discrepancy (ROD).

8025. COMBAT READY STORAGE PROGRAM (CRSP). The CRSP is intended to provide commanders with the means to effect conservation of personnel and equipment resources. Proper utilization and management of the program will improve equipment readiness, balance personnel-to-equipment ratios, and allow added time to conduct meaningful unit technical training. DivO 4790.3_ provides details of the CRSP.

8026. PRODUCT QUALITY DEFICIENCY REPORT (PQDR)

1. The PQDR, one of the most vital management tools available to assist in the correction of material deficiency, is the first step in the procedures to institute corrective action. Absence of PQDR submissions on specific material indicates that the material is satisfactory.
2. MCO 4855.10 contains instructions and procedures for PQDR submissions. The commodity, maintenance, or responsible officer of the section or shop where a deficiency is detected is responsible for the submitting a PQDR to the MMO.
3. The MMO is responsible to consolidate, review, and verify all PQDRs prior to submission. Report control numbers are assigned, endorsements prepared, and a central file copy maintained on all PQDR correspondence.

8027. MODIFICATION CONTROL PROGRAM

1. The modification control program provides a system for the management of modifications to Marine Corps equipment.
2. The Division MMO and commodity managers use the current edition of TM-4700-15/1_ to establish and maintain an effective modification control program.
3. The MMO is the modification control officer. MMOs will ensure that:
 - a. Modifications are accomplished expeditiously, compatible with other maintenance work and time frames established by the MIs.
 - b. Completed modifications are recorded per TM-4700-15/1_ and the MI instructions.
 - c. Applied modifications are reported per the current edition of MCO P4400.84_ and recorded on the modification control form.
4. Commodity managers are responsible for:
 - a. Maintaining a file of all modifications applicable to their equipment, regardless of echelon, as listed in the current SL-1-2.
 - b. Requisitioning and reconciling all pending modifications.
 - c. Preparing and maintaining a control document for each major equipment item under their cognizance.
 - d. Accomplishing all applicable modifications on their equipment and recording the completed modifications per the instructions contained in TM 4700-15/1_ and the MI.

8028 MARINE CORPS AUTOMATED READINESS EVALUATION SYSTEM (MARES)

1. MIMMS/MARES Logistics System Description. Per MCO 3000.11_, MIMMS/MARES logistics system is no longer a Force Information System (FIS), but a

Class I system under the Marine Corps Integrated Maintenance Management System (MIMMS) Automated Information System (AIS), hereafter designated MIMMS/MARES log system.

a. The MIMMS/MARES log system is a computer oriented command information system that provides the Combat Essential Equipment (CEE) readiness posture of the operating forces. The MIMMS/MARES Log System receives, processes, and stores data concerning mission/combat essential ground equipment to reflect:

Operational readiness status of reporting units

Identification of authorized allowance deficiencies.

(3) Overview of maintenance and supply effectiveness in support of mission/combat essential ground equipment.

b. MIMMS/MARES log system is capable of providing an independent evaluation of logistics readiness using standard supply and maintenance input. It combines this data to provide a formulated display of logistics readiness in standard MIMMS/MARES log system terms.

2. Definitions

a. Reportable Equipment - Specific items listed as combat essential equipment found in MCBul 3000 series.

b. LM-2 Input - Indicates the unit's equipment status

c. RM-4 Remarks - Amplifies the data submitted on LM-2 input

d. NMCM - Not Mission Capable Maintenance.

(1) The NMCM condition indicates that an item of equipment is in a deadlined status:

(a) Awaiting or undergoing diagnostic inspection at a maintenance site.

(b) Awaiting repair, although repair parts are available at the maintenance work site.

(c) Under repair and the necessary repair parts are available at the maintenance work site.

NMCM status starts:

(a) When it becomes known that a maintenance requirement causes an item of equipment to be not operationally ready.

(b) When all critical repair parts are received at the maintenance work site.

(c) When a 3rd or 4th echelon maintenance activity receives an item of equipment for repair.

(3) NMCM status stops when:

(a) All required maintenance work has been completed and the equipment is operationally ready. In this case, the item will be either removed from deadline or put into a TRANSIT status.

(b) The repairs required are determined to be beyond the capabilities of the present holding organization and the owning activity. In this case, the item will be put in a TRANSIT status.

(c) No more maintenance work can be performed until a required supply item becomes available. In this case, the item will be put into NMCS condition. NMCM status resumes when the previously non-available part becomes available at the work site.

(d) When an item is in a deadlined condition and the maintenance facility has determined that it is uneconomical to repair, the maintenance activity requests disposition instructions. Upon receipt of instructions from MCLB, Albany to ship or dispose of the item, the owning unit will delete the deadlined item and decrease the quantity possessed.

e. Not Mission Capable Supply (NMCS)

(1) The NMCS condition indicates that an equipment item is in a deadlined status due to the lack of critical repair parts. This includes direct exchange parts, components, and secondary repairables.

(2) NMCS status starts when a supply demand has been made and the critical repair parts requisitioned are not available, prohibiting further maintenance work.

(3) NMCS status will stop when the required critical repair parts are received at the maintenance work site. The item will be placed into a NMCM condition to indicate that the item is either awaiting or undergoing repair.

f. TRANSIT - The TRANSIT status, on the LM2, indicates that:

(1) The item is in a deadlined condition but is not located at a site where 3rd or 4th echelon maintenance can be performed. In this case, TRANSIT status will start when it is determined that the equipment cannot be repaired at the present location and is awaiting evacuation. TRANSIT status will stop when the item arrives at the maintenance destination where repairs are to be accomplished.

(2) The item has been repaired but is not in the hands of the owning unit. In this case, TRANSIT status will start when the item is repaired at a 3rd or 4th echelon maintenance facility and continue until the owning unit receives the repaired item.

(3) An item is in a deadlined condition and the maintenance facility has determined that it is uneconomical to repair. In this case, the maintenance activity will request disposition instructions. Upon notification of the request for disposition instructions, the owning unit

delete the deadlined item and decrease the quantity possessed

(4) An item being repaired by an activity which does not report through the MARES log system; i.e., civilian contractor or Marine Corps base maintenance (or other service) activity, will be carried as TRANSIT until the item is returned to the owning unit. Enter the figures "66666" in card columns 54-58 when an item is in this particular TRANSIT status.

g. Combat Essential Deadlined Equipment. Equipment which cannot perform its assigned combat mission due to the need for critical repairs or urgent modification that has been "Not Mission Capable" in excess of 24-hours is considered combat essential deadlined equipment. Routine modifications, scheduled maintenance, or lack of non-critical repair parts (i.e., fenders, windshields, etc.) will not, in themselves, cause equipment to be placed in a deadlined condition.

h. Reporting. The supporting maintenance activity is responsible for adding or deleting items to/from deadline, as appropriate. An organization repairing a deadlined item, to include maintenance support activities, will also report changes in the reported condition of the item, such as that from NMCM to NMCS or in TRANSIT.

8029 COMMUNICATION SECURITY (COMSEC) EQUIPMENT MANAGEMENT

1. The Chief of Naval Operations has the primary responsibility for the procurement of cryptographic equipment within the Department of the Navy, however, the support of this equipment is the responsibility of the using activity.

2. Security is of paramount importance in the maintenance and operation of COMSEC equipment. Operator and maintenance personnel must be thoroughly familiar with the current security regulations relating to storage, operation, and the maintenance of COMSEC equipment and material.

3. All cryptographic controlled items (CCI) assigned to the unit's CMS account will also be accounted for on a CMR and signed for by a designated responsible officer. The communications officer is responsible for ensuring proper PM and CM procedures are followed and that all personnel are trained in the use and handling of COMSEC hardware and software.

a. Maintenance. MCO 4408.2_ and the NTP-7 provide maintenance guidelines, procedures, and component listings for COMSEC equipment.

b. Levels of Maintenance. The cryptographic maintenance system is comprised of three levels defined as follows:

(1) First echelon preventive maintenance: is required to maintain the equipment in a clean, complete, and operable condition

(2) Second echelon corrective maintenance: is performed only by those repairmen who have been formally trained on that specific COMSEC equipment. Limited maintenance on COMSEC equipment consists of minor replacement of knobs, screws, protective caps, etc.. Limited repairmen are authorized to verify modifications listed in the CMS-5 and NTP-7.

(3) Unlimited maintenance: will be performed by qualified personnel at ELMACO, 3d FSSG.

c. Cryptographic Maintenance Flow. The commanding officer will ensure that defective cryptographic equipment, components requiring repair beyond the unit's authorized level of maintenance, are evacuated to ELMACO. The S-6 officer, not the CMS custodian, will initiate the maintenance process. Defective equipment will be evacuated to ELMACO as follows:

(1) A current copy of the unit CMS custodian's appointment letter and list of authorized couriers shall be held at ELMACO.

(2) An SF-153 (original and one copy) will be used to transfer the COMSEC item requiring repair to ELMACO along with the ERO.

(3) All COMSEC equipment provided with protective shipping cases shall be transported in the shipping cases to and from ELMACO

d. Cryptographic Equipment Records. The NTP-7 addresses the requirements for COMSEC equipment. All maintenance records required by the TM 4700-15/1_ will be adhered to and are the responsibility of the unit commander. Ensure that no classified information is entered into the equipment record jackets.

e. Modifications. Detailed guidance on modifications to COMSEC equipment is found in the NTP-7. Additional information is found in the COMSEC equipment KAM and the CMS-5. Cryptographic equipment modification records will be maintained per TM 4700-15/1_.

8030. STANDARDS FOR REPORTING SELECT MARINE CORPS COMMUNICATION-ELECTRONIC EQUIPMENT

1. The purpose of this paragraph is to assist the commander in determining the operational status of MIMMS readiness reportable comm-elec equipment by providing standardized criteria of a general nature. It is end item vice systems oriented. Comm-elec encompasses a wide variety of systems and end items in its own and other commodity areas.

2. The following guidance establishes the readiness posture of readiness reportable equipment groups:

a Portable single channel radios must provide the following

- (1) Meet TM transmit and receive specifications
- (2) Have an operable handset or microphone and speaker combination
- (3) Have a component antenna
- (4) Be operable with appropriate COMSEC equipment

b Mobile single channel radios must:

- (1) Meet the criteria above for portable radios
- (2) Have a self starting capability under all conditions.

Be able to move from point A to B under its own power

c. Multichannel radios must:

(1) Meet the requirements established above (a&b) for portable and mobile single channel radios.

(2) Receivers and transmitters must also meet TM specifications for passing appropriate wide band signals.

(3) Modems, control units, and power supplies must meet TM specifications.

(4) At least 60% of the channels must meet specifications and be capable of interfacing with subscribers.

d. Switching systems must:

(1) Maintain operator subsystems in functioning condition.

(2) Maintain at least 85 percent of subscriber channels to required specifications.

e. Data Communications equipment must have keyboard and/or page printer capabilities, as appropriate.

f. COMSEC equipment must:

Be capable of encryption/decryption.

(2) Have interface capability with supported end item, (i.e cables).

Meet TEMPEST criteria (i.e. manufacturer's cables, covers etc.

g. Air conditioners will be considered in determining the operational condition of associated comm-elec equipment.

3. The following reflected items of equipment are provided with associated deadline and degraded criteria.

a. A21XX Radio Set, AN/VRC-XX (SINCGARS)

Category code M status is applicable when:

(a) Radio is inoperative in the case of 2 RTs, if both are inoperative).

(b) Handset is inoperative (in the case of 2 RTs, if both handsets are inoperative).

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e. A1955 Radio Terminal Set, AN/MRC-142

(1) Category code M status applies when:

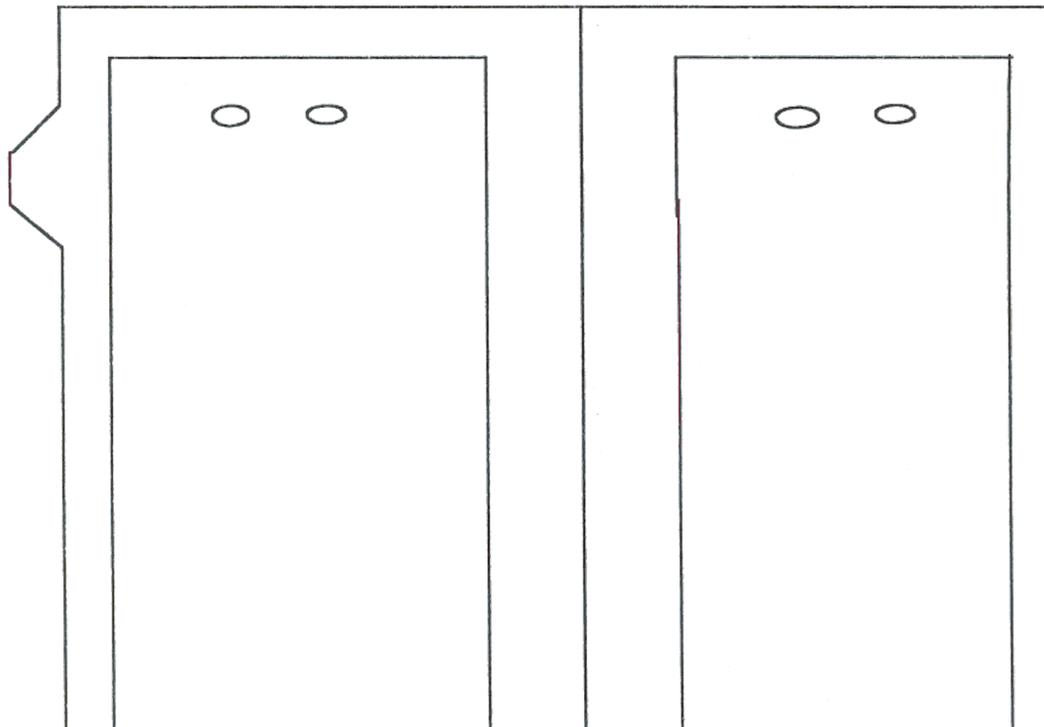
Vehicle is inoperative

Radio systems are inoperative.

Multichannel system is inoperative.

Directional antenna systems are inoperative

(2) Category code X status applies when the radio loses no more than three channels.



Left Side

1. Completed LTI Sheets (on top)
2. White copies of completed ERO's.
3. Completed Product Quality Deficiency Reports (PQDR).

Right Side

1. SL-3 or dated SL-3 extract or dated components list from appropriate publications.
2. SL-3 inventory signature page.
3. Dated TM extract listing operator PM requirements.

Figure 8-1. Equipment Record Folder Layout

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LIMITED TECHNICAL INSPECTION FORM
 3D MARINE DIVISION
 COMMUNICATION-ELECTRONICS

DATE: _____

NOMENCLATURE: _____ SERIAL NUMBER: _____

ID _____ TAM _____ CONDITION CODE: _____

	OUT	IN	REMARKS
1ST ECHELON PM			
SL-3 COMPLETE			
SCREWS, BINDING POSTS			
CORDS, CABLES			
GASKETS, GROMMETS			
FUSES, LAMPS			
JACKS, CONNECTORS			
METERS, GAUGES			
RADIO MOUNTS			
ANTENNA MOUNTS			
RECORD JACKET (FOR JOINT LTI)			
CANVAS, BAGS			
CALIBRATION DATES			
OPERATIONAL CHECKS (PLAIN & CIPHER)			
EMI INSTALLATION			

REMARKS:

OWNING UNIT:		RECEIVING UNIT:	
	<=	OUT	DATE
		IN	=>
	OPERATOR'S SIGNATURE		
	SUPERVISOR'S SIGNATURE		

LEGEND: B = BAD C = COMPLETE G = GOOD I = INCOMPLETE M = MISSING
 N = NOT REQUIRED/APPLICABLE S = SERVICEABLE U = UNSERVICEABLE

Figure 8-2. Limited Technical Inspection Form

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INSTRUCTIONS FOR COMPLETING THE LTI SHEET

All entries will be in black ink

2. Header Information - Self-explanatory
3. Body Information - Utilize the legend to fill out each block.
 - a. OUT - Used by owning unit during a joint LTI.
Used for the required LTI before the equipment deploys.
 - b. IN - Used during initial/annual LTIs
- Used by the receiving unit during a joint LTI.
Used for the required LTI after equipment deployment.
 - c. DISCREPANCIES - Enter the discrepancies found.
- MUST also be in black ink.
- Helps the record clerk create the ERO.
4. Remarks - Information pertinent to the use or maintenance of the equipment inspected. Information that may be useful to the next inspector or operator.
5. Ending Information - Self-explanatory. Supervisor's signatures are required.
6. File in the equipment record jacket.

Figure 8-2. Limited Technical Inspection Form (Cont

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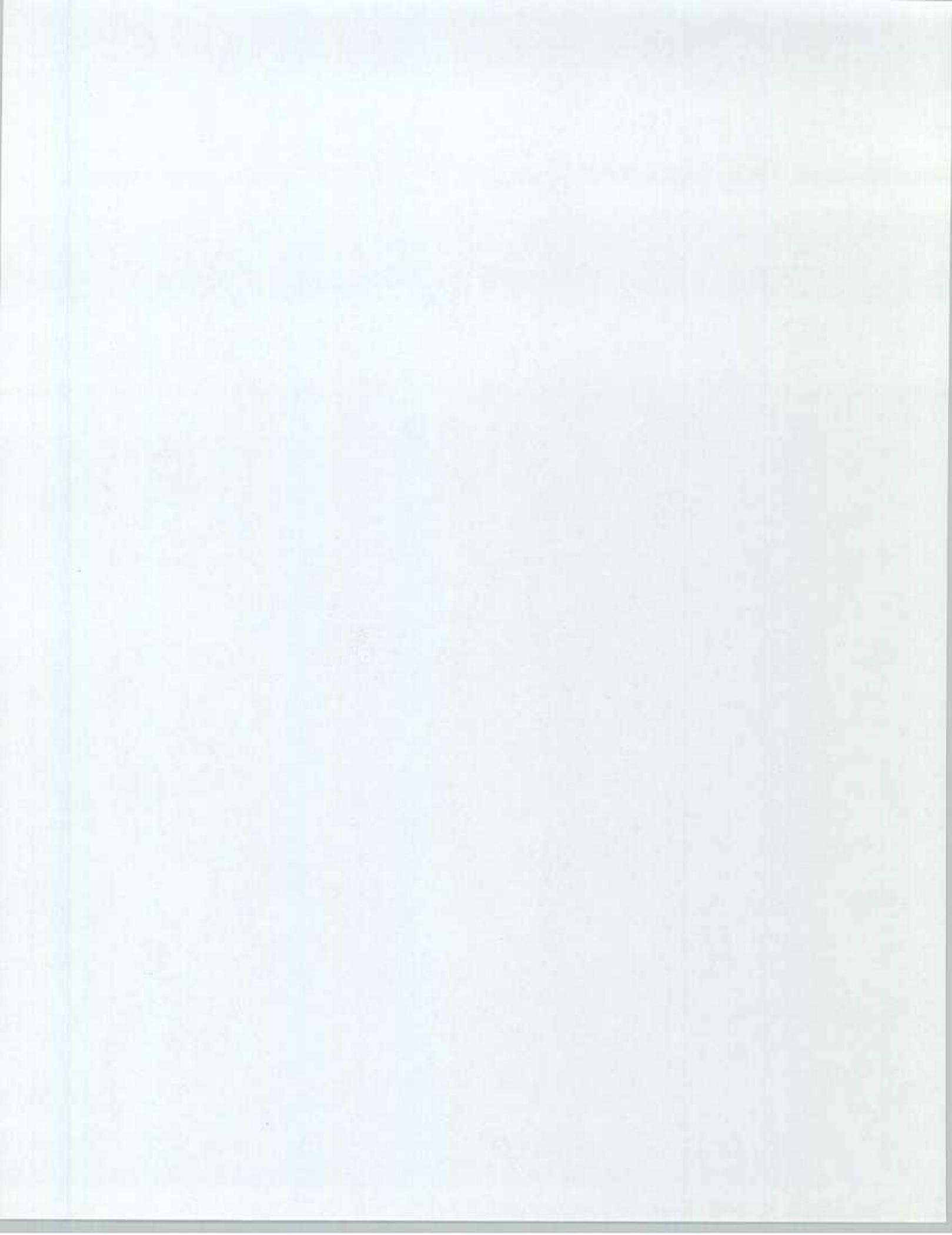
CHAPTER 9

COMMUNICATIONS PLANNING

	<u>PARAGRAPH</u>	
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STAFF COORDINATION .	9001	
PLANNING TOOLS .	9002	
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COMMUNICATIONS PLANNING CHECKLIST. .	9004	

FIGURE

9-1 STANDARD FREQUENCY ACTION FORMAT (SFAF)



3D MARINE DIVISION COMMUNICATION-ELECTRONICS SOP

CHAPTER 9

COMMUNICATIONS PLANNING

9000. GENERAL. The importance of timely, detailed communication planning cannot be over emphasized. Missions must be carefully analyzed and requirements identified early. Communications planners have many services and computer planning programs available. The astute planner will make use of these services in order to eliminate uncertainty and guesswork. This chapter discusses available services and how to use or request those services. It is important that Division communicators use communications doctrinal and reference publications. Appendix A establishes a minimum required reference library. The intent of a common library is to ensure communicators are planning on common ground.

9001. STAFF COORDINATION. Communications planning is conducted concurrently with operations planning to ensure that adequate communications support will be provided when and where required during an operation. The following staff sections have responsibilities in regards to the planning and employment of communications in support of operations

1. Assistant Chief of Staff, G-1. The administration/personnel officer provides information concerning personnel strengths, replacements, command post organization, message distribution, reproduction, and provides courier service.
2. Assistant Chief of Staff, G-2. The intelligence officer provides information concerning the weather, terrain, enemy situation (especially enemy EW capability), and Special Intelligence (SI) circuit requirements
3. Assistant Chief of Staff, G-3. The operations officer provides information concerning the mission, concept of operations, task organization, anticipated rates of advance, command post operations, and unique command and control requirements.
4. Assistant Chief of Staff, G-4. The logistics officer provides information concerning initial allowance and resupply of comm-elec material, CSS available, proposed location of CSS facilities, transportation availability and limitations, and unique requirements pertaining to logistics support afloat and ashore.
5. Assistant Chief of Staff, G-6. The comm-elec officer determines what communications the commander requires through mission analysis, coordination with the other staff officers, and liaison with the communications officers of senior, subordinate, adjacent, and supporting units. The development of the communications plan will then be done jointly with information provided by the supporting communications unit.
6. Communication Company, Headquarters Battalion. Upon receipt of a mission, the Communication Company together with the AC/S, G-6 Operations Officer, will analyze all aspects of the situation to determine the communications requirements.

7. Subordinate Elements. Subordinate communications elements will submit personnel and equipment shortfalls as early as possible.

9002. PLANNING TOOLS

1. Communicators must be familiar with the staff planning sequence contained in FMFM 3-1. Division communicators must understand this document if they are to adequately keep abreast of the planning process. Frequently, communications personnel find themselves out of the planning cycle and only the communicator who thoroughly understands the process and anticipates requirements or pitfalls in a plan succeeds. The reference documents contained in Appendix A contain pertinent checklists. The Division uses the FMFM 3-30 checklist as the primary source for testing the completeness of a plan.

2. Joint Spectrum Center (JSC), Annapolis, MD. The JSC, formally designated the Electromagnetic Compatibility Analysis Center (ECAC), provides many valuable planning services such as radio line-of-sight coverage overlays, skywave and groundwave propagation predictions, multichannel reliability studies, and more. The JSC Communication-Electronics Engineering Analysis Guide is part of the required reference library and contains details concerning services. Services can be obtained via AUTODIN message, letter, telephone, or LAN request. Overlays and bulk products are normally sent by mail so lead-time is a consideration. JSC also produces country studies that cover many of the countries in the III MEF area of responsibility. These studies cover topography, host nation communication facilities, frequency spectrum, etc. Each regiment and battalion has been provided country studies of the Philippines, South Korea, and Okinawa. These studies should be maintained in the unit's reference library.

3. Computer Planning Aids. Computer planning aids available continually change as technology and software improve. The Systems Planning Engineering and Evaluations Device (SPEED) is the standard planning tool in the Division and is widely available. This user-friendly software is designed to run on an AN/UYK-85A, TAMCN A2510, or lightweight computer unit (LCU), TAMCN A2541. SPEED combines numerous planning functions including frequency prediction, line-of-sight reliability studies, CEOI/Annex K generation, co-site interference deconfliction, and more.

4. Battery Estimation. Batteries are among the greatest contributors to exercise costs. All Division communications activities must work to reduce battery consumption. Use of generator power, vehicle power, frequent rotation of batteries, and an aggressive battery management program are essential to cost reduction. The Division uses a battery spread sheet to estimate consumption and costs. The program is available for all Division units. While there is not a prescribed method of estimating usage, all requests must be justified in terms of operation duration, items of equipment to be used, and battery life. Battery estimates must contain a statement of alternative power sources used, considered, or planned.

9003. REQUEST FORMATS

1. Satellite Access Requests. Most Division units will need to plan for and employ single channel satellite equipment at some point in time. The

3d Marine Division does not own any inherent satellite communications equipment and requirements must be met through the 7th Communication Battalion, III MEF.

a. In order to receive satellite support, Division units must forward their request for satellite communication support by LAN to the Division headquarters. Users must understand that this equipment has very limited availability, is in great demand, and may not be readily available. Early identification of requirements and an official request will greatly increase the chances of obtaining these assets.

b. It is Division policy that units deploying off island receive a TACSAT single channel radio (AN/PSC-3) with one or two operators depending upon availability of equipment and personnel. The satellite communications team will arrive with all that is required to operate except for encryption equipment and COMSEC keymat which must be provided by the using unit.

2. Frequency Requests. All frequency requests for off-island exercises will be submitted in standard frequency action format. Sufficient lead-time is essential. The following lead-times apply:

<u>LOCATION</u>	<u>LEAD-TIME</u>
Okinawa/Camp Fuji	24 hours
Japan	90 Days
Korea	90 Days
Philippines	90 Days
Malaysia	90 Days
Guam/Mariana Islands	90 Days
Thailand	120 Days
Diego Garcia	120 Days
Australia	120 Days
All Others	120 Days
Contingency	Immediate upon Justification

See Figure 9-1 for the standard frequency request abbreviated format used to request frequency support.

9004. COMMUNICATIONS PLANNING CHECKLIST

Communications

- a. Command relationships
- b. Planned/possible CP locations
- c. Common user communications.
- d. Circuit validation/staff requirements
- e. Frequency assignment action

Data communications and their uses

- g MINIMIZE considerations
- h Radio circuitry and control to include EMCON.
- i. Power requirements.
- i ACEOI composition and distribution, to include callsigns
- k Sufficient COMSEC materials (software/hardware) at all levels
- l Data systems/LAN interfaces
- m. Systems engineering and restoral plans

2 Means of Communications

- a Radio networks
- b Satellite communications/availability.
- c. Multichannel connectivity and trunking.
- d. Visua and sound communications
- e. Interoperability with sister services (ROK, USN etc. to include trunking, switching, and single channel radio.
- f. Teletype, data, telephone, and facsimile networks
- g. Lease lines and AUTODIN services
- h Advance force operations (Recon etc.
- i. Linkup operations to include CMS concerns.
- j Messenger and courier services.

Functional Communications

- a. Command and control communications to include transit communications, ship-to-shore communications, and retrograde.
- b Emergency communications
- c Weather communications
- d. SI communications
- e Air traffic communications
- Communications with US embassies and consulates
- g DCS entry requirements.

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h Real world communications/concerns

4 Administrative and Logistics

- a. Office supplies.
- b. Comm-elec supply blocks, float capability and interface. Any special maintenance procedures.
- c. Battery requirements, to include transportation and follow on procurement.
- d. Telephone directory and distribution.
- e. Communications Guard Shifts and Task Group promulgation messages.
- f. Embarkation of communications publications and files

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FM UNIT REQUESTING SUPPORT
TO CG THIRD MARDIV
SUBJ: REQ REL
FM CG THIRD MARDIV
TO CG III MEF//G-6//
COMM-ELECT SOP
INFO UNIT REQUESTING FREQ
C L A S S I F I C A T I O N//NO2400// (NOTE 1)
SUBJ FREQUENCY PROPOSAL, USMC TEMP
A. USMCEB M-060-90 DTD 27 APR 90
005 CLASSIFICATION (NOTE 1)
010 N-TEMP
110 NUMBER OF SPECIFIC FREQUENCIES REQUESTED (NOTE 2)
113 STATION CLASS (NOTE 3)
114 EMISSION (NOTE 4)
115 POWER OUT
140 START DATE (YYMMDD) (EXAMPLE OF A CLASSIFIED ITEM)
141 FINISH DATE (YYMMDD) (EXAMPLE OF A CLASSIFIED ITEM)
200 USN
201 CINCPAC
202 PACFLT
204 FMFPAC
205 III MEF
206 3D MARINE DIVISION
207 REQUESTING UNIT (EXAMPLE OF CLASSIFIED ITEM)
208 REQUESTING UNIT RUC (EXAMPLE OF CLASSIFIED ITEM)
209 RESPONSIBLE JFMO (JKOR FOR KOREA, JJPJ FOR JAPAN/OKI, JPHL
FOR PHILIPPINES AND JPAC FOR ALL OTHER AREAS,)
300 COUNTRY OR STATE WHERE TRANSMITTERS ARE LOCATED (NOTE 5)
301 TRANSMITTER SITE LAT - LONG
303 TRANSMITTER SITE IN LONGITUDE AND LATITUDE (REQUIRED FOR DCS
ENTRIES, RADAR AND NAVAIDS) (EXAMPLE OF CLASSIFIED ITEM)
340 G. TRANSMITTER EQUIPMENT NOMENCLATURE
400 COUNTRY OR STATE WHERE RECEIVER LOCATED (NOTE 5)
401 RECEIVER SITE LOCATION
403 RECEIVER SITE LOCATION IN LONGITUDE AND LATITUDE (REQUIRED
FOR DCS ENTRIES, RADAR AND NAVAIDS)
440 G. RECEIVER EQUIPMENT NOMENCLATURE
502 DESCRIPTION OR REQUIREMENT, JUSTIFICATION, AND/OR EXERCISE
NAME
520 THIS ITEM CAN BE USED TO PROVIDE FURTHER JUSTIFICATION AND OR
DESCRIBE EQUIPMENT NOMENCLATURE
702 LOCAL APPLICATION NUMBER
803 POINT OF CONTACT

NOTE 1: Enter the overall security classification of the frequency proposal or assignment. Frequency requests for routine and incremental training are unclassified. Exercise/operational requests are classified to meet mission requirements. All classified requests must be releasable to host governments to ensure requests can be coordinated and assignments made (i.e. in classification line of message and all classified items). RELROK for Korea, RELTHAI for Thailand, RELPHIL for the Philippines, and RELJAPAN

Figure 9-1 Standard Frequency Action Format (SFAF)

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for Japan. If a request is classified, item 005 will consist of two alpha characters followed by a comma, letters DE (DECLASSIFY) followed by year and month (i.e. CH, DE 9510). The alpha characters will be drawn from the following list:

FIRST CHARACTER

U - Unclassified
C - Confidential
S - Secret

SECOND CHARACTER

F - Not releasable to foreign nations
H - Releasable to host country
J - Contingency assignment. Not releasable to foreign nationals unless formally coordinated

EXAMPLES OF 005

005. CH, DE 9102
005. CJ, DE OADR

All frequency requests to Korea regardless of classification must be caveatted RELROK or line 005 must be UH, CH, or SH.

NOTE 2: Line 110 is used to request the actual number of frequencies or specified frequencies. This line also gives the upper and lower limits of the equipment or specified bands.

EXAMPLES OF 110

110. 10 FREQS IN BAND M30.00-75.95 (UPPER/LOWER LIMITS)
110. 5 FREQS IN BAND M40.00-55.00 (SPECIFIED BAND/RANGE)
110A K9387.5 110B. K10943.5 110C. 14562.5 (SPECIFIED FREQS).

NOTE 3: Station class describes the mode(s) of operation: ML (mobile land), FL (fixed land), MS (mobile ship), or MA (mobile air). These are the common station classes used throughout MAGTFs.

EXAMPLES OF 113

113. FX
113. ML/MS/MA
113. MA/FA
113. ML/FL

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NOTE 4: Emission describes bandwidth and type of signal emitted (below are the common emission symbols used within the USN/USMC)

<u>SYMBOL</u>	<u>USE</u>
3K00J3E	SSB, HF, unsecure
3K00J2E	SSB, HF, secure
30K0F3E	Unsecure VHF voice AN/VRC-12 series
32K0F1E	VHF voice, secure, VINSON
32K0F1D	VHF data, secure, VINSON
80K0F9W	AN/MRC-135 (8 channel VHF MUX)
6K00A3E	UHF voice, uncovered
25K0A1E	UHF voice, secure, VINSON
25K0G7W	UHF SATCOM, secure, voice
16K0F3E	MX-300S, handheld radios

Radar emission symbols to be built on an "as required" basis

NOTE 5: Following country codes are provided: J for Japan, KOR for Korea, PHL for the Philippines, AUS for Australia and THAI for Thailand. These codes are placed in lines 300 and 400.

NOTE 6: Radars and NAVAIDS proposals require the following additional items:

RADAR TUNABILITY (FA - Operated on various freqs throughout the requested band, FX - Operates on a fixed freq or TC - Tunable to any freq in the requested band.)

346 PULSE STATION

PULSE REPETITION RATE

TYPE ANTENNA (Parabolic or horn, etc.)

ANTENNA NOMENCLATURE

ANTENNA GAIN

ANTENNA ELEVATION IN FT ABOVE SEA LEVEL

ANTENNA FEED POINT ABOVE SURROUNDING TERRAIN

SERVICE VOLUMES (For navigational aid radars only)

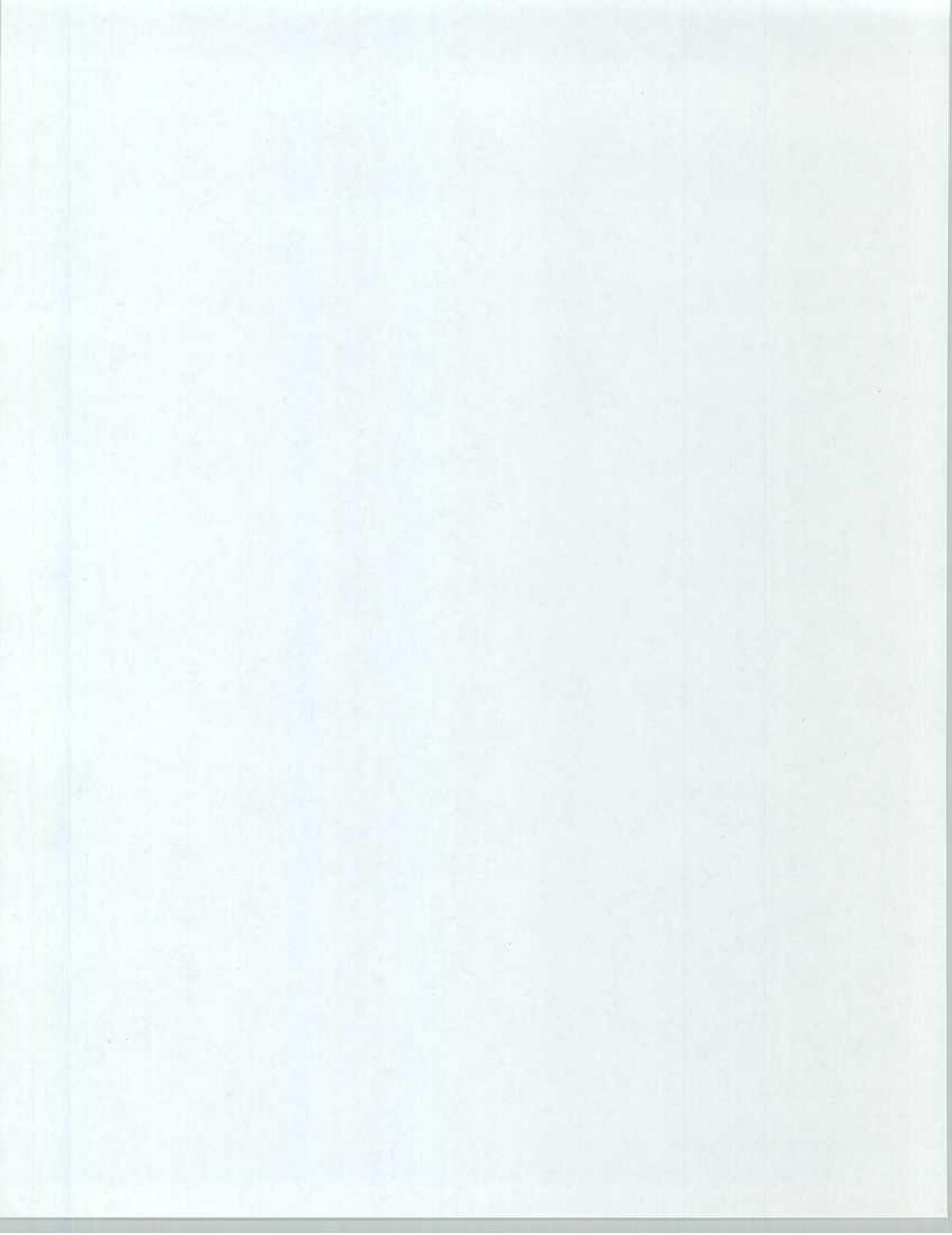
Figure 9-1. Standard Frequency Action Format (SFAF) (Cont)

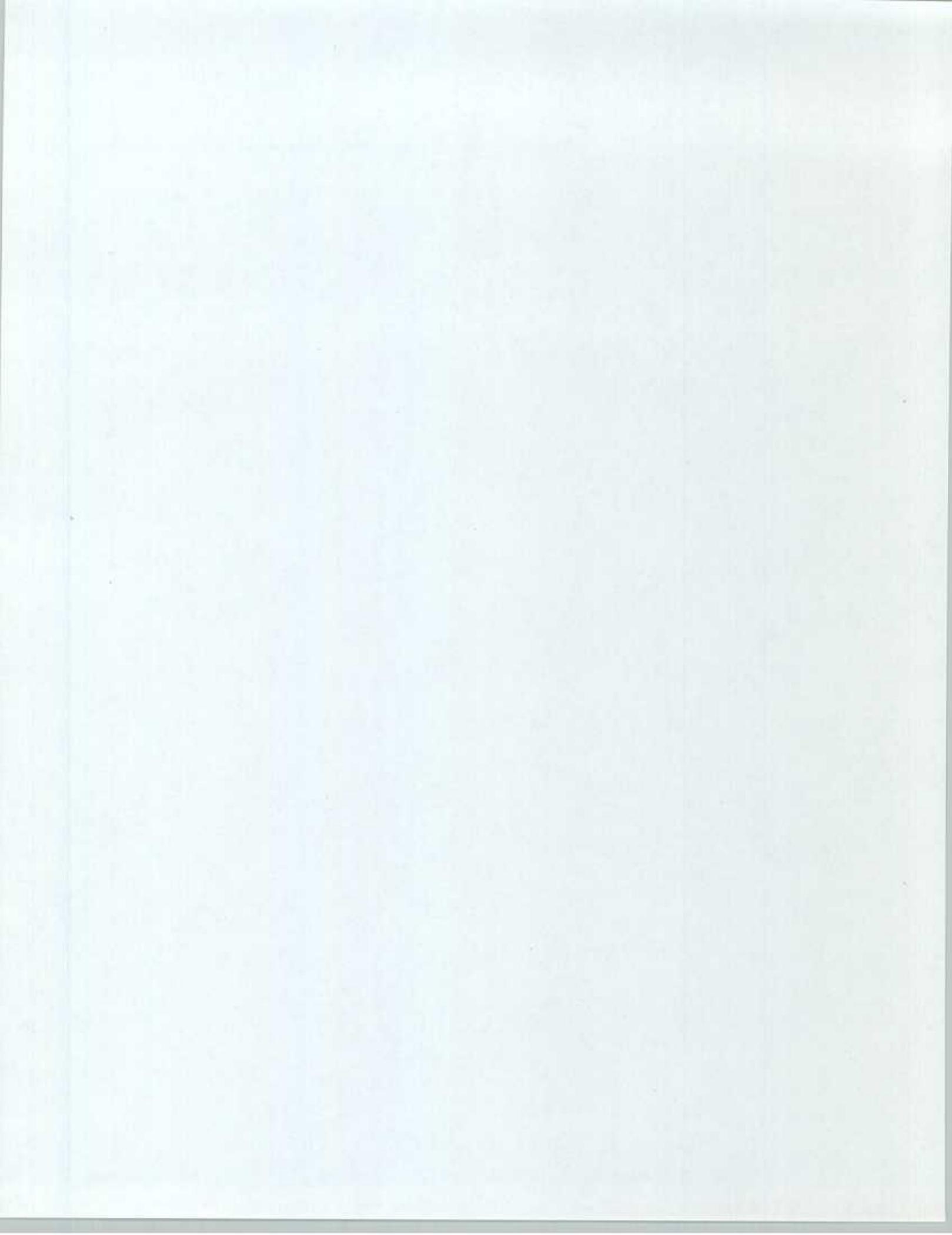
3D MARINE DIVISION COMMUNICATION-ELECTRONICS SOP

CHAPTER 10

UNIT DEPLOYMENT PROGRAM (UDP)

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CHAPTER 10

UNIT DEPLOYMENT PROGRAM (UDP)

10000. GENERAL. The 3d Marine Division is comprised of both rotating Continental United States (CONUS)-based organizations and Okinawa-based organizations. The CONUS-based organizations present many challenges and some frustration. This chapter attempts to capture many of the lessons learned from past UDPs and to set forth basic guidelines for deploying units. The G-6's goal is to ensure that the units arriving on Okinawa are operationally ready as soon as possible. The parent regiment must play an aggressive role in ensuring that shortfalls in equipment and supplies are identified. The bottom line is that the regimental communications officer/chief must protect the interest of the UDP battalions.

10001. COMMUNICATIONS ADMINISTRATION

1. Communication Guard Shifts. Communication guard shifts are normally the first order of business for the deploying battalion. All UDP battalions will either be located aboard Camps Hansen or Schwab. There is only one supporting communications center on Okinawa. Battalions deploying to Okinawa should shift their guard to "MTCC OKINAWA JA/RUHBABA."

2. Communication Material System (CMS) Accounts. Although the custodian has primary responsibility for the administration of the CMS account, the communications officer must be closely associated with the CMS account. The communications officer is required to conduct a complete inventory of the cryptographic hardware and sub-sign for the equipment. Although all the hardware should be reflected on the Consolidated Memorandum Receipt (CMR), the actual inventory must be conducted from the Defense Cryptographic Management System (DCMS) inventory list.

a. It is very important for UDP battalions to notify Communications Security Material Issuing Office (SMIO) of their change in location, i.e. (II MEF to III MEF) 60-90 days prior to departure. This will ensure that the unit will continue to receive material without interruption.

b. The standard CMS holdings a battalion will require are as follows:

USKAT	1054	III MEF VINSON
USKAT	1105	PACOM VINSON
USKAT	223	III MEF PARKHILL
USKAT	2045	PACOM PARKHILL
AKAC	1553	PACOM AUTHENTICATION SYSTEM
AKAI	6	CALL SIGNS

10002. EXERCISE AND OPERATIONAL PLANNING

1. General. UDP battalions can normally anticipate a rigorous and challenging exercise schedule once on island. This paragraph outlines some considerations and requirements for planning and conducting training.

2. Frequency Support. Frequency requirements fall into two categories: on island and off island requests.

a. On island VHF and HF frequencies are contained in the III MEF on island ACEOI and are available for daily use from the Regimental S-6. On island UHF and Camp Fuji frequencies are available upon request from the G-6 via the unit S-6, with 24-hours' notice.

b. Off island frequency requests for Korea, Japan, and Guam require a minimum of 90 days for host nation approval. Other locations in the Pacific require up to 120 day lead-time. (See paragraph 9003.2).

c. Because UDP battalions frequently arrive on island under these time windows it becomes a Regimental/Division responsibility to request frequencies. Nonetheless, each battalion must ensure that their required frequency support has in fact been planned for and requested.

3. Batteries

a. The cost of batteries is extremely high and must be carefully considered. Many units mistakenly believe that they rate a certain amount of batteries upon arrival. Rotating battalions will receive the remain behind batteries (both new and used), of the battalion they replace, and submit a request for additional batteries to their S-4. These requests should be fully justified and support the unit's exercise schedule.

b. Units deploying off island will embark with a minimum of three days supply of batteries to ensure an immediate communications capability while allowing combat service support units adequate set-up time. Post exercise funds are generally available to replenish battery supplies after returning to Okinawa.

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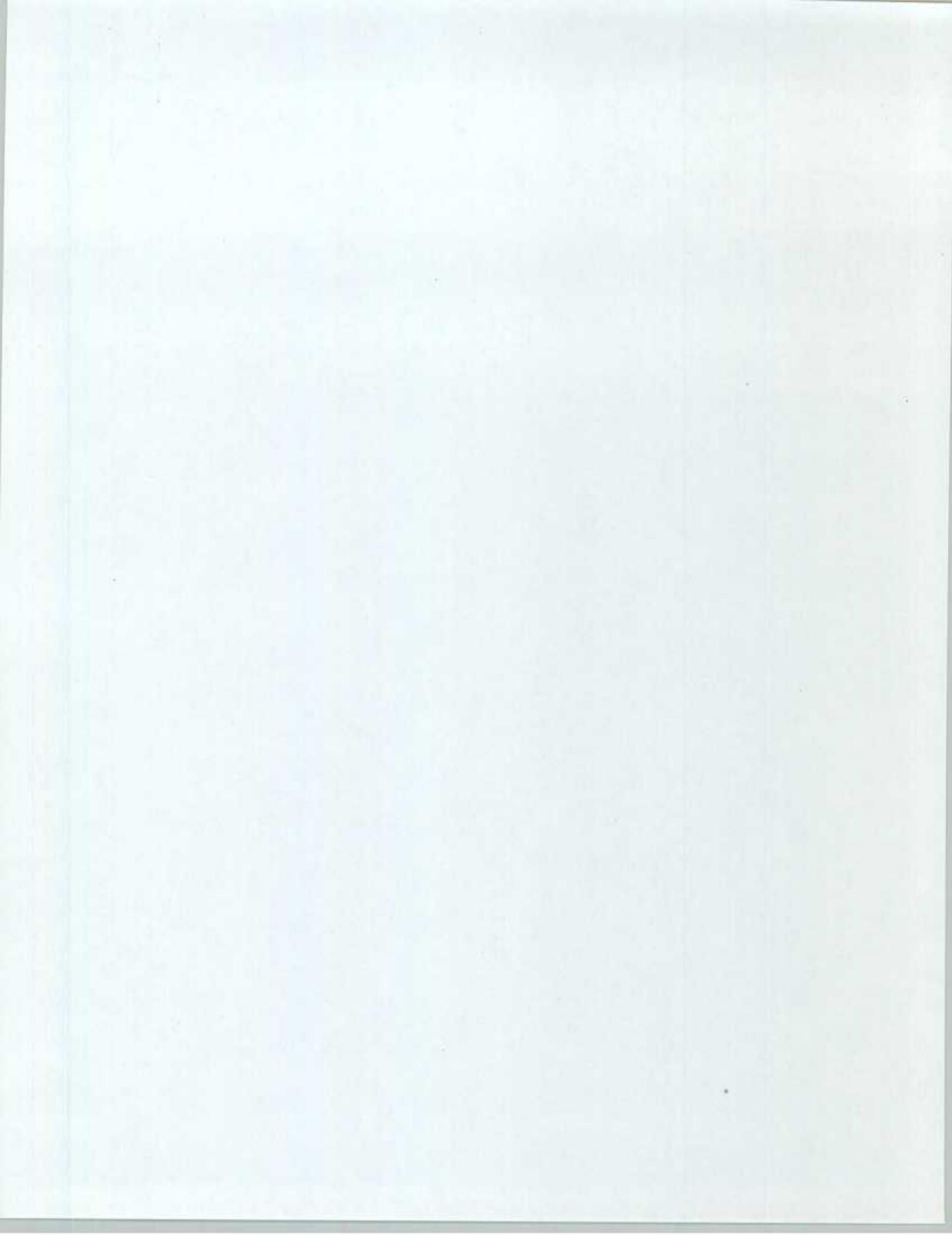
CHAPTER 11

SAFETY

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CHAPTER 11

SAFETY

11000. GENERAL

1. Safety is paramount. Every Marine is responsible for the prevention of accidents. Commodity managers will incorporate safety procedures into all operations involving the use of facilities, equipment, and tools. Corrective action will be immediately initiated to eliminate all safety hazards.

2. The unit safety officer is responsible for the establishment and the functioning of the ground safety program. He will ensure that safety procedures are incorporated and followed in all areas. Commodity managers are responsible for the safety program in their respective commodity areas.

3. This Division has implemented a comprehensive safety awareness program which is outlined in the current edition of DivO P5100.8_ and the MCO P5100.24_ (Marine Corps Ground Safety Program).

11001. SHOP SAFETY

1. Personnel will not be allowed to operate or maintain communication-electronic equipment unless other qualified personnel are present.

2. Voltage meters will be utilized to determine if a circuit is energized.

3. All 25XX/28XX/4066s will receive no less than one hour of safety related classes per quarter, will be familiar with the location and use of safety devices within their respective work areas, and will know the location of fuse/power switch boxes.

4. Access to fuses and power switch boxes will not be blocked or locked

5. Safety devices (fuses, interlocks, relays, etc.) will not be altered, disconnected, or bypassed except for replacement or testing per appropriate technical manuals.

6. Fuses will only be replaced after the circuit has been de-energized and verified as such.

7. When servicing equipment, all capacitors will first be discharged.

8. Work benches will have OSHA-approved rubber matting on the work surface and the floor immediately in front of the workbench. The rubber matting will be kept clean and free of any material that will conduct current such as dirt, solder, and small wires. Rubber matting condition should be evaluated every six months and replaced, as required.

9. Electrical outlets, plugs, and cords will be inspected prior to use to ensure that they are safe. In no case will a defective plug, cord, or outlet be used.

10. A safety board will be installed in all commodity areas that use tools or comm-elec equipment. The board will contain, at a minimum:

- a. Insulated hook sturdy enough to pull personnel off live circuits.

- b. Eye and ear protection.
- c. Rubber gloves of approved electrical insulation
- d. Dry rope at least 12 feet long
- e. Two inch stenciled emergency phone numbers
- f. A complete first aid kit with an updated inventory list

11. The following color codes will be used

a. Blue for Electrical Equipment. Clear blue is the standard for electrical boxes, cabinets, panels, and boards. Clear blue may also be used for other electrical equipment such as motors and welding gear to identify them from non-electrical devices.

b. Vivid Orange for Hazard. Electrical controls which must be readily found in event of emergencies will be vivid orange. Guards over or around high-voltage lines or exposed electrical wires should be painted vivid orange.

c. Green for First Aid. A bright green standard is recognized for the identification of first aid equipment. Signs identifying first aid directions or rooms will be green on white or white on green, and will display a green cross. These colors will be used on safety boards.

d. Red for Fire Protection. Extinguisher shells should normally be red. However, brass, copper, and stainless steel shells will not be painted. Where esthetically acceptable, areas of walls and columns behind fire fighting equipment will be painted red.

Note: Control switch boxes, panels, and boards are not to be confused with electrical light switches or power receptacles. Light switches maybe painted the same color as the bulkhead. Power receptacles of different voltages shall be of different colors or identified by different means. Accepted color code is as follows:

<u>Voltage</u>	<u>Color</u>
110 60Hz	Yellow or Blue
110/220V 400Hz	Red
28V DC	Green w/polarity marked

11002. CATHODE RAY TUBES. Cathode ray tubes, such as those used in PC monitors, are highly volatile. If a cathode ray tube is broken, the relatively high external pressure will cause the tube to implode (burst inwardly), which will result in metal parts and glass fragments being impelled violently. It is imperative that these tubes be handled with extreme caution.

11003. RADIATION HAZARD

1. Electron Tubes Containing Radioactive Materials. Some electron tubes contain a significant amount of radioactive material. The hazard of

handling individual electron tubes containing this material is primarily that of contamination of personnel and surrounding material with radioactive fragments if broken. Under no conditions will unauthorized personnel handle broken or unbroken electron tubes containing radioactive material. Broken and useless tubes containing radioactive materials will be treated as any other radioactive waste and disposed of per instructions contained in TI-5960-15/2A, Electron Tube Containing Radioactive Material.

2. SB-3614 Radioactive Lightning Arrestors. The lightning arrestors used in the SB-3614 switchboard contain radioactive materials. These arrestors are potentially hazardous when broken. Any Marine exposed to broken arrestors will immediately report to qualified medical personnel and the unit safety officer will be notified. First aid instructions are contained in TB-43-0116 and AR 755-15. Use extreme care in replacing these arrestors and follow safe procedures in their handling, storage, and disposal.

a. Never place radioactive arrestors in uniform pockets. Use extreme care not to break radioactive arrestors while handling them.

b. Do not remove radioactive arrestors from their container until ready for use.

c. Refer to publications TB-43-0116 and AR 755-15 for instructions on handling, storage, and disposal of radioactive material.

11004. EQUIPMENT STORAGE. Shelves used for storing comm-elec equipment will be constructed to provide maximum stable protection for both equipment and personnel. Use a stable ladder or step stool when placing or removing the equipment from upper shelves.

11005 ELECTRICAL GROUNDING

1. All communications equipment, power sources, TMDE, and antennas will be grounded per MCO 5100.8 (Marine Corps Safety Program) and DivO P5100.11. A digest of these requirements is reflected below, but is not exhaustive:

a. The ground bus will be a minimum size AWG #10 copper wire.

b. Ground rods must be carefully installed to present less than three ohms impedance between the earth ground and phase 0 (neutral).

c. Ground stakes will be driven into the earth as deep as possible. Ground connections at the stakes must be visible for frequent inspection.

d. Ground strap connections must be free of rust and paint. The strap connection will be securely fastened by clamps, screws, and be welded/soldered.

e. Ground wiring and stakes will be sized large enough to ensure positive safety.

2. The following recommended grounding rods and associated materials are available through the supply system:

<u>Description</u>	<u>NSN</u>
Rod Ground (three rod sections w/coupling)	5975-00-878-3791
Clamp	5999-00-186-3912
Driving Stud	5975-00-924-9927
Wire 6 AWG	6145-00-189-6695
Slide Hammer	5120-01-013-1676

11006. TOOLS. Communications and maintenance personnel depend on various types of tools. Safety awareness in the day-to-day task must also include the safe use of tools. The following will be included in the training program:

1. Tools will be regularly inventoried and kept clean of dirt and corrosion per the MCO P4790.2_.
2. Use the correct tool for the job
3. Screwdrivers in the electronics shops and those used on activated equipment will be insulated with non-conductive handles.
4. Screwdriver blades may be insulated. Heat shrink may be used but not electrical tape.
5. Every file will have an insulated handle.
6. Hammer heads will be securely attached to the handles. The handles cannot be splintered, cracked, or taped.
7. Damaged hammer heads (mushroomed) will be replaced
8. Pliers and wrenches will show no evidence of abuse. Pliers jaws must open and close freely.
9. Soldering irons will be free of defects. Cords must be long enough for safe use and free of any damage.
10. Power tools will be disconnected when not in use. Attachments, e.g., drill bits, will be removed when not in use.

11007. SAFETY AWARENESS DURING PREVENTIVE MAINTENANCE (PM)

1. General. Sloppy, incomplete, or lack of PM on comm-elec equipment can and does produce potential safety hazards. All operators and maintenance personnel must insist on strict PM standards to minimize hazards to both the equipment and personnel.
2. Preventive Maintenance (PM) Standards. PM standards include, but are not limited to, the following:

a. A fine grade of sandpaper (No. 000) may be used to remove corrosion from battery cases and similar items. Care must be exercised to ensure that residue does not fall on wiring or other electronic components.

b. Care must be exercised when cleaning switchboard plugs and other contact points. Only authorized cleaning solvents, specified in the operator's TM, available at ServMart, will be used. Brasso or other chemical cleaners will not be used since the plating as well as the corrosion will be removed.

c. A pencil eraser is useful for cleaning the silver contacts of the standard multi-contact connector. Erasers with an abrasive content should not be used since the silver plating as well as the corrosion will be removed.

d. When using a vacuum cleaner, use one with a non-metallic base and an adequate dust receiver.

e. Steel wool or emery cloth will never be used on electronic equipment because of the conductive residue remaining after use.

f. When approved solvents are necessary, use the smallest possible quantity of the approved solvent. Solvents will be stored in approved storage containers. Solvent containers must be kept tightly closed (including empties), out of the sun, and marked to identify contents. Solvents will be used only in well-ventilated areas.

g. Smoking is prohibited in all maintenance work areas.

h. Remove rings, watches, ID tags, or any other metallic items when working on or near activated comm-elec equipment.

11008 FIRE PROTECTION

1. General. Cleanliness in the entire area is essential for the prevention of fires. In addition, the following requirements are applicable in areas where work with electricity is being conducted:

a. Avoid the use of flammable cleaning fluids.

b. Keep electronic equipment clean and free from dust or other flammable materials.

c. Avoid open flames.

d. Cleaning rags will be kept in separate containers marked CLEAN and SOILED rags. Excessively soiled rags, especially with flammable solutions (gasoline, oil, etc.), will be disposed of immediately.

2. Fire Extinguishers. Evaluate each shop and office space to determine how many water-type and chemical-type fire extinguishers will be required to provide adequate fire fighting protection. Fire extinguishers will be conspicuously located and identified as "FIRE STATION 1," "FIRE STATION 2," etc. Each fire extinguisher will have an up-to-date inspection tag.

Personnel assigned to each fire station will be trained to correctly operate the extinguisher.

- a Class A - Water - use on paper, wood, etc.
- b. Class B - Dry Chemical - use on flammable liquids such as gasoline fires.
- c Class C - CO2 - use on electrical fires or energized circuits

3. References. A list of additional fire safety requirements are delineated in the current edition of DivO P5100.11. The safety NCO should have a copy on hand or have ready access to this directive.

11009 BATTERY SAFETY PROGRAM

1. General. All personnel will be trained in the proper handling and storage of batteries. Every effort must be made by the commands to provide storage/charging facilities which meet or exceed the rigid safety standards required. TI-6135-15/3 dated 28 July 1989 is the reference identifying all requirements for use, handling, transportation, and disposal of lithium batteries.

2. Lithium (BA-5590)

a. Introduction. The lithium-organic electrolyte battery is a high energy power source which provides off-the-shelf, ready-to-use service and is safe under normal conditions. The battery consists of 10 hermetically sealed stainless steel cased cells. Each cell contains lithium metal, sulfur dioxide gas, and organic solvents which are potentially flammable and noxious. Each cell is constructed with a safety vent which will relieve the internal pressure that can result from extreme, prolonged use of the batteries. During venting, sulfur dioxide gas and organic solvent vapor are released. Irritation will occur long before toxic concentrations are reached.

b Safety Precautions

(1) Do not charge, short circuit, incinerate, or otherwise mutilate this battery. This may cause the battery to vent, releasing toxic materials.

(2) Do not heat or incinerate the battery. Overheating may produce internal pressure at a rate in excess of the venting capacity and could result in a cell or battery rupture. Storage room/shelter temperatures above 130 degrees Fahrenheit must be avoided.

(3) Do not store lithium batteries next to other batteries or hazardous/flammable material. Lithium batteries may be stored in the same room, but not directly next to non-lithium batteries.

NOTE: The lithium battery (BA-5590) and the nickel-cadmium battery (BB-590) have identical packaging. Take extreme care to store separately in a well-ventilated room/shelter, preferably away from personnel work spaces.

(4) Do not store any more than the quantity necessary to support operations

(5) Do not dispose of or transport used/expended batteries with normally generated trash/refuse.

Do not modify or experiment with the lithium battery

(7) Under no circumstances shall a non-rechargeable lithium battery be recharged. Such action may lead to venting, rupturing, or a fire.

(8) Never use a voltage tester or a TS-183 on a lithium battery; there is no tester that will test the lithium battery. Probing a lithium battery with a test adapter could make the battery vent toxic fumes if the battery short circuits.

(9) Depressing the discharge button on the lithium battery is not authorized.

c. Battery Log. Sections are required to have a log identifying lithium batteries by lot number (LOT#), date received, initial quantity received, quantity used/loaned (Unit To) (Date), quantity used/returned, quantity used/returned date, quantity disposed of, and date disposed. See Figure 11-1 for example of logbook entries. It is common for Safety-of-Use Alerts to suspend or revoke use of certain lot numbers. Accurate records help locate and identify suspended lot number battery locations.

d. Marking of the Lithium Storage Room/Container. Lithium battery storage containers will be marked with a "Caution Hazardous Materials Stored" sign. The letters will be four inches tall and appear in black on a yellow rectangular panel, which has a minimum width of 20 inches. All approach sides to the storage container will be marked with "Caution" signs and above each sign there will be a "Hazard Identification" sticker.

e. Emergency Action. In the event a battery overheats or a cell begins to vent (a noxious odor develops), remove the battery from equipment and allow it to cool/stabilize for at least 24-hours. If a sufficient quantity of lithium metal is exposed to air, it will burn and cannot be extinguished by water. Lithium fires are only extinguishable with a Class D fire extinguisher, however, Class D extinguishers are not authorized on Okinawa. Substitute a dry chemical (Class B) extinguisher for the Class D, bury the battery in dry sand/soil, or immerse in any neutral oil to extinguish the fire. Do not use a carbon dioxide (Class C) extinguisher on lithium fires. They are ineffective on lithium battery fires and are potentially hazardous. A fine spray of water, in sufficient quantities, can be used to flood the surrounding burning materials.

f. Storage of New Batteries. New lithium batteries will be retained in their original shipping containers to prevent heat transfer between the batteries. Special care must be exercised while stacking or moving the containers to prevent dropping, crushing, or puncturing. Sprinkler protection is ideal.

g. Storage of Used/Expended Batteries. Used or expended lithium batteries will be repackaged in their original containers, or containers which meet or exceed the original shipping/packaging standards, or in fiberboard boxes with each battery sealed in a plastic bag. Keep new and used lithium batteries separate. Sprinkler protection is ideal.

h. Transportation of Lithium Batteries. There are numerous regulations which authorize, govern, or prohibit the transportation of lithium batteries via various modes. These regulations are contained and explained in TI-6135-1/3.

i. Transportation Aboard Surface Ships. New lithium batteries may be stored on amphibious-type surface ships on the weather deck or below the deck. In either storage location, the quantity stored will be kept to a minimum. In all cases, the ship's personnel must be aware that lithium batteries will be brought aboard and the ship will designate the storage point.

(1) Storage on the Weather Deck. Store new and used/expended lithium batteries (in original containers, whenever possible) in jettisonable, drip proof, ventilated lockers capable of maintaining the storage temperature below 130 degrees Fahrenheit. The storage locker will not contain other types of batteries and will be isolated from other hazardous/flammable material. Keep the new lithium batteries separate from used/expended ones.

(2) Storage Below the Deck. Store in original shipping containers in a cool, sprinkler protected, ventilated area where the storage temperature will be maintained below 130 degrees Fahrenheit. Isolation from other batteries and hazardous/flammable materials will be provided utilizing barriers equivalent to those used to separate non-compatible stows of ammunition. Lithium batteries will not be stored in berthing areas. Used or expended lithium batteries will be stored only on the weather deck, not below deck.

(3) Off-Loading From Ship. Lithium batteries may be installed in equipment aboard ship in topside locations only. Shipboard equipment checks will be held to a minimum and performed on topside locations only. Upon completion of each ashore employment, all used and expended lithium batteries will be again stowed in jettisonable topside lockers. The used and expended batteries will be off-loaded at the earliest possible time; however, at no time will they be off-loaded with ammunition or during refueling.

(4) Deployment in Korea. Used and expended lithium batteries will be accepted by the Defense Reutilization Management Office (DRMO). The supporting Combat Service Support Detachment (CSSD) will be the collection point and will coordinate the turn in/disposal with DRMO.

(5) Disposal. Expended lithium batteries will be turned in to DRMO at least every 30 days or when 30 pounds of batteries are accumulated, whichever comes first.

3 Nickel-Cadmium Batteries

a. General. Dangerous chemicals are used in nickel-cadmium batteries. The electrolyte used in nickel-cadmium batteries contains potassium hydroxide (KOH), which is a caustic chemical agent. Serious and deep burns of body tissue will result if the electrolyte comes in contact with the eyes or any part of the body. Use rubber gloves, a rubber apron, and protective goggles when handling the electrolyte. If accidental contact with the electrolyte is made, use only clean/clear water and immediately (seconds count) flush contaminated areas. Continue flushing with large quantities of clean/clear water for at least 15 minutes. Seek medical attention without delay.

b. Explosive Gasses Generated. Hydrogen and oxygen gasses are generated in explosive proportions while the nickel-cadmium battery is being charged. Charge the nickel-cadmium battery in a well-ventilated area to reduce concentrations of explosive gasses. Turn off the battery charger before connecting or disconnecting the nickel-cadmium battery to prevent arcing. Do not use matches or an open flame in the charging area. Arcs, flames, or sparks in the charging area may ignite the gasses and cause an explosion. The battery box cover must be removed and the battery case vent plug (if any) must be open when charging.

c. Special Caution. The electrolyte used in nickel-cadmium batteries reacts violently to the sulfuric acid in the more common lead-acid types of batteries. Do not add sulfuric acid electrolyte to the nickel-cadmium batteries. The mixing of the acid and KOH electrolytes causes a violent reaction that can spray the mixture into eyes and onto skin.

11010 BATTERY CHARGING FACILITY

1. General. Battery charging facilities will be constructed as separate, free-standing buildings, wherever practicable. The facility must be well-ventilated. If hood and exhaust fans are used for ventilation, the fan must have non-ferrous metal blades and a spark-proof motor.

2. Warning Signs. The battery charging facility will be conspicuously posted as an "EYE HAZARD AREA" and a "CORROSIVE, CHEMICAL," or "ACID HAZARD AREA." "NO SMOKING" signs will be conspicuously posted both inside and immediately outside the battery charging and/or storage facility.

3. General Precautions and Requirements. Observe the following list of safety precautions and requirements when charging and/or storing batteries:

a. Always wear the proper protective clothing, e.g., face shield or goggles, polyethylene or rubber gloves, and a rubber apron when charging or working on batteries.

b. Handle electrolyte carefully and dispose of it properly. The base safety office, in conjunction with the base environmental control agency, recommends the following procedure for neutralizing and disposing of electrolyte. Utilizing half of a 55 gallon drum, dissolve one five ounce box of baking soda into 10 gallons of water. Up to two gallons of electrolyte may be poured into this "neutralized bath" before it is no

longer effective. The contaminated neutralizer bath will be disposed of by pouring its contents into a motor transport drain area.

c. Never charge a battery for more than 20 hours at a time, overnight, or while unattended.

d. All electrical equipment, e.g., fans, lights, battery chargers, and test equipment must be properly grounded.

e. Eliminate the danger of igniting gasses. There will be no smoking, no open flames, and no spark-causing hazards in or near the battery charging and/or storage facility.

f. The floor of the battery charging facility must be insulated with rubber matting.

g. A class "D" fire extinguisher at locations other than on Okinawa, with a current inspection tag, will be maintained in the battery charging and storage facility, and a fire bill will be prominently posted. If a class "D" extinguisher is not available or not authorized, a class "C" extinguisher can be used in the battery charging area and a class "A" in the storage area.

h. The battery storage area will be well-ventilated and located apart from other equipment and buildings, as much as possible.

i. In addition to the aforementioned requirements for battery charging facilities to have protective clothing, fire extinguishers, rubber matting, etc.; the following safety items must also be readily available within every battery charging facility:

- (1) An emergency deluge shower and eye wash fountain.
- (2) Baking soda
- (3) Vinegar.
- (4) Boric acid solution or a bottle of all-purpose neutralizing agent (available from ServMart).
- (5) A bucket containing sufficient clean/clear water to allow the immediate immersion of a battery shop worker's extremities (head, hands, arms, etc.) or to douse a panicked individual.
- (6) A prominently posted set of first aid instructions

11011. FIELD SAFETY

1. While in the field for training or exercises, all personnel must be familiar with and strictly adhere to safety precautions. Many of the garrison safety procedures apply to field safety. Encouraging common sense and maintaining a level head during emergencies must be included in all field training.

2. Power Requirements in the Field The following safety rules apply to power distribution in the field:

- a. All power outlets in work areas will be wired correctly inspected, certified, and tagged as such by qualified personnel
- b. Under no circumstances will a two wire ground system be used All ground systems will be three wire. Refer to FMFRP 4-14.

11012. CABLE INSTALLATION

1. Pole Climbing Safety. The following safety rules are applicable to pole climbing:

- a. Pole climbing involving the use of climbing gaffs will be closely supervised by qualified personnel at all times.
- b. Wearing climbing gaffs, except when actually engaged in climbing, is prohibited.
- c. Tools or materials will never be carried in the hands while climbing.
- d. Pins, braces, or guy wires will not be used as handholds.
- e. A climber will never loop a rope over his hand or arm while climbing. He should loop one end of the rope over his pliers or tool carrier.
- f. An LC-16 safety belt will be worn at all times when working on a pole using climbing gaffs.
- g. No weapons, other than side arms, will be carried while actually climbing poles or trees. Falling with a slung rifle could result in serious injuries. In combat, the climber will be provided with an armed guard who will remain on the ground.
- h. Pole climbing equipment must be inspected regularly and maintained in serviceable condition.

1 The TL-44 gaff gage or the Buckingham gage will be used.

(2) Ensure that there are no cracks or cuts in the leather, that stitches are sound, and that the buckle holes are not excessively worn.

(3) Buckles, D-rings, and snaps must be free of defects

2. Cable Installation Safety. The following safety rules apply to cable installation operations:

- a. The minimum vertical road clearance for cables and wire is 18 feet

4. All guys will be inspected for worn spots, frays, rotten portions, and other imperfections prior to use.
5. Antennas that present a safety hazard to helicopters and other low flying aircraft will be conspicuously marked with VS-4/U or VS-6/U panels or other suitable material.
6. Personnel will not work on any antenna structure during an electrical storm or when a storm is imminent.
7. Only the personnel required to erect an antenna structure will be in the immediate area. Personnel involved in erecting or dismantling antenna structures will wear helmets or hard hats and will be supervised.

11014. VEHICULAR RADIO SAFETY

1. Very High Frequency (VHF) and Ultra High Frequency (UHF) radio antennas may be left installed on vehicles while in motion.
2. All HF sets will be equipped with "DANGER HIGH VOLTAGE" signs. The heading "DANGER" will appear at the top in white letters on a red oval inside a black rectangular panel. The nature of the hazard (HIGH VOLTAGE) will be identified in black letters on a white background. Signs will be appropriately bilingual for the area of operations. Before the set is energized, the signs will be conspicuously posted/mounted near the antenna at the rear of the set. Waist high, white engineer tape will surround the danger area at a safe distance during stationary operations.
3. HF antennas will be removed from mounts and stowed in the vehicle while in motion under normal circumstances. HF radio sets are capable of inflicting RF radiation burns and require caution and supervision. Tilt whip adapters are authorized while the vehicle is in motion only when directed by the unit S-6. If HF communications on the move is required, the S-6 will ensure adequate training and supervision. Stationary vehicles will be parked in a cleared area and a warning sign or guard will be posted before the radio set is energized.
4. When vehicular mounted radio equipment is operated on the move, the following regulations apply:
 - a. Vehicular radio equipment will be operated on the move only when specifically authorized by unit supervisory personnel and then only in response to an operational requirement.
 - b. Never drive under power lines if there is any doubt that there is adequate overhead clearance between the lines and the antenna.
 - c. Never permit arms or legs to extend from the sides of a vehicle. If the antenna touches a power line, the body will act as an electrical conductor if contact is made with the ground, wet bushes, water, or foliage. Serious shock or death could result.
 - d. VHF antennas will be mounted with minimum height required for reliable communications. Twelve feet maximum height will usually produce satisfactory results. When VHF antennas are tied down, use the antenna tip

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APPENDIX A

REFERENCES

1. GENERAL. The importance of working from a common base and speaking a common language cannot be over emphasized. Towards this end, the following list of references has been compiled. These references cover a broad area of communications and training subjects and form the basic doctrinal authority for the Communication-Electronics Maintainance MOS. Although all of these references are important, there are specific references that a communicator must be able to access on a daily basis. The underlined directives and orders will be maintained by the communications section and readily available. The most current edition of all references will be maintained. The other references can be located in the Naval Warfare Publications Library (NWPL), S-1, or S-3. Communications personnel should be aware of all the references and their locations. These publications will be inspected as part of the normal LRI inspection process.

- MCO 1510.44 - Individual Training Standards for OCC FLD 2800
- MCO 1510.83 - Individual Training Standards for OCC FLD 2500
- MCO 3501.1 - Marine Corps Combat Readiness Evaluation System
- MCO 4400.16 - Uniform Material Movement and Issue Priority System
- MCO P4400.150 - Consumer-Level Supply Policy Manual
- MCO 4733.1 - Test, Measurement and Diagnostic Equipment (TMDE)
- MCO P4790.1 - MIMMS Field Procedures Manual
- MCO P4790.2 - MIMMS Field Procedures Manual
- MCO 4855.10 - Product Quality Deficiency Report (PODR)
- MCO P5215.1 - Marine Corps Directive System
- MCO P5215.17 - USMC Technical Publications System
- MCO P5600.31 - Marine Corps Publication and Printing
- MCBul 3000 - Table of Marine Corps Automated Readiness Evaluation (MARES) Logistics Reportable Equipment
- DivO P1500.25 - Master Training Plan
- DivO P5040.3 - Command Readiness Evaluation Program SOP
- DivO P4790. - Division Maintenance Management SOP

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- DivO P3120.3 - CP SOP
- ACP-121 (C - Communication Instructions - General (U); with US Supplement 1
- ACP-122 (C - Communication Instructions - Security (U)
- ACP-124 - Communication Instructions Radio-Telegraph Procedures; (US Supp 1)
- ACP-125 - Radio-Telephone Procedures for the Conduct of Artillery and Naval Gunfire (US Supplement No. 2)
- ACP-126 (C - Communication Instructions - Teletypewriter (Teleprinter) Procedures (U)
- ACP-129 - Communication Instructions - Visual Signaling Procedures
- ACP-134 - Communication Instructions - Visual Signaling Procedures
- ACP-136 - Communication Instruction - Panel Sighting
- ACP-168 - Pyrotechnic Signals
- CMS-1 - Communications Security Material System Manual
- CMS-6 - Secure Telephone Unit Third Generation (STU-III) ComSec Manual
- FM 24-18 - Communications Techniques
- FM 24-20 - Tactical Wire and Cable Techniques
- FM 24-150 - Electronic Warfare (Ground Based)
- FM 32-5 - Signal Security
- FM 32-20 (C) - Electronics Warfare (U)
- FM 32-20 - Electronics Warfare, Tactics of Defense
- FMFM 0-1 - Unit Training Management Guide
- FMFM 0-1A - How to Conduct Training
- FMFM 3-1 - Command and Staff Action
- FMFM 3-30 - Communications
- FMFM 3-35 - Radio Operators Handbook
- FMFM 7-12 - Electronic Warfare

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- FMFRP 3-32 - Tri-MEF SOP for Communications and Computer Systems
- FMFRP 3-34 - Field Antenna Handbook
- FMFRP 4-14 - Field Grounding Procedures
- JP 605 Series - Joint Tactical Communication Systems
- JANAP 119 (C - Joint Voice Call Sign Book (U)
- JANAP 128 - Automatic Digital Network (AUTODIN)
Operating Procedures
- JP 605 Series - Joint Tactical Communication Systems
- Joint Spectrum Center Guide to Capabilities and Services
- Joint Spectrum Center Aspects of the Radio Spectrum in the Republic of Korea
- Joint Spectrum Center Aspects of the Radio Spectrum in the Republic of the Philippines
- Joint Spectrum Center Communications Manual: Okinawa
- LFM-01 - Doctrine for Amphibious Operations
- LFM-02 - Doctrine for Landing Forces (DRAFT)
- MCEB-M-011-92 - Current Standard Frequency Action Format
(SFAF)
- NAVMC 2761 - Catalog of Publications
- NAVMC 1017 - Table of Authorized Material
- NTP-1 - Master Subject Index
- NTP-2 (C - Section I, Defense Satellite Communications System (U)
- Section II, Naval Gapfiller Satellite
Communications System (U)
- NTP-3 - Telecommunications User's Manual
- NTP-4 - Fleet Communications
- NTP-6 - Frequency Resource Management Manual
- NWP-0 - Naval Warfare Publication Guide
- NWP-4 - Basic Operational Communications Doctrine
- NWP-22-1 - Amphibious Task Force Plan

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- NWP-22-2 - Supporting Arms in Amphibious Operations
- NWP-22-3 - Amphibious Operations: Ship-to-Shore Movement
- NWP-33 (S) - Electronic Warfare (U)
- NWP-33-1 (S) - Emission Control (U)
- OPNAVINST 5510.1 - Information and Personnel Security Program Regulations
- SL 1-2/1-3 - Index of Authorized Publications
- TC 24-18 - Comm in a "Come as You Are" War
- TM 2000.15/2 - Characteristics of Marine Corps Comm-Elec Equipment
- TM 4700-15/1 - Equipment Records Procedures
- USCINCPACINST 2400.1E - USCINCPAC Instruction for Electromagnetic Spectrum Management within PACOM.
- UM 4400-124 - Supply Users Manual
- UM 4790-5 - MIMMS Users Manual

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APPENDIX B

LOGISTICAL READINESS INSPECTION (LRI) CHECKLIST

1. GENERAL

a. The current edition of DivO P5040.3_ establishes the purpose, procedures, and responsibilities for the Logistical Readiness Inspections (LRI) conducted within 3d Marine Division. The current edition of DivO P2000.10_ provides additional guidelines, policies, procedures, and amplifying instructions concerning comm-elec management. Per DivO P5040.3_, the G-6 provides the G-4 with a team to evaluate comm-elec commodities within the Division. To assist S-6 Officers in preparing for the inspections, the following letter and checklist has been created.

b. The S-6 Officer must ensure that key personnel become familiar with the attached checklist. The checklist should be used, not only to prepare a unit for an inspection, i.e. LRI or FSMAO, but should be used throughout the year during periodic internal inspections. Proper management techniques require the S-6 Officer to continually review, modify, and/or update unit policies, programs, and procedures to ensure the adequacy and proper use of communication assets within the command. This checklist is an excellent resource to use when assessing a unit's comm-elec logistical procedures and capabilities. Secondary benefits of sustained use of the checklist are an increase in management efficiency and unit effectiveness.

c. A Staff Assist Visit (SAV) is an unofficial, non-graded visit requested by the unit or directed by a senior commander. The SAV will be used exclusively for the training of unit personnel and will not be used to compare or to provide the basis for evaluation of past performance. The team will answer any and all questions and will instruct/demonstrate to the billet holders how they will be inspected during the LRI. During the SAV, the team will only inspect areas that the S-6 Officer/Chief, after using this checklist, identify as questionable or problematic. Results of the SAV are usually presented verbally to the S-6 Officer, but can be given to the commanding officer or the MMO of the visited unit. Written results will be provided upon request. A two to five day SAV "window" should be scheduled with the Division MMO no less than 60 days prior to an actual inspection, except for rotating battalions. Rotating battalions should attempt to schedule a SAV within their first six weeks on the island. This early visit will give the UDP personnel an overview of the 3d MarDiv LRI program and will help the communications platoon identify and correct problem areas. Page (B-9) of this document has an example of a SAV request. Due to the normally busy inspection schedule, the S-6 Officer/Chief should initially contact the Division G-6 LRI team to confirm an available SAV "window" before submitting a SAV request. Half day and one day SAVs can be arranged via telephone, depending on the LRI schedule, by calling the team at 622-9222/9480. Weekends are available, when necessary.

d. The Logistical Readiness Inspection (LRI) is an official inspection of a unit where the results or findings are reported in writing to the commanding general. A final report and formal briefing on the results are given to the unit's Commanding Officer, usually on the Friday of the LRI week. Each commodities' LRI score is combined, according to percentage,

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and the total becomes the unit's LRI grade that is briefed to the commanding general. See page (B-8) for the comm-elec percentage.

2. PURPOSE

a. The attached checklist serves the following purposes:

(1) It provides the unit with a ready reference to evaluate the effectiveness of unit comm-elec programs and procedures.

(2) It serves as a report to the unit. It points out programs and/or discrepancies noted, which require local remedial action. Such remedial action must be undertaken and accomplished immediately, since the discrepancies noted may compound, if ignored.

b. The LRI briefing sheet, pages (B-6) through (B-8), serves the following purposes:

(1) It serves as the formal report to the commanding general on the status of comm-elec readiness.

(2) It serves as the formal report to the unit's commanding officer on the status of his/her comm-elec readiness.

3 LRI TEAM RESPONSIBILITIES

a. The team will attempt to arrive no later than 0800 on each day of the evaluation. However, if this time can't be met due to unforeseen circumstances, an LRI team member will coordinate with the unit's S-6 Officer/Chief. An inbrief with the commanding officer will be scheduled for the first evaluation day. Normally, the team will arrive on the first day of the inspection just prior to the inbrief time and the senior LRI team member and the S-6 officer will attend the inbrief. For units with a substantial amount of comm-elec assets (e.g., Regiments, Communications Company), the team will arrive between 0730-0800 on the first day and will start evaluating before the inbrief in order to provide the unit with a thorough evaluation.

b. The evaluation will normally be conducted from Monday through Wednesday. Thursday will be used by the team to create the finalized checklist and formal report. When required, some members of the team will return to finish the evaluation on Thursday. The formal outbrief is usually given to the commanding officer on Friday.

c. The LRI team members will be prepared to show the references which reflect the policy, guidelines, or procedures for all discrepancies noted.

d. An exit debrief for the LRI will be given to the S-6 Officer/Chief on Friday, before the outbrief with the Commanding Officer. A copy of the final report and the completed checklist will be provided.

e. The senior LRI team member or assistant will provide the commanding officer with a detailed verbal outbrief and final report. The outbrief and a copy of the final report, pages (B-6) through (B-8), will be presented to the commanding officer on the Friday of the LRI week or within 72-hours

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of the evaluation's completion. The G-4 LRI Coordinator will consolidate all reports from the various evaluated commodities and will schedule and chair the outbrief.

4. UNIT RESPONSIBILITIES IN CONNECTION WITH THE INSPECTION

a. Personnel. The S-6 Officer, S-6 Chief, Section Chiefs, and the billet NCOs and clerks (i.e. Records, Mods, Cal, etc.) must be available during the conduct of the inspection.

b. Data. The S-6 Officer/Chief will ensure that the following data is available at the start of the inspection. Items marked with an asterisk should be no older than 24-hours.

- (1)* Daily Transaction List (DTL)
- (2)* Daily Process Report (DPR)
- (3) Weekly Owning Unit Maintenance TAM Report
- (4) History Process Report
- (5) Annual, Quarterly and Monthly/Weekly Training Schedules
- (6) Publications Listing (PL)
- (7) Current Personnel Roster
- (8) Current COMMSOP and MMSOP
- (9) Annotated Consolidated Memorandum Receipt (CMR)
- (10) Evidence of action taken on deficiencies and excesses

5. GRADING CRITERIA

a. MISSION CAPABLE (80% or above) - The command/unit possesses the requisite skills, equipment, personnel, and understanding to accomplish its assigned mission, tasks, and functions; and uses these skills, equipment, personnel, and understanding to accomplish its mission, tasks, and functions.

b. NON-MISSION CAPABLE (below 80%) - The command/unit does not possess the requisite skills, equipment, personnel, and understanding to accomplish its assigned mission, tasks, and functions; and/or does not use these skills, equipment, personnel, and understanding to accomplish its assigned mission, tasks, and functions.

6 GRADE COMPUTATION

a. Section and overall grades are computed as follows:
(Overall Grade)

<u>SECTION</u>	<u>MAX</u>	<u>N/A</u>	<u>AVAIL</u>	<u>EARN/AVAIL</u>	<u>%</u>	<u>WT</u>	<u>GRADE</u>
Pers/Admin	100	-	=	/	X 100 =	X .05 =	
Battery Shop	100	-	=	/	X 100 =	X .10 =	
Pubs	100	-	=	/	X 100 =	X .10 =	
Operating	*	-	=	~ /	X 100 =	X .35 =	
Maintenance	100	- 0	= 100	~ /	X 100 =	X .35 =	
Training	100	-	=	/	X 100 =	X .05 =	

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* Due to the possibility of more than 2 operating sections in a unit (i.e. Radio, Wire, etc.) this number will be 100 times the number of sections.
 ~ The Operating and Maintenance sections earned scores will come from the following computations.

b. The operating and maintenance earned scores are computed as follows:

Operating Sections Earned Score

SUB-SECTION	MAX	N/A	AVAIL	EARN/AVAIL	%	WT	GRADE
Radio	100	-	=	/	X 100 =	X .80 =	
Records Clerk	100	-	=	/	X 100 =	X .20 =	
Wire	100	-	=	/	X 100 =	X .80 =	
Wire Records Clerk	100	-	=	/	X 100 =	X .20 =	
Data Communications	100	0	=	/	X 100 =	X .80 =	
Data Comm Rec Clerk	100	-	=	/	X 100 =	X .20 =	

Maintenance Sections Earned Score

SUB-SECTION	MAX	N/A	AVAIL	EARN/AVAIL	%	WT	GRADE
Maintenance Chief	100	-	=	/	X 100 =	X .35 =	
	100		=	/	X 100 =	X .05 =	
MIMMS Clerk	100		=	/	X 100 =	X .10 =	
Supply Clerk	100		=	/	X 100 =	X .15 =	
QC Program	100		=	/	X 100 =	X .10 =	
Mods Clerk	100		=	/	X 100 =	X .05 =	
Cal Clerk	100		=	/	X 100 =	X .12 =	
Tool Clerk	100		=	/	X 100 =	X .08 =	

7. RE-INSPECTION. In the event a unit's overall LRI grade is 79% or less, the unit will be scheduled for a complete re-inspection. If the unit's overall grade is 80% or above and one or more sub-functional areas receives a grade of 69% or less, a re-inspection of the area(s) receiving the unsatisfactory grade will be scheduled. Re-inspection dates will be coordinated between the AC/S, G-6 and the commanding officer to allow sufficient time to correct problem areas.

8. HOW TO USE THE CHECKLIST

a. The checklist is divided into six functional areas with additional sub-functional areas (see para 6). Each question's number corresponds to the functional area it falls under, i.e. all questions beginning with 3.xx deal with Publications. Next to the number is the reference(s) for that particular question. Any questions concerning the validity and/or accuracy

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of any reference should be referred to any member of the team. Chapters and paragraphs for the references are also included, whenever possible. The number in parentheses next to the top reference is the maximum point total for that question. Full credit is given for a question when no additional comments are needed for a "YES" answer. Partial credit is given for a "YES" if a discrepancy has been noted and an additional comment has been made. A "NO" is received for noncompliance with the listed reference's guidelines or in the case of percentage questions when more than twenty percent is incorrect, i.e. of 10 checked, 4 had errors. Partial credit, depending on the percent of non-compliance, will be given for "NO" answer. Additional comments/suggestions on the corrective action required will be entered on the checklist for a "NO" answer. After all the questions have been answered, the points deducted in each functional area are totaled and subtracted from the total available points. This last total is applied to the computations in paragraph 6 under the "EARN" column. Non-applicable (N/A) and non-inspected (N/I) questions are removed from the grading computations.

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UNITED STATES MARINE CORPS
3D MARINE DIVISION (-) (REIN), FMF
UNIT 35801
FPO AP 96602-5801

5040
G-6/kac
DATE

From: Commanding General, 3d Marine Division
To: Commanding Officer, _____ Battalion, _____ Marines
Subj: UNIT INSPECTION REPORT; COMMUNICATION-ELECTRONICS LOGISTICAL
READINESS INSPECTION
Ref: (a DivO P5040.3

1. In accordance with the reference, this report contains results, recommendations, and comments concerning the LRI conducted by 3d Marine Division G-6, for _____ Battalion, _____ Marines from _____ 9_.

2. INSPECTION RESULTS

a. Personnel/Administration	%	Mission Capable
b. Battery Shop	%	Mission Capable
Publications	%	Mission Capable
d. Operating Sections	%	Mission Capable
e Maintenance Section	%	Mission Capable
f. Training	%	Mission Capable
OVERALL GRADE	%	MISSION CAPABLE

3. FINDINGS AND RECOMMENDATIONS

- a. Finding. A significant problem within the command which
Detracts from the command's readiness.
Is a practice that could lead to fraud, waste, or abuse.
Involves issues of health, morale, or welfare of personnel.

(4) Significantly deviates from 3d MarDiv and/or higher headquarters' policies and procedures.

b. A trend with a discrepancy frequency which exceeds 20% of the inspected sample within a functional area and which renders that functional area NOT MISSION CAPABLE.

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Recommendation. A statement recommending corrective action to resolve the finding.

4. TRENDS AND RECOMMENDATIONS

a. Trend #1. A significant disparity or series of discrepancies which adversely affect a functional area within an inspected commodity and detracts from the organization's ability to accomplish its mission. A single discrepancy occurring with a frequency that constitutes 10% or more of the sample inspected.

b. Recommendation. A statement recommending corrective action to resolve the trend.

5. DISCREPANCIES AND RECOMMENDATIONS

a. Discrepancy #1. A minor disparity which conflicts with guidance, directives, or action as stated in appropriate and applicable directives. If not corrected, a discrepancy may develop into a trend or finding. Discrepancies will not appear in a Unit Inspection Report (UIR) provided to higher headquarters.

b. Recommendation. A statement recommending corrective action to resolve the discrepancy

6. AREA OF CONCERN

a. A serious problem which, if not corrected immediately, will detract from the unit's capability to accomplish its mission or which involves a possible hazard or unnecessary risk to personnel. Will normally emphasize or highlight a finding.

b. An area that while not being incorrect, is questionable against published orders.

7 NOTEWORTHY INDIVIDUALS. The names of all noteworthy Marines.

8. AMPLIFYING COMMENTS

a. Root causes for any findings are mandatory comments in this section

b. This section may contain the (senior) inspector's comments on any areas of concern of which the inspected unit should be informed.

9. PROBLEMS BEYOND THE UNIT'S ABILITY TO SOLVE. This section covers any areas that the inspected unit wants the Division or higher headquarters to look into, to include any problems/issues that the unit cannot resolve.

10. STATEMENT OF THE UNIT'S ABILITY TO CONTROL FRAUD, WASTE, AND MISMANAGEMENT. Identifies any areas in the unit that may have insufficient internal controls to prevent or detect fraud, waste, and mismanagement. If there are none, so state.

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11. Point of contact is , Division G-6, 622-9222/9480.

AC/S G-6
By direction

COMMUNICATION-ELECTRONICS
PERCENTAGES
FOR EACH UNIT'S LRI GRADE

<u>UNIT</u>	<u>PERCENT</u>
HQ Battalion, 3D MarDiv	15%
HQ Infantry Regiment	15%
HQ Artillery Regiment	15%
Infantry Battalion	10%
Artillery Battalion	10%
Combat Assault Battalion	10%
* Communications Battalion	15%

* Communications Battalion receives a courtesy LRI/SAV when requested per a MEF and Division agreement.

3D MARINE DIVISION COMMUNICATION-ELECTRONICS SOP

(Letterhead)

5040
S-6/
DATE

From: Commanding Officer, ___ Battalion, ___ Marines
To: Commanding General, 3d Marine Division (G-4, MMO)
Via: Commanding Officer, ___ Marine Regiment

Subj: REQUEST FOR STAFF ASSIST VISIT (SAV)

1. _____ is scheduled for a PRE-LRI Inspection during
199.

2. A Staff Assist Visit (SAV) is requested

a. Visit dates

b. Visit times: _____

c. Commodities requested: Comm-elec, MMO, MT, etc. (Be sure to include all commodities that want a SAV).

d. Areas to be evaluated: Training, Tools, Modifications, First Echelon Preventive Maintenance, Record Jackets, etc. (Do not list all! The use of the comm-elec checklist during your internal inspections will identify your weak areas).

3. Point of contact is _____ at

Commanding Officer

3D MARINE DIVISION COMMUNICATION-ELECTRONICS SOP

SECTION 1

UNIT	PERSONNEL/ADMINISTRATION		<u>8</u>

1.1	(MCO P4790.2_, par 1005)	(10)	YES NO
-----	--------------------------	------	--------

Do the Communications Officer and Communications Chief maintain up-to-date turnover folders containing sufficient detailed information to effect smooth transition upon replacement, as well as facilitate daily operation of the communications section?

1.2	(UM-4400-124, Part III, par 2.5)	(10)	YES NO
-----	----------------------------------	------	--------

Does the Communications Officer maintain a current copy of the Consolidated Memorandum Receipt (CMR) which accurately identifies pending increases and decreases and is updated in pencil?

1.3	(DivO P2000.10_, par 8027.3)	(05)	YES NO
	(DivO P4400.22_, par 4007.1.a.(1))		

Is the Communications Officer assigned in writing as the Responsible Officer (RO) for the CMR that contains the Controlled Cryptographic Items (CCI) belonging to the unit?

1.4	(FMFM 3-30, par 4093)	(10)	YES NO
-----	-----------------------	------	--------

Are the Division's, Regiment's (when applicable) and the unit's COMMSOPs available to personnel?

5	(FMFM 3-30, par 4903)	(10)	YES NO
---	-----------------------	------	--------

Is the unit complying with the contents of the COMMSOPs?

6	(MCO P4790.2_, app A)	(10)	YES NO
	(DivO P4790.1_, par 2000.1)		

Are the Division's, Regiment's (when applicable) and the unit's MMSOPs available to personnel?

1.7	(MCO P4790.2_, app A)	(10)	YES NO
	(DivO P4790.1_, par 2000.1)		

Is the unit complying with the contents of the MMSOPs?

8	(DivO P4400.22_, par 12000)	(10)	YES NO
	(DivO 4400.33_)		

Is the temporary loan of equipment properly managed?

1.9	(DivO P2000.10_, par 2003.9.e)	(10)	YES NO
-----	--------------------------------	------	--------

Does the communications section have enough licensed drivers to provide one (1) driver per MRC-XXX vehicle.

3D MARINE DIVISION COMMUNICATION-ELECTRONICS SOP

1.10 (MCO P1000.6_, par 3306.2.b) (05) YES NO

Are those enlisted Marines who have been assigned a 25XX, 28XX or 4066 MOS as a result of a formal school being used in appropriate skill designated billets for a minimum of one year immediately following graduation?

1.11 (OPNAVINST 5510.1_, par 21-5.3 (10) YES NO

Do communications personnel handling classified material have proper clearance/access?

SECTION 2

UNIT BATTERY SHOP _____ %

2.1 (MCO P4790.2_, par 1005) (05) YES NO

Does the Battery NCO maintain an up-to-date desktop procedure which prescribes the information, actions, reports, and records necessary to manage the battery shop?

2.2 (TI-6135-15/3) (15) YES NO
 (DivO P2000.10_, par 11009)

Are lithium batteries maintained and stored separately from all other batteries and hazardous/flammable material?

2.3 (DivO P2000.10_, par 11009.2.c) (15) YES NO

Are lithium storage rooms/containers marked in accordance with the reference?

2.4 (DivO P2000.10_, par 11010) (15) YES NO

Is the unit complying with current directives which address the requirements for operation of a battery charging facility?

2.5 (MCO 4555.3_) (15) YES NO
 (DivO P2000.10_, Ch 11; TI-6135-15/3)

Are personnel aware of proper disposal procedures for the various batteries?

2.6 (MCO P4790.2_, par 3002) (10) YES NO

Does the condition of the equipment indicate that effective operator preventive maintenance is being performed?

2.7 (MCO P4790.2_, par 3003) (10) YES NO

Is equipment requiring maintenance submitted to the supporting maintenance activity as required?

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2.8 (TM 4700-15/1_ CH 8) (15) YES NO
 (DivO P2000.10_, par 8009.3 & pg. 8-47)

Are equipment records properly prepared and maintained?
 (Discrepancies are listed in the worksheets.)

SECTION 3

UNIT	PUBLICATIONS	YES	NO

3.1 (MCO P4790.2_, par 1005)	(05)	YES	NO
(DivO P4790.1_, par 1003)			

Does the Publications NCO maintain an up-to-date desktop procedure that prescribes the information, requirements, actions, and records needed to manage the unit's technical library?

3.2 (MCO P4790.2_, app B) (10) YES NO

Does the communications section have a method of identifying all publications on hand and all publications required? [i.e. unit's publications listing (PL) or section PL (PCC's)]

3.3 (MCO P4790.2_, par 2008) (10) YES NO

Does the section PL contain all equipment associated technical publications required to support the equipment listed on the unit's EAF or CMR and any special allowances?

3.4 (MCO P4790.2_, par 14) (10) YES NO
 (DivO P2000.10_, App A)

Does the unit hold or have on order current copies of required publications?

3.5 (MCO P4790.2_, par 2008.b) (10) YES NO

Is the communications section's Internal Distribution Control system sufficient to manage publications on hand and recommend timely changes to the unit's publication listing (PL)?

3.6 (MCO P4790.2_, par 2008.C) (10) YES NO

Do the inventory control measures accurately account for and locate the publications maintained by the unit?

3.7 (MCO 5215.17_, par 4002) (10) YES NO
 (MCO P4790.2_, par 2008.C)

Have changes that are on hand been properly entered?

3D MARINE DIVISION COMMUNICATION-ELECTRONICS SOP

(MCO P4790.2_, app B.15.f) (10) YES NO

Are the procedures established to control publications that are checked out of the library being adhered to?

(MCO P4790.2_, par 2008.1.D.2 (10) YES NO
(Units MM SOP)

Are the procedures established for reconciling with the unit's publication control point (UPCP) on the status of publications on order being adhered to?

3.10 (MCO P4790.2_, par 2008.3) (10) YES NO
(MCO P5215.17_ & TM 4700-15/1

Are the requirements and criteria for submitting the NAVMC 10772 understood?

3.11 (DivO P4790.1_, par 7008) (05) YES NO

Are copies of completed NAVMC 10772s being maintained by the communications section?

SECTION 4

UNIT OPERATING SECTIONS _____ %

RADIO _____ %

4.1 (MCO P4790.2_, par 1005) (05) YES NO

Does the Radio Chief maintain an up-to-date turnover folder containing sufficient detailed information to effect a smooth transition upon replacement, as well as facilitate day-to-day operation of the radio section?

(MCO P4790.2_, par 3002) (50) YES NO

Does the condition of the equipment indicate that effective operator preventive maintenance is being performed?

4.3 (MCO P4790.2_, par 3003) (25) YES NO

Has the unit identified all required corrective maintenance and taken appropriate action to effect timely repair?

4.4 (MCO P4790.2_) (10) YES NO
(MCO P4400.150_, par 2008)

Does all SL-3 deficient equipment (including tools for the MRC systems) have an SL-3 ERO opened on the major end item?

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(MCO P4790.2_) (Variable) YES NO
 (MCO P4400.150_, par 2008)

When a SL-3 component is missing or unserviceable and it causes the end item to be deadlined, is the unit opening a deadlining ERO vice a SL-3 ERO? (Each item without a deadlining ERO will be minus 1 point.)

(DivO P2000.10_, par 8008.2.a) (10) YES NO

Does a check of the equipment and the record jackets indicate that LTIs are being performed before and after each exercise and/or deployment.

RADIO RECORDS CLERK *

4.7 (MCO P4790.2_, par 1005) (05) YES NO
 (DivO P4790.1_, par 1003)

Does the Records Clerk maintain an up-to-date desktop procedure which prescribes the information, actions, reports, and records necessary to manage the equipment record jackets for the radio section?

(DivO P2000.10_, par 8009.3 & pg 8-47 (30) YES NO

Are equipment records properly prepared and maintained?
 (Discrepancies are listed in the worksheets.)

(TM-4700-15/1_) (10) YES NO
 (DivO P2000.10_, par 8006.4.b)

Are EROs properly authorized by either the unit commander or his designated representative?

4.10 (TM 4700-15/1 (10) YES NO

Do the SL-3 EROs contain all the required information as identified in the reference (both owning unit and maintenance sections)?

(TM 4700-15/1 (10) YES NO

Do the repair EROs contain all the information that the owning section is required to fill in as identified in the reference?

4.12 (MCO 4790.2_, app G.5) (05) YES NO

Are the DPR and DTL being received from the MMO daily (where applicable)?

4.13 (MCO P4790.2 (10) YES NO

Does a review of the DPR and open EROs indicate that the DPR information matches the EROs information?

3D MARINE DIVISION COMMUNICATION-ELECTRONICS SOP

(MCO 4400.16, pg. 13,14 (10) YES NO

Are requisitions submitted within the required time limit once the requirement for parts has been determined?

4.15 (MCO P4790.2_) (10) YES NO
(MCO P 4400.150_, par 2008

Are needed SL-3 parts on valid requisition and are they resident in the MIMMS/AIS?

WIRE %

(MCO P4790.2_, par 1005) (05) YES NO

Does the Wire Chief maintain an up-to-date turnover folder containing sufficient detailed information to effect a smooth transition upon replacement, as well as facilitate day-to-day operation of the wire section?

(MCO P4790.2_, par 3002) (50) YES NO

Does the condition of the equipment indicate that effective operator preventive maintenance is being performed?

4.18 (MCO P4790.2_, par 3003 (25) YES NO

Has the unit identified all required corrective maintenance and taken appropriate action to effect timely repair?

4.19 (MCO P4790.2_) (10) YES NO
(MCO P4400.150_, par 2008

Does all SL-3 deficient equipment have an SL-3 ERO opened on the major end item?

4.20 (MCO P4790.2_, app C) (Variable) YES NO

When a SL-3 component is missing or unserviceable and it causes the end item to be deadlined, is the unit opening a deadlining ERO vice a SL-3 ERO? (Each item without a deadlining ERO will be minus 1 point.)

4.21 (DivO P2000.10_, par 8008.2.a) 10) YES NO
(MCO P4790.2_, par 3007)

Does a check of the equipment and the record jackets indicate that LTIs are being performed before and after each exercise and/or deployment.

3D MARINE DIVISION COMMUNICATION-ELECTRONICS SOP

WIRE RECORDS CLERK

8

(MCO P4790.2_, par 1005) (05) YES NO
 (DivO P4790.1_, par 1003)

Does the Records Clerk maintain an up-to-date desktop procedure which prescribes the information, actions, reports, and records necessary to manage the equipment record jackets for the wire section?

4.23 (DivO P2000.10_, par 8009.3 & pg. 8-47) (30) YES NO

Are equipment records properly prepared and maintained? (Discrepancies are listed in the worksheets.)

(MCO 4790.2_, app G.5) (05) YES NO

Are the DPR and DTL being received from the MMO daily (where applicable)?

(TM-4700-15/1_) (10) YES NO
 (DivO P2000.10_, par 8006.4.b)

Are EROs properly authorized by either the unit commander or his/her designated representative?

(TM 4700-15/1_) (10) YES NO

Do the SL-3 EROs contain all the required information as identified in the reference (both owning unit and maintenance sections)?

4.27 (TM 4700-15/1_) (10) YES NO

Do the repair EROs contain all the information that the owning section is required to fill in as identified in the reference?

4.28 (MCO P4790.2_) (10) YES NO

Does a review of the DPR and open EROs indicate that the DPR information matches the EROs information?

(MCO 4400.16_, pg. 13-14) (10) YES NO

Are requisitions submitted within the required time limit once the requirement for parts has been determined?

4.30 (MCO P4790.2_) (10) YES NO
 (MCO P4400.150_, par 2008)

Are needed SL-3 parts on valid requisition and are they resident in the MIMMS/AIS?

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DATA COMMUNICATIONS

%

(MCO P4790.2_, par 1005) (05) YES NO

Does the Data Communications Section maintain an up-to-date turnover folder containing sufficient detailed information to effect a smooth transition upon replacement, as well as facilitate day-to-day operation of the data comm section?

(MCO P4790.2_, par 3002 (45) YES NO

Does the condition of the equipment indicate that effective operator preventive maintenance is being performed? (i.e. condition of keyboard keys, dust on equipment)

4.33 (FMFRP 3-32, par 10003.5) (15) YES NO

Does the software installed on microcomputers have original diskettes or site license?

4.34 (MCO P4790.2_, par 3002.14) (25) YES NO

Has the unit identified all items requiring corrective maintenance and taken appropriate action to effect timely repair?

4.35 (DivO P2000.10_, par 8008.2.a) 10) YES NO

Does a check of the equipment record jackets indicate that LTIs are being performed before and after each exercise/deployment/temp loan.

DATA COMM RECORDS CLERK

%

(MCO P4790.2_, par 1005) (05) YES NO
(DivO P4790.1_, par 1003)

Does the Records Clerk maintain an up-to-date desktop procedure which prescribes the information, actions, reports, and records necessary to manage the equipment record jackets for the data comm section?

4.37 (DivO P2000.10_, par 8009.3 & pg. 8-47) (30) YES NO

Are equipment records properly prepared and maintained?
(Discrepancies are listed in the worksheets.)

(MCO 4790.2_, app G.5 (05) YES NO

Are the DPR and DTL being received from the MMO daily (where applicable)?

(TM-4700-15/1_) (10) YES NO
(DivO P2000.10_, par 8006.4.b)

Are EROs properly authorized by either the unit commander or his designated representative?

3D MARINE DIVISION COMMUNICATION-ELECTRONICS SOP

4.40 (TM 4700-15/1 10) YES NO

Do the SL-3/component EROs contain all the required information as identified in the reference (both owning unit and maintenance sections)?

4.41 (TM 4700-15/1 10) YES NO

Do the repair EROs contain all the information that the owning section is required to fill in as identified in the reference?

4.42 (MCO P4790.2_) (10) YES NO

Does a review of the DPR and open EROs indicate that the DPR information matches the EROs' information?

4.43 (MCO 4400.16_, pg. 13-14 (10) YES NO

Are requisitions submitted within the required time limit once the requirement for parts has been determined?

4.44 (MCO P4790.2_) (10) YES NO
(MCO P4400.150_, par 2008

Are needed SL-3/component parts on valid requisition and are they resident in the MIMMS/AIS?

SECTION 5

UNIT MAINTENANCE SECTION _____ %

MAINTENANCE CHIEF _____ %

5.1 (MCO P4790.2_, par 1005) (05) YES NO

Do the Maintenance Officer and the Maintenance Chief maintain current turnover folders containing sufficient detailed information to effect a smooth transition upon replacement, as well as facilitate day-to-day operation of the maintenance section?

5.2 (MCO P4790.2_, par 3001) (10) YES NO
(TM 4700-15/1_)

Is an Equipment Repair Order (ERO) opened whenever parts or other resources are required in the performance of equipment maintenance?

5.3 (MCO P4790.2_, par 3001.C.2) (15) YES NO

Are corrective maintenance services performed in accordance with applicable equipment technical publications, and consistent with the echelon of maintenance authorized for the unit?

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5.4 (MCO P4790.2_, par 3003.4) (10) YES NO
(Unit's MMSOP)

Is the unit in compliance with current procedures governing the repair/exchange of secondary reparable? Is a current copy of the Maint Float catalog on hand?

5.5 (MCO P4790.2_, par 3001.2.b) (10) YES NO

Is the equipment which requires maintenance services beyond the capabilities of the unit evacuated to and recovered from the next higher echelon in a timely manner?

5.6 (TI-4400-15/1 para 4.a & 4.b) (05) YES NO

Do work stations where Electrostatic Sensitive Devices (ESDs) are handled, installed, and tested provide protection against electrostatic discharge?

5.7 (TM 4700-15/1_) (10) YES NO
(DivO P2000.10_, par 8006.4)

Are EROs properly filled out and do they accurately reflect the status of ongoing maintenance?

5.8 (UM 4790-5) (15) YES NO
(MCO P4790.2_)

Do the Daily Process Report (DPR) and the Weekly Owning Unit TAM report accurately depict ongoing maintenance, and are they free of data errors and inconsistencies which could hinder the maintenance effort?

5.9 (MCO P4790.2_ app C.2.d) (15) YES NO
(DivO P2000.10_, par 8020.3)

Does a review of EROs, EROSLs, DTL, DPR, and TAM report indicate the required biweekly validation/reconciliation is being properly performed by the shop chief or commodity manager?

SHIPPING & RECEIVING (S&R) %

5.10 (MCO P4790.2_, par 3001) (05) YES NO
(DivO P2000.10_, par 1003)

Does the S&R clerk maintain an up-to-date desktop procedure which prescribes the information, actions, reports, and records necessary to manage shipping & receiving for the communications section?

5.11 (MCO P4790.2_, par 3001.1) (10) YES NO
(TM 4700-15/1_)

Are the accepted EROs properly authorized by either the unit commander or his designated representative?

3D MARINE DIVISION COMMUNICATION-ELECTRONICS SOP

(MCO P4790.2_, par 3001.1 (25) YES NO

Does the maintenance shop conduct an acceptance inspection to ensure that the equipment is complete and prepared for the required maintenance service and are the results noted on the ERO?

(TM 4700-15/1_) (30) YES NO

Do the EROs contain all the information that the owning section is required to fill in as identified in the reference?

5.14 (MCO P4790.2 app E.4) (20) YES NO

Have procedures been established to ensure storage and security of equipment while it is in the repair cycle?

5.15 (TM-4700-15/1_, pg 2-2-14/15) (10) YES NO

Does the date closed match the date received by the owning unit and are there original signatures on the green copies of the ERO?

MIMMS/AIS %

5.16 (MCO P4790.2_, par 3001) (05) YES NO
(DivO P4790.1_, par 1003)

Does the MIMMS Clerk maintain an up-to-date desktop procedure which prescribes the information, actions, reports, and records necessary to manage MIMMS/AIS for the communication section?

(UM 4790-5) (10) YES NO
(MCO P4790.2_, F-5)

Is data entered into the MIMMS/AIS in a timely manner?

5.18 (MCO P4790.2_, app G.5) (20) YES NO

Are the daily FMSS reports being received from the MMO daily, either on disk or hard copy?

5.19 (MCO 4790.2_, par 3001) (35) YES NO

Does a review of the DPR and open EROs indicate that the ERO is used as the source document for changes to the MIMMS/AIS?

5.20 (TM 4700-15/1_ and UM 4790-5) (20) YES NO
(MCO P4790.2_)

Does all equipment which is actually deadlined or degraded have an open ERO with the correct category code and deadline control date? This includes both MARES reportable and non-reportable equipment.

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5.21 (UM 4790-5 chap 24) 10) YES NO

Are the defect codes used by the unit ones that most accurately reflect the maintenance that is performed? NOTE: Administrative tasks associated with or caused by a primary defect, would give more accurate analysis data if they carried the same defect as the primary job. For example, if you fill out a float document on a RT-841 with a defect of S-50 for a transmit frequency out of tolerance, you should use S-50 for the entry for the float transaction instead of B-56.

SUPPLY SUPPORT §

5.22 (MCO P4790.2_, par 3001) (05) YES NO
(DivO P4790.1_, par 1003)

Does the Supply Clerk maintain an up-to-date desktop procedure which prescribes the information, actions, reports, and records necessary to manage supply support for the communications section?

5.23 (MCO 4400.16_, par 9) (15) YES NO
(DivO P2000.10_, par 8016.2.b)

Are requisitions submitted within the required time limit once the requirement for parts has been determined?

5.24 (TM 4700-15/1_ 10) YES NO
(Unit's MMSOP)

Do the EROSLs contain all the header information required by the references?

5.25 (MCO P4790.2_, par 3001) (25) YES NO

Are needed repair parts (including maintenance float items) on valid requisition, and are they resident in the MIMMS/AIS?

5.26 (MCO P4790.2_ (10) YES NO
(TM 4700-15/1_ (Unit's MMSOP)

Are EROSLs maintained until the associated ERO is closed, and properly annotated to document all parts transactions (i.e. receipts, canc's/reorders and scrounges) for the equipment undergoing repair?

5.27 (MCO P4790.2_, app C) (05) YES NO

Are ERO bins, EROSLs, and EROs being reconciled bi-weekly to determine if all material received for a specific ERO is on hand and properly controlled?

3D MARINE DIVISION COMMUNICATION-ELECTRONICS SOP

(MCO P4790.2_, app C) (10) YES NO

Are pending EROSLs being reconciled daily with the DTL/DPR to ensure all transactions have processed? Is action being taken on those not processed?

5.29 (MCO P4790.2_ (10) YES NO

Can repair parts/assemblies held by the unit be identified with a pending ERO or authorized pre-expended bin (PEB)?

(MCO P4790.2_) (10) YES NO
(MCO P4400.150_, par 5021)

Have PEB items been approved, in writing, by the unit commander and are they maintained in accordance with current directives? Are Broken Units of Issue added to the PEB letter?

QUALITY CONTROL (QC) §

(MCO P4790.2_, par 3001) (05) YES NO
(DivO P4790.1_, par 1003)

Does the Quality Control NCO/Clerk maintain an up-to-date desktop procedure which prescribes the information, actions, reports, and records necessary to manage quality control for the communications section?

5.32 (DivO P4790.1_, par 5006.1) (30) YES NO

Are the QC inspector and alternates assigned in writing?

(MCO P4790.2_, par 3001.3.e) (30) YES NO
(DivO P4790.1_, par 5006.2.c)

Are the results of QC inspections being properly recorded on the EROs?

5.34 (TM-4700-15/1_ (15) YES NO

When work is completed, is all 9-card information properly annotated on the ERO?

(MCO P4790.2_, 3001.3.e) (20) YES NO
(TM 4700-15/1_)

Does a random bench testing of equipment by authorized QC inspectors indicate that procedures are conducted per appropriate references?

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MODIFICATION CONTROL %

5.36 (MCO P4790.2_, par 3001) (05) YES NO
(DivO P4790.1_, par 1003)

Does the Modification Control NCO maintain an up-to-date desktop procedure which prescribes the information, actions, reports, and records necessary to manage the modification control program?

5.37 (TM 4700-15/1_) (50) YES NO
(MCO P4790.2_, par 3004)

Is the unit maintaining appropriate records which identify all Modification Instructions (MIs) issued for the unit's communications equipment, as well as all optional and mandatory modifications issued for COMSEC equipment? {NOTE: This includes all MIs listed in the current SL-1-2 and TI-5600 as well as modifications noted in message traffic pertaining to the unit's equipment.}

- ___ Modification Records checked.
- ___ End Items not listed.
- ___ MIs not listed and/or MIs that should not be listed.
- ___ Administrative errors. (Pen vice Pencil, PR (publication required) not annotated, etc.)

5.38 (MCO P4790.2_, par 3004) (20) YES

Has appropriate action been taken for all required modifications?

5.39 (MCO P4790.2_, par 3004) (25) YES
(TM 4700-15/1_)

Does a comparison with the unit's equipment indicate that the modification records are an accurate reflection of the actual status of the unit's equipment?

CALIBRATION CONTROL %

5.40 (MCO P4790.2_, par 3001) (05) YES
(DivO P4790.1_, par 1003)

Does the Calibration NCO maintain an up-to-date desktop procedure which prescribes the information, actions, reports, and records necessary to manage the calibration control program?

5.41 (TM 4700-15/1_) (10) YES
(MCO P4790.2_, 2005.5)

Is the required information for all of the unit's TMDE properly recorded using the calibration control system as set forth in the unit's MMSOP? {NOTE: The unit's MMSOP is required to state the type of calibration control that the unit will use. This can be automated wall chart, or card file.}

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5.42 (MCO P4790.2_, app D.2.d) (10) YES NO

Is the equipment scheduled in such a manner as to enable the unit to maintain sufficient equipment on hand to perform its mission?

5.43 (MCO P4790.2_, app D.2.b) (05) YES NO

Is TMDE requiring calibration submitted to the calibration facility within 15 days of its due date?

5.44 (MCO P4790.2_, app D.2.d) (05) YES NO

Is the unit taking advantage of SPECIAL CALIBRATION, CALIBRATION NOT REQUIRED (CNR), or INACTIVE for TMDE which meets the necessary criteria?

5.45 (TM 4700-15/1_) (05) YES NO
(MCO P4790.2_, app D)

Are the procedures for TMDE items which are SPECIAL CAL, CNR, and INACTIVE correctly performed and documented?

5.46 (MCO P4790.2_, par 3002.10) (50) YES NO

Does the condition of the TMDE indicate that effective operator preventive maintenance is being performed?

5.47 (MCO P4790.2_, app C.2.a) (05) YES NO

Are the TMDEs missing or defective SL-3 components and 2nd echelon SL-4 parts on valid requisition?

5.48 (TM 4700-15/1_) (05) YES NO
(DivO P2000.10_, par 8009.3 & pg. 8-47)

Are the test equipment records properly prepared and maintained? (Discrepancies are listed in the worksheets.)

TOOL CONTROL %

5.49 (MCO P4790.2_, par 3001) (05) YES NO
(DivO P4790.1_, par 1003)

Does the Tool NCO maintain an up-to-date desktop procedure which prescribes the information, actions, reports, and records necessary to manage the tool control program for the communications section?

5.50 (MCO P4790.2_) (10) YES NO
(MCO P4400.150_, par 2009)

Have special allowances been established for garrison-peculiar tool sets, kits, or chests that are required in excess of the unit's T/E, and have inventory lists been established, with the commander's written authorization? If the unit possesses special tools are they in compliance with the references?

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5.51 (MCO P4790.2 app D.1 (15 YES NO

Are all tool sets, chests, and kits inventoried as required by current directives and is a copy of each completed inventory maintained by the unit for a period of one year?

5.52 (MCO P4790.2_) (50 YES NO
(DivO P2000.10_, par 8021.4

Are tools maintained in a clean and serviceable condition?

5.53 (MCO P4790.2_, app D.f.2) (15 YES NO
(UM 4400-124 par 6.1)

Are replacements for missing or unserviceable tools placed on requisition upon completion of the required inventories?

5.54 (DivO P2000.10_, par 8009.3 & pg. 8-47 (05) YES NO
(TM 4700-15/1_, pg 8-1-1)

Are the tool kit equipment records properly prepared and maintained? (Discrepancies are listed in the worksheets.)

SECTION 6

UNIT	TRAINING	§

6.1	(MCO P4790.2_, par 1005) (DivO P2000.10_, par 8003.1.b)	(05)	YES	NO
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Does the Training NCO maintain an up-to-date desktop procedure that prescribes the information, requirements, actions, and records needed to manage the communication section's training program?

6.2	(DivO P2000.10_, par 1003.2	(20)	YES	NO
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Does the unit maintain the required training documents identified in the reference?

6.3	(DivO P2000.10_, par 1002&11001.3 (DivO P1500.25_, par 5003 & 5014)	(15)	YES	NO
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Does the unit training plans reflect the required MOS and related training?

6.4	(DivO P2000.10_, par 1003.2.c	(30)	YES	NO
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Does the weekly/monthly training schedule support the quarterly training plan?

6.5	(DivO P1500.25_, par 7001.3.d)	(05)	YES	NO
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Are the training schedules being kept on file for 12 months? (N/A for UDP Battalions.)

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(DivO P4790.1_, par 4006.2.e) 10) YES NO

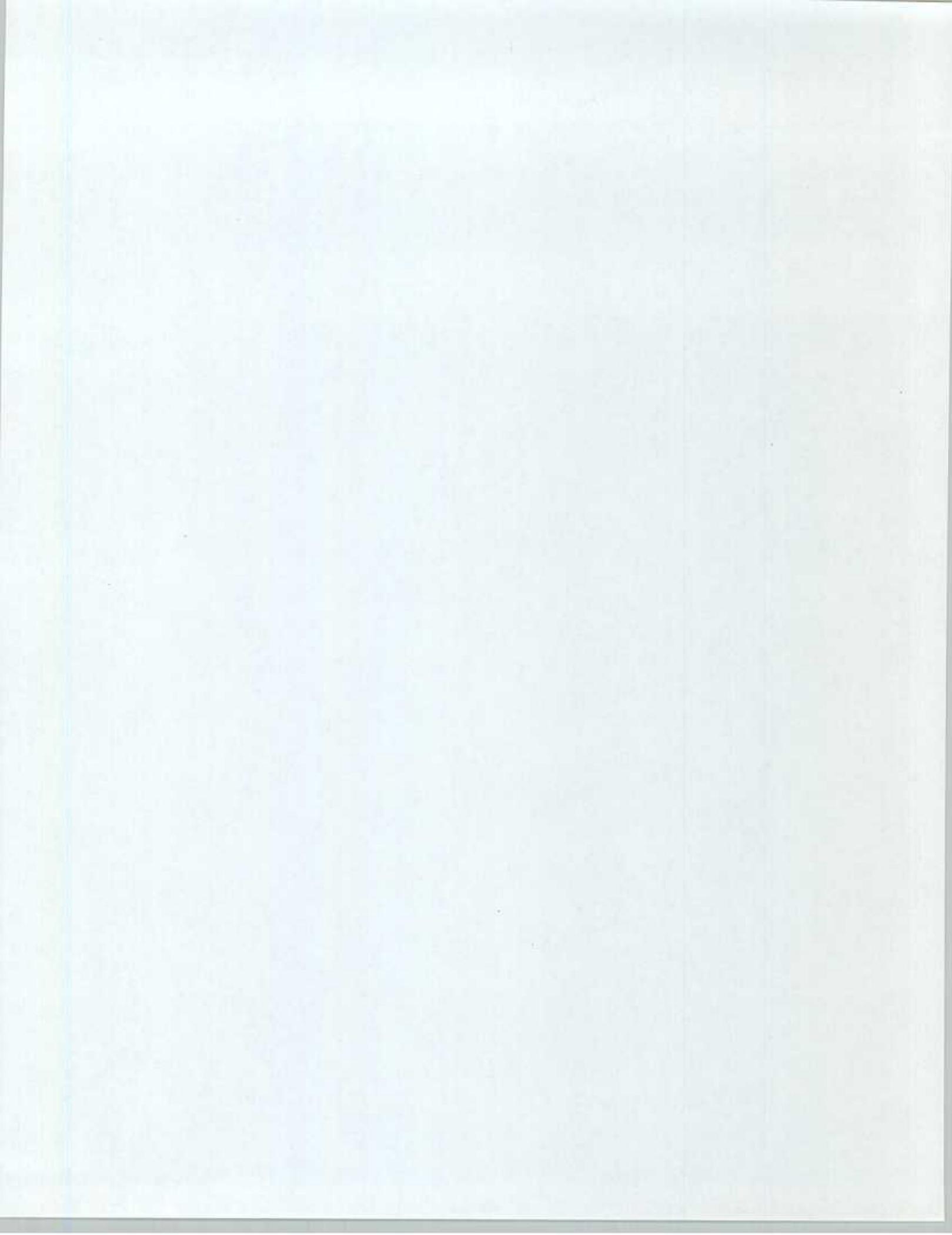
Does the unit maintain current, complete, and accurate lesson plans?

(DivO P4790.1_, par 4006.2.e) (10) YES NO

Are the lesson plans reviewed and approved prior to the class being given?

(DivO P4790.1_, par 4006.2.d) (05) YES NO

Are the classes being evaluated periodically and are records of the evaluations being maintained?



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DivO P2000.10D

LOCATOR SHEET

01 FEB 1996

Subj: COMMUNICATION-ELECTRONICS STANDING OPERATING PROCEDURES (SHORT
TITLE: COMM-ELEC SOP)

Location:

(Indicate the location(s) of the copy(ies) of this
Manual.)

ENCLOSURE (1)