

COMMANDER (PTL)  
COAST GUARD PACIFIC AREA  
COAST GUARD ISLAND  
ALAMEDA, CA 94501

ENCLOSURE 4 TO TAB D TO APPENDIX 10 TO ANNEX N TO COMPACAREA SOP  
DUTY TECHNICIAN QUALIFICATION MINIMUMS

1. The Duty technician must be a qualified watchstander and a qualified safety observer. In the process of meeting the watchstander requirements, the duty technician is expected to provide in-depth, technically sound responses to the various questions.
2. The Duty technician must know the station's power distribution system.
3. The Duty technician must know the station's fire alarm system.
4. The Duty technician must know how to secure power to specific electronic equipments.
5. The Duty technician must know how to locate and use electronic equipment technical manuals.
6. The Duty technician must draw a correct block diagram of the station's Loran, communications, and primary power systems.
7. The Duty technician must know how to locate and use the station's electronic test equipment.
8. The Duty technician must be able to setup casualty drills.
9. The Duty technician must be able to use the EPA to:
  - a. Adjust the pulse shape.
  - b. Adjust the droop.
  - c. Perform a pulse analysis.
10. The Duty technician must be able to switch transmitters, both remotely and locally.
11. The Duty technician must be able to use the frequency patch panel to patch an oscillator into the operate path.
12. The Duty technician at tube-type LORSTA's must be able to take and evaluate the daily transmitter readings.
13. The Duty technician must know and be able to troubleshoot all Loran-specific electronic equipment on the LORSTA.



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ENCLOSURE 5 TO TAB D TO APPENDIX 10 TO ANNEX N TO COMPACAREA SOP  
SAFETY OBSERVER QUALIFICATION MINIMUMS

Safety training shall be conducted to cover all those aspects of electronics safety enumerated in COMDTINST M10550.25. Safety Observer candidates shall demonstrate their mastery of this training by successfully demonstrating their competence to the senior electronics technician who shall then date and initial the candidate's Safety Observer Qualification form.

NAME: \_\_\_\_\_

STATION: \_\_\_\_\_

1. Demonstrate an ability to use and know the locations of the following safety equipment:
  - a. fire extinguishers
  - b. safety tags
  - c. fuse pullers
  - d. grounding wand
  - e. rubber gloves & leather shells
  - f. rubber matting
2. Show the locations of circuit breakers and safety switches for all installed electronic equipment.
3. Explain the proper method of removing a shock victim from a live circuit.
4. Demonstrate the correct revival and first aid techniques for a shock victim.
5. Demonstrate ability in use of station intercom and telephone systems including location of emergency phone numbers.
6. Explain who is to be notified in the event of any of the emergencies below during normal working hours, and after normal working hours:
  - a. medical emergency
  - b. fire
  - c. major equipment casualty
  - d. power failure
7. Show the location and explain the operation of all installed and portable fire fighting equipment in electronic spaces, including the fire alarm system.
8. Demonstrate an ability to perform CPR.
9. Know location of the Emergency Stop switches for the Loran transmitter.
10. Read COMDTINST M10550.25 chapter 2.
11. Know the location of all grounding wands and when to use them.

12. Know procedures for working aloft.
13. Know procedures for working with dangerous voltages and currents.
14. Know and demonstrate procedure for tagging switches.
15. Know precautions for handling Cathode Ray tubes.
16. Demonstrate proper procedure for discharging capacitors.
17. Demonstrate proper use of portable electric tools.
18. Demonstrate safe use of cleaning chemicals.
19. Know hazards of radioactive tubes

N-10-D-5-2

ORIGINAL

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TAB E TO APPENDIX 10 TO ANNEX N TO COMPACAREA SOP  
TRAINING REQUIREMENTS FOR CONTROL STATION CO'S

REFERENCE: (a) COMDTINST 1540.6 series  
(b) COAST GUARD TRAINING AND EDUCATION MANUAL  
(COMDTINST M1500.10A, Chapter 5.A.1.a.(1))

1. PURPOSE: This Tab specifies training requirements for the Commanding Officers of LORSTA Middletown, LORSTA Kodiak, and OMSTA Kaneohe, and Operations Supervisor LORMONSTA Yokota (LORMONSTA Yokota's supervisor is hereafter referred to as a Control Station CO). The Canadian Coast Guard will develop training requirements for the Supervisor of LORSTA Williams Lake; the Regional Manager will review and approve these requirements.

2. APPLICABILITY: This Tab applies to the Commanding Officers and prospective Commanding Officers of PACAREA Control Stations.

3. DISCUSSION: The Commanding Officers of PACAREA Control Stations are responsible for some of the most complex Loran equipment suites in the world. Additionally, they are assigned duties as the alternate COCO for the rates for which their stations act as the Control station. To ensure these officers are prepared to meet their responsibilities they must have a comprehensive professional background in the operational and technical aspects of Loran.

4. ACTION: Training requirements for the Commanding Officers of PACAREA Control Stations are provided below. Obviously, pre-assignment training may not be able to meet all the requirements. If this is the case, appropriate training requests will be submitted during the officer's tour.

a. LORSTA Middletown, CA

(1) Training required by CO duties:

LOR-01 - Loran-C Systems	Required	Notes (1, 3)
LOR-02 - Loran-C TCE (includes LSOS)	Required	Notes (1, 3)
LOR-05 - Loran-C High Power Tube Transmitter	Required	Note (1, 3)
LOR-08 - Control Station Ops (includes RSOS)	Required	Notes (1, 2, 3)
JOLAM - Junior Officer Leadership & Management	Desirable	Note (1, 3)

(2) Training required by alternate COCO duties:

Loran-C Engineering Course	Required	Note	(1, 3)
LOR-06 - Loran-C SSX AN/FPN-64	Desirable	Note	(1, 3)
LOR-07 - PCMS Maintenance	Desirable	Note	(1, 3)
or			
LOR-09 - PCMS Short Course	Desirable		

b. LORMONSTA Kodiak, Alaska

(1) Training required by CO duties:

LOR-01 - Loran-C Systems	Required	Notes	(1, 3)
LOR-02 - Loran-C TCE (includes LSOS)	Required	Notes	(1, 3)
LOR-04 - Loran-C Low Power Tube Transmitter	Required	Notes	(1, 3)
LOR-05 - Loran-C High Power Tube Transmitter	Required	Note	(1, 3)
LOR-08 - Control Station Ops (includes RSOS)	Required	Note	(1, 2, 3)
JOLAM - Junior Officer Leadership & Management	Desirable	Note	(1, 3)

(2) Training required by alternate COCO duties:

Loran-C Engineering Course	Required	Note	(1, 3)
LOR-07 - PCMS Maintenance	Desirable	Note	(1, 3)
or			
LOR-09 - PCMS Short Course	Desirable		

c. LORMONSTA Yokota, Japan

(1) Training required by CO duties:

LOR-01 - Loran-C Systems	Required	Notes	(1, 3)
LOR-02 - Loran-C TCE (includes LSOS)	Required	Notes	(1, 3)
LOR-08 - Control Station Ops (includes RSOS)	Required	Note	(1, 2, 3)
JOLAM - Junior Officer Leadership & Management	Desirable	Note	(1, 3)

(2) Training required by alternate COCO duties:

Loran-C Engineering Course	Required	Note	(1, 3)
LOR-05 - Loran-C High Power Tube Transmitter	Desirable	Note	(1, 3)
LOR-07 - PCMS Maintenance	Desirable	Note	(1, 3)
or			
LOR-09 - PCMS Short Course	Desirable		

d. OMSTA Kaneohe, Hawaii

(1) Training required by CO duties:

LOR-01 - Loran-C Systems	Required	Notes	(1, 3)
LOR-02 - Loran-C TCE	Required	Notes	(1, 3)
LOR-08 - Control Station Ops	Required	Note	(1, 3)
JOLAM - Junior Officer Leadership & Management	Desirable	Note	(1, 3)

(2) Training required by alternate COCO duties:

Loran-C Engineering Course	Required	Note	(1, 3)
LOR-04 - Loran-C Low Power Tube Transmitter	Desirable	Notes	(1, 3)
LOR-07 - PCMS Maintenance or	Desirable	Note	(1, 3)
LOR-09 - PCMS Short Course	Desirable		

NOTES:

(1) A recent LORSTA or Loran operations assignment may be substituted for LOR-01 and LOR-02. Any other course may be omitted if the officer has had equivalent training or experience in the last 6 years.

(2) If/when a school is started on the Remote Operating System, add this school as "required" to the CO-related training.

(3) If possible, "Required" training should be accomplished before assignment as CO. "Desirable" training should be accomplished when convenient to the member and the Coast Guard.



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APPENDIX 11 TO ANNEX N TO COMPACAREA SOP  
PCMS - GENERAL

1. PURPOSE. This Appendix sets forth Pacific Area policy on operation and maintenance of the Primary Chain Monitor Set.
2. APPLICABILITY. This Appendix is applicable to all Pacific Area Control Stations and LORMONSITE maintenance support facilities.
3. DISCUSSION.
  - a. Introduction: The equipment suite of a LORMONSITE includes a Loran-C Primary Chain Monitor Set (PCMS) type A or B. The PCMS consists of attended and remote unattended processor controlled receiver installations throughout the Loran-C coverage area. Each monitor set gathers real-time data which provides strip chart data and regular reports to a control station. This data is used by the control station to maintain Loran-C timing and signal parameters within tolerance.
  - b. Operational Control: Operational control of USCG Pacific Area Region LORMONSITE's is vested in the Commander, USCG Pacific Area. Operational control is delegated through the Regional Manager, Chain Manager, and cognizant COCO's to the control stations.

PACIFIC AREA LORAN MONITOR SITES

LORMONSITE	CONTROL TYPE		RESPONSIBLE CONTROL SITE	COGNIZANT COCO
	ALPHA I	ALPHA II		
Point Cabrillo, CA	9940-W	9940-M,X,Y	Middlteown, CA	USWC
Point Pinos, CA	9940-M,Y,Z	9940-W	Middletown, CA	USWC
Whidbey Island, WA	5990-Y,Z	5990-M	Williams Lake, BC	CWC
Port Hardy, BC	5990-M	5990-X,Y,Z	Williams Lake, BC	CWC
Sandspit, BC	5990-X		Williams Lake, BC	CWC
Juneau, AK	7960-Y	7960-M,X	Kodiak, AK	GOA
Fairbanks, AK	7960-Z		Kodiak, AK	GOA
Kodiak, AK	7960-M,X 9990-M,Z	7960-Y,Z	Kodiak, AK Kodiak, AK	GOA NORPAC
Adak, AK	9990-X,Y		Kodiak, AK	NORPAC
St Paul, AK		9990-M,X,Y,Z	Kodiak, AK	NORPAC
Johnston Island, HI	4990-M,X,Y	4990-M,X,Y	Kaneohe, HI	CENPAC
Yokota, JA	9970-M,X,Y		Yokota, JA	NWPAC
Guam, RQ	9970-W,Z	9970-W,Z	Yokota, JA	NWPAC
Changsan, ROK		9970-M,X,Y 5970-M,W,Y,Z	Yokota, JA Yokota, JA	NWPAC EA
Osan, ROK	5970-M,W,X,Z		Yokota, JA	EA

c. Maintenance responsibility: Maintenance responsibility for Pacific Area LORMONSITE's falls within the purview of various entities:

LORMONSITE Facilities	Responsible Entity
United States, Japan, Guam, and Korea Canadian	Commander, USCG MLC Pacific  Regional Manager, Telecommunications, Vancouver

(Specific maintenance responsibilities are addressed in Tab B)

4. ACTION: Comply with the following:

a. Continuity of Loran control is essential to guaranteeing navigational reliability. Whenever possible, the support facility having organizational level maintenance responsibility for the PCMS, (support facility), shall give the control station 24 hours notice of any proposed PCMS maintenance or modification.

b. The support facility shall report the cause of any failure, nature of all repairs and/or equipment hardware/software changes to the cognizant COCO(s). Any message concerning the monitor systems shall include the Chain Manager and the affected control station(s) as INFO addressees.

c. The control stations will be responsible for notifying the support facility of system failures by the fastest means available, e.g., telephone call. **Repair response to failures shall be immediate whenever possible.** When the support facility is confronted with conflicting repair priorities the responsible operational command must decide which receives first response. The cognizant COCO(s) shall be notified by PRIORITY message whenever maintenance support must be delayed beyond four hours.

d. The support facility maintenance technician, when at the LORMONSITE, shall contact the control station (via telephone or teletype), keeping the control station watchstander advised of the status of the monitor.

e. The support facility maintenance technician shall advise the control station when maintenance, including calibration, has been completed. The control station shall then verify correct parameters and baseline information from the monitor. Only after verification shall the control station release the maintenance technician.

f. The control station shall not request the computer to report more often than every 60 seconds. This will allow access to the computer in situations where numerous error reports are being received.

g. In the event of a PCMS equipment casualty the Commanding Officer of the support facility is required to issue a CASREP when the equipment has been out of service for four hours. The CASREP shall be sent to the cognizant COCO(s) and include the CM and the control station(s) as INFO addressees. MLC Pacific(tes-3) and/or the appropriate EMD shall be an ACTION addressee if assistance is required and an INFO addressee if no assistance is required.

h. The support facility maintenance personnel may be directed (by the cognizant COCO(s), the CM, or RM) to install the CDFO-RCVR/5000 internal notch filters to reduce the effects of interference. These filters shall only be installed on a temporary basis.

i. During periods (3 hours or more) of TTY landline outage it may be necessary for the operational control station to request assistance from the support facility in obtaining correlating data from the monitor system. The procedure for obtaining this data is as follows:

1. Without halting the computer, patch the computer and CGO-733 ASR Data Terminal into the test loops in the same manner as used for reprogramming.
2. Stop outputs (OUT K).
3. Begin reports on the affected chain every 60 seconds (RPRT 1, 60 or RPRT 2, 60).
4. After 15 minutes of reports, call the control station and relay the data requested by the watch supervisor.
5. Remove all patch cords, restoring equipment to normal configuration.

If the TTY outage continues, the above procedure will be repeated every 3 or 4 hours at the request of the control station.

TAB

- 1 - CDFO-RCVR/5000 Operating Parameters
- 2 - LORMONSITE Organizational Level Maintenance Responsibility



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TAB A TO APPENDIX 11 TO ANNEX N TO COMPACAREA SOP  
CDFO-RCVR/5000 OPERATING PARAMETERS

REFERENCE: (a) COMDTINST M16500.13, USCG ATON Manual,  
Radionavigation

1. PURPOSE. This Tab sets forth operating parameters for the CDFO-RCVR/5000.
2. APPLICABILITY. This Tab is applicable to all Pacific Area Control Stations, LORMONSTA's and LORMONSITE maintenance support facilities.
3. DISCUSSION. The parameters listed in the reference are nominal values.
4. ACTION. The below listed parameters permit further Control Station latitude for the CDFO-RCVR/5000. COCO may alter the values if they are inappropriate for local conditions.

<u>CDFO-RCVR/5000 Parameter</u>	<u>normal operating range</u>
Averaging Time (AVG)	2-3
Sample Clipping (CLIP)	on/off
PLL Time Constant (TMCN)	400-1600

The Time Difference Deviation (TDD) and Envelope Deviation (ED) parameters may not be set for deviations greater than the tolerances specified in reference (a). When a parameter approaches the limits of tolerance, the alarm should sound, allowing the control station watchstander time to take corrective action before the parameter is out of tolerance. COCO may set tighter tolerances with the approval of the CM.



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TAB B TO APPENDIX 11 TO ANNEX N TO COMPACAREA SOP  
LORMONSITE ORGANIZATIONAL LEVEL MAINTENANCE RESPONSIBILITY

REFERENCE: (a) Control Communications and Monitor Plans (CCMP's)  
(b) USCG Planned Maintenance System (CGPMS)

1. PURPOSE. This Tab specifies Organizational Level Maintenance (OLM) responsibility for the LORMONSITE's within the Pacific Area.

2. APPLICABILITY. This Tab is applicable to all Pacific Area Control Stations and LORMONSITE maintenance support facilities.

3. ACTION. LORMONSITE's are considered "units" of the supporting entity. These entities are responsible for all basic support services. The following table lists OLM responsibility for the LORMONSITE's within Pacific Area chains:

<u>MONITOR SITE</u>	<u>COGNIZANT COCO</u>	<u>OLM UNIT</u>
Point Cabrillo, CA	USWC	Pacific Services Humboldt Bay
Point Pinos, CA	USWC	Pacific Services Monterey
Whidbey Island, WA	CWC	NAS Whidbey Island
Port Hardy, BC	CWC	COG Port Hardy, BC
Sandspit, BC	CWC	COG Sandspit, BC
Juneau, AK	GOA	EST Juneau, AK
Fairbanks, AK	GOA	FAA Fairbanks, AK
Kodiak, AK	GOA	LORSTA Kodiak, AK
St Paul, AK	NORPAC	LORSTA St Paul, AK
Adak, AK	NORPAC	NAS Adak, AK
Yokota, JA	NWPAC	FESEC Yokota, JA
Changsan, RK	NWPAC	FESEC Yokota, JA
Guam Island, GQ	NWPAC	MARSEC, Guam
Osan, RK	EA	FESEC Yokota, JA
Johnston Island, HI	CENPAC	LORSTA Johnston island

a. Each OLM unit is required to have a minimum of two technicians trained in PCMS maintenance by a TRACEN PCMS maintenance course. The OLM unit is responsible for ensuring the PCMS site is maintained in accordance with reference (b). Preventive maintenance may be performed more frequently than monthly and quarterly at the option of the cognizant COCO.

b. The OLM unit shall maintain local records/logs of all preventive and corrective maintenance performed on the PCMS.

6. On the first working day of each month the OLM unit shall forward a report of maintenance performed on the PCMS site the previous month to the cognizant COCO. A copy of the maintenance report shall be sent to Commander, MLC Pacific(tes-2).

7. Problems have occurred at several LORMONSITE's because old or locally reproduced PCMS software has been used for loading the PDP-8E. Only two copies of depot-originated PCMS software per CDFO-RCVR/5000 receiver are authorized and shall be maintained. The software is available thru normal milstrip procedures using published CG COG stock numbers.

8. If the computer is halted when the technician arrives at the site he shall enter the address at which the computer halted in the maintenance log.

9. During periods (3 hours or more) of TTY landline outage it may be necessary for the Control Station to request assistance from the support facility in obtaining correlated data from the monitor system. The procedure for obtaining this data is as follows:

- a. Without halting the computer, patch the computer and CGO-733 ASR Data Terminal into the test loops in the same manner as used for reprogramming.
- b. Stop outputs (OUT K).
- c. Begin reports on the affected chain every 60 seconds (RPRT 1,60 or RPRT 2,60)
- d. After 15 minutes of reports, call the Control Station and relay the data requested by the watch supervisor.
- e. Remove all patch cords, restoring equipment to normal configuration.

If the TTY outage continues, the above procedure will be repeated every 3 or 4 hours at the Control Station's request.

10. The Commanding Officer of the maintenance facility is required to issue a CASREP when the equipment has been out of service for four hours. The CASREP shall be sent to the cognizant COCO and include CM, the district EMD, other interested COCO's, and the control station(s) as INFO addressees. The unit shall include maintenance entities as described in MLC Pacific SOP CASREP reporting instructions.

Note: Pacifica Services technicians will inform LORSTA Middletown of any LORMONSITE equipment failures, repair status updates, and return of previously reported equipment failures. LORSTA Middletown will prepare the necessary equipment casualty reports.

11. Environmental control of PCMS electronic equipment is critical to continued good performance. PCMS spaces are equipped with air conditioners and heaters to maintain temperature control. Each maintenance facility shall review it's logistic/repair capabilities and take necessary actions to preclude loss of stable PCMS operations for more than 24 hours due to environmental control equipment failures. Such a loss is **unacceptable.**



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APPENDIX 12 TO ANNEX N TO COMPACAREA  
BASELINE AND LORSTA PERFORMANCE AWARDS

REFERENCE: (a) COMDTINST M16500.13, USCG ATON Manual,  
Radionavigation

1. PURPOSE. This Appendix specifies criteria for Pacific Area Loran-C performance awards.

2. APPLICABILITY. This Appendix applies to all Pacific Area LORSTA's and Control Stations.

3. DISCUSSION. In recognition of outstanding performance a performance award will be issued to Pacific Area Loran Stations when earned. The criteria for the three Loran-C awards are described in reference (a). Clarification of specific award criteria are covered below:

a. LORSTA Performance: Performance criteria remains 99.990% availability or greater for any 180-consecutive day period. To meet this criteria, the LORSTA cannot accumulate more than 25 minutes of UUT during the period. UUT will not normally (CM shall recommend consideration to discount particular UUT events from award period; RM shall decide) be counted against a LORSTA for the purposes of this award in the following instances:

- 1) If extensive AUTM is taken the 180 day award eligibility period may be extended by the CM/RM (CM recommends, RM approves) for an additional day(s). For example, an award is given for a 180 day period (over 182 days) which had two days of AUTM.
- 2) DESLOT switches on a case-by-case basis (see Tab A).
- 3) Control site or control station caused UUT.
- 4) Propagation anomalies (e.g., SID or PCA).
- 5) EUTM upon ad hoc determination by the CM (normally counted against the award).

Control stations merely by virtue of exercising ROS control for unattended LORSTA's will NOT normally receive a Transmitting Station Award for this achievement. The RM shall consider any outstanding control station performance while in ROS control as a contributor for this award.

c. Control Station Performance:

- 1) Unusable time due to solar events (SID's/PCA's), if handled properly by the control station with no OTBK, will not count against this award.

COCO will reset the award period start date when the control station permits one minute of out of tolerance without blink or causes one minute of lapse of control. UUT will not normally be counted against a Control Station for the purposes of this award in the following instances:

- 1) If the unusable time is incurred by a LORSTA's watchstander's in Bravo or Delta control.

4. ACTION. COCO shall keep a current account of each award for each unit. When an award is earned COCO will report the following information in a separate letter (and forward this recommendation with the monthly report): type of award recommended, total UUT time, and the beginning and ending dates. The CM will address the COCO's recommendation when forwarding the letter. COMPACAREA(Ptl) will verify the award and send a congratulatory letter. COMPACAREA(Ptl) will also have a plate engraved recognizing the performance award and send the plate to the unit. The unit will ensure the plate is correct and mount the plate on the unit plaque.

TAB

A - DESLOT LORSTA's

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TAB A TO APPENDIX 12 TO ANNEX N TO COMPACAREA  
DESLOT LORSTA's

1. PURPOSE. This Tab relaxes certain award criteria for LORSTA's equipped with and using a De-Energized Standby LOran Transmitter (DESLOT).

2. APPLICABILITY. This Tab applies to all PACAREA DESLOT-operating LORSTAs and associated COCO's.

3. DISCUSSION. On LORSTA's operating in the DESLOT mode each automatic transmitter switch should result in less than two minutes off-air time. The same switch on a non-DESLOT LORSTA results in a momentary off-air time of 59 seconds or less. A DESLOT LORSTA will appear to perform less adequately than a non-DESLOT LORSTA because of the DESLOT modification.

4. ACTION. We recognize the design constraints of DESLOT. For award purposes we will allow a two-minute "free" automatic DESLOT switch. When a DESLOT automatic switch exceeds one minute and 59 seconds, the total time of the event shall be counted as unusable time for award purposes. COCO's shall be vigilant to preclude the misuse of this "free" switch - the signal is still unusable to our customers.

a. COCO's will:

1) Maintain accounting for:

- a) Actual operating performance (momentaries excluded).
- b) Actual operating performance less AUTM (momentaries excluded).
- c) Operating performance for award purposes (DESLOT auto switches of one minute 59 seconds or less and momentaries excluded).

2) Report all three percentages in the monthly operations report.

3) Include the number of DESLOT automatic switches and total DESLOT UUT in the comments section of the monthly operations report.

b. Chain Managers will recommend DESLOT/NON-DESLOT operations for their tube transmitters to the RM. They should consider impact on signal availability to aviation users, environmental concerns (e.g., humidity, temperature), and electrical savings. The RM's decisions will be incorporated in the next change to this manual.



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APPENDIX 13 TO ANNEX N TO COMPACAREA SOP  
CCG SPECIAL INSTRUCTIONS

1. PURPOSE. This Appendix promulgates special instructions pertaining to the Canadian Coast Guard.
2. APPLICABILITY. This Appendix applies to Loran-C facilities in the Pacific Area region of the USCG operated by the Canadian Coast Guard.
3. DISCUSSION. This Appendix provides a convenient place to file instructions peculiar to Canadian Loran-C facilities. It provides examples of certain messages and reports required of Canadian Loran-C facilities in the USCG Pacific Area region. Finally, instructions are provided to units shipping items to Canadian Coast Guard facilities.
4. ACTION. Loran-C facilities in the Pacific Area region of the USCG operated by the Canadian Coast Guard shall comply with guidance given in the Tab.

TAB

A - Equipment Casualty Reporting



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TAB A TO APPENDIX 13 TO ANNEX N TO COMPACAREA SOP  
EQUIPMENT CASUALTY REPORTING

1. PURPOSE. This Tab specifies special Canadian Coast Guard equipment casualty reporting instructions.
2. APPLICABILITY. This Tab applies to USCG Pacific Area region Canadian Coast Guard Loran-C facilities.
3. DISCUSSION. The reporting of equipment casualties and their repair status is necessary to notify others of decreased operational capabilities. Canadian stations are not under the U.S. Navy's readiness condition reporting system.
4. ACTION. To ensure COCO, the Chain Manager, and the Support Manager get sufficient data to properly evaluate the casualty, use the reporting formats provided in Enclosure 1.
  - a. Initial Casualty Report (CASREP) reports the initial casualty.
  - b. Situation Report (SITREP). SITREP's shall be updated at least every 30 days. Significant situation changes shall be reported as they occur.
  - c. Casualty Correction (CASCOR) reports the correction of a previously reported failure.

ENCLOSURE

- 1 - Sample Messages



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ENCLOSURE 1 TO TAB A TO APPENDIX 13 TO ANNEX N TO COMPACAREA SOP  
SAMPLE MESSAGES

1. CASREP Message Format:

P  
FM (unit experiencing failure)  
TO (COCO of chain)  
INFO COMPACAREA COGARD ALAMEDA CA//PTL//  
(appropriate Canadian Support Manager)  
BT  
UNCLAS//16564//  
SUBJ: CASREP  
1. Plain language identifier of equipment,  
i.e. AN/FPN-54A Timer.  
2. Brief assessment of ability to continue present and  
future operations.  
3. Estimated time to return equipment to fully  
operational status.  
4. Brief description of casualty.  
5. Material needed to correct casualty.  
6. Nature of outside assistance required, if any.  
BT

2. SITREP Message Format

P  
FM (unit experiencing failure)  
TO (COCO of chain)  
INFO COMPACAREA COGARD ALAMEDA CA//PTL//  
(appropriate Canadian Support Manager)  
BT  
UNCLAS//16564//  
SUBJ: SITREP (Equipment)  
A. (Date/Time/Group of original CASREP)  
1. (list paragraphs and status that require updating)  
BT

3. CASCOR Message Format

R  
FM (unit experiencing failure)  
TO (COCO of chain)  
INFO COMPACAREA COGARD ALAMEDA CA//PTL//  
(appropriate Canadian Support Manager)  
BT  
UNCLAS//N16564//  
SUBJ: CASCOR (Equipment)  
1. MY CASREP (Date/Time/Group) CASCOR.  
BT



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APPENDIX 14 TO ANNEX N TO COMPACAREA SOP  
LORAN RECORDS

REFERENCE: (a) COMDTINST M16500.13, USCG ATON Manual,  
Radionavigation

1. PURPOSE. This Appendix amplifies the record keeping requirements promulgated in reference (a).
2. APPLICABILITY. This Appendix applies to all Pacific Area Loran facilities.
3. DISCUSSION. The importance of proper record keeping cannot be overemphasized. If a marine accident occurs and aids to navigation are considered a factor, it is imperative that the Coast Guard be able to prove that the Loran system was operating properly. Our inability to provide this proof may result in liability on the part of the Coast Guard in the event of a lawsuit. The indispensable element in proving that our job was done correctly is proper records.
4. ACTION. The tabs to this Appendix provide guidance for records, reports, log keeping requirements, and chart marking requirements. Comply with guidance provided in the tabs.

TAB

- A - CALOC Equipped Stations
- B - Chart Marking at Transmitting Stations
- C - ALPHA-1 Monitor 'ECD' Chart Marking



COMMANDER (PTL)  
COAST GUARD PACIFIC AREA  
COAST GUARD ISLAND  
ALAMEDA, CA 94501

TAB A TO APPENDIX 14 TO ANNEX N TO COMPACAREA SOP  
CALOC EQUIPPED STATIONS

REFERENCE: (a) COMDTINST M16500.13, USCG ATON Manual,  
Radionavigation

1. PURPOSE. This Tab specifies use of Loran-C 15 minute average graphs (Form 010).

2. APPLICABILITY. This Tab applies to Loran Control Stations and COCO's under the operational control of the Commander, USCG Pacific Area.

3. ACTION. Comply with the following:

a. Loran-C 15 minute average graphs (Form 010) are not routinely required of Control stations equipped with CALOC. Form 010 shall be used when the CALOC system fails; control station watchstanders must be familiar with the form to properly ascertain when LPA insertions are necessary.

b. COCO shall check the Control Policy (CONPOL) at least quarterly; any change to this parameter will be reported in the monthly operations report.



COMMANDER (PTL)  
COAST GUARD PACIFIC AREA  
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TAB B TO APPENDIX 14 TO ANNEX N TO COMPACAREA SOP  
CHART MARKING AT TRANSMITTING STATIONS

REFERENCE: (a) COMDTINST M16500.13, USCG ATON Manual,  
Radionavigation

1. PURPOSE. This Tab amplifies the chart marking requirements of reference (a).

2. APPLICABILITY. This Tab applies to all Pacific Area LORSTA's.

3. ACTION. Transmitting stations shall maintain a strip chart recording of cycle comp, ECD, TINO, and R-2240/FSN-2(V) amplitude.

a. Chart speed shall conform to the time graduations on the recorder chart paper. Chart recorders shall be installed so that a positive increase in the measured parameter will cause a pen motion to the right.

b. TINO recorders shall track at approximately center scale when the control stations holds the appropriate baseline on CSTD. This shall be accomplished by adjustment of the R-2240/FSN-2(V) input board. (See Tab H to Appendix 7) COCO may direct a change in this calibration.

c. Minimum chart markings for transmitting stations are as follows:

(1) Daily, indicate the operate timer and operate transmitter/CN serial number on TINO and ECD charts respectively.

(2) Record each change of watch on all charts. (Watchstander's initials)

(3) During System Sample:

(a) Obtain a visual TINO readout from the R-2240/FSN-2(V) meter and mark the value on the TINO chart. Using this value as a reference, average the values during the sample hour by eye, record the average of the averages on the TINO chart, and report on the daily.

(b) Subtract the minimum TINO recorder track excursion from the maximum during the sample hour. This is the TINO peak-to-peak value and is reported on the daily. Record peak to peak values as reported.

(4) If the cause of a chart movement is known, an explanatory entry (and time) shall be annotated on the chart. The entry shall not obliterate the chart pen tracks.

(5) If you have to make additional comments on an abnormality, make the comment on the chart before the period so as not to obliterate the pen tracks.

COMMANDER (PTL)  
COAST GUARD PACIFIC AREA  
COAST GUARD ISLAND  
ALAMEDA, CA 94501

TAB C TO APPENDIX 14 TO ANNEX N TO COMPACAREA SOP  
ALPHA MONITOR 'ECD' CHART MARKING

1. PURPOSE: This Tab establishes a Pacific Area convention for Control Station Alpha Monitor 'ECD' charts.

2. APPLICABILITY: This Tab is applicable to all Pacific Area Control Stations.

3. DISCUSSION: Control Stations record the ENVNR output of the Alpha PCMS monitor receiver on a chart recorder. Some watchstanders refer to this chart as the 'ECD' chart. In actuality, the approximate  $ECD = [ (3.0 - ENVNR) * 10 ]$ . From the formula it is clear that as ENVNR increases ECD decreases and vice versa. In the past, some Control Stations set up the chart recorder so the pen moved to the right with a positive increase in ENVNR. Other Control Stations set up the chart recorder so the pen moved to the right with a positive increase in ECD. In all cases the chart is set up with center scale at CSECD. We feel these charts would be more useful to the watchstander as an **INDICATION** of which way ECD is going if we configure the chart recorder so that the pen moves to the right with a positive change in ECD.

4. ACTION: Control stations will configure their Alpha ENVNR ('ECD') chart recorders so that the pen moves to the right with a positive change in ECD. This is equivalent to saying a positive increase in ENVNR will cause the pen to move to the left. The chart will be set so that center scale is CSECD.

a. Control Stations will ensure watchstanders are trained to use the chart only as an **INDICATION** of which way ECD is moving. Approximate ECD must still be calculated using the formula.



COMMANDER (PTL)  
COAST GUARD PACIFIC AREA  
COAST GUARD ISLAND  
ALAMEDA, CA 94501

APPENDIX 16 TO ANNEX N TO COMPACAREA SOP  
LORAN REPORTS

REFERENCE: (a) COMDTINST M16500.13, USCG ATON Manual,  
Radionavigation

1. PURPOSE. This Appendix specifies the format, submission times and procedures for reports required of Pacific Area (PACAREA) Loran personnel and operational units.

2. APPLICABILITY. Each Tab in this Appendix has instructions concerning applicability.

3. DISCUSSION. COMPACAREA(Ptl) requires input from PACAREA Loran personnel and operational units to effectively manage the Loran system. This input can be more easily assimilated when presented in the form of structured reports. Format and content of the following reports are specified in the Tabs:

- a. Loran Operational Reports
- b. Casualty Reports
- c. Abnormality Analyses
- d. Public Relations Reports
- e. Report of Request for Operations Data for Litigious Purposes

4. ACTION. PACAREA Loran personnel and operational units shall prepare and submit these reports in the manner specified by the Tabs.

TABS

- A - LORAN OPERATIONAL REPORTS
- B - CASUALTY REPORTS
- C - ABNORMALITY ANALYSES
- D - PUBLIC RELATIONS
- E - OPERATIONS DATA REQUEST FOR LITIGIOUS PURPOSES



COMMANDER (PTL)  
COAST GUARD PACIFIC AREA  
COAST GUARD ISLAND  
ALAMEDA, CA 94501

ENCLOSURE 1 TO TAB A TO APPENDIX 16 TO ANNEX N TO COMPACAREA SOP  
COCO LORAN MONTHLY OPERATIONS REPORT

The format for this report is set forth in the following sections:

Section 1: Describes the body of the letter report in detail and provides general information concerning report enclosures.

Section 2: Discusses report enclosure (1). Provides a sample Report of Loran Operations derived from the COCO LOIS program monthly output and explains each parameter in this output.

Section 3: Discusses report enclosure (2). Provides a sample Baseline Unusable time summary form and explains each entry on this form.

Section 4: Discusses report enclosure (3). Provides a sample Loran data sheet.

Additional Enclosures: Common sense will dictate additional material to include in the report. The intent shall be to amplify or clarify the report, not make it thick. A few basic rules apply:

1. Consecutively number the report enclosures.
2. Unless completely unavoidable, report enclosures shall be 8½ x 11 inch sheets. Plots or other material which can't be forwarded in this size shall be neatly folded to meet this requirement.
3. Any material excerpted from other documents shall be completely and fully identified. Annotate the report enclosure to show where you got the excerpted material (e.g., This material came from the CCGD14 SOP).

COMMANDER (PTL)  
COAST GUARD PACIFIC AREA  
COAST GUARD ISLAND  
ALAMEDA, CA 94501

ENCLOSURE 1 TO TAB A TO APPENDIX 16 TO ANNEX N TO COMPACAREA SOP  
COCO LORAN MONTHLY OPERATIONS REPORT

The format for this report is set forth in the following sections:

Section 1: Describes the body of the letter report in detail and provides general information concerning report enclosures.

Section 2: Discusses report enclosure (1). Provides a sample Report of Loran-C Operations derived from the COCO LOIS program monthly output and explains each parameter in this output.

Section 3: Discusses report enclosure (2). Provides a sample Baseline Unusable time summary form and explains each entry on this form.

Section 4: Discusses report enclosure (3). Provides a sample Loran data sheet.

Additional Enclosures: Common sense will dictate additional material to include in the report. The intent shall be to amplify or clarify the report, not make it thick. A few basic rules apply:

1. Numbering the report enclosures shall remain consecutive.
2. Unless completely unavoidable, report enclosures shall be 8½ x 11 inch sheets. Plots or other material which can't be forwarded in this size shall be neatly folded to meet this requirement.
3. Any material excerpted from other documents shall be completely and fully identified. Annotate the report enclosure to show where you got the excerpted material (e.g., This material came from the CCGD14 SOP).

SECTION ONE. BODY OF THE LETTER

Use standard USCG letter format and address the report to COMPACAREA (Ptl) via the Chain Manager. The body of the letter will contain a brief, but complete summary of chain operations. Required data sheets are forwarded as enclosures to this letter report. Specific direction concerning the operations summary and required enclosures is provided below:

+++++  
LETTER BODY:

1. (An introductory paragraph. Use your own words, but lead into and use the following paragraphs to describe the indicated areas.)

2. MASTER (Name of LORSTA, e.g., Fallon) - Insert all comments relating only to Master or to Master's impact on all baselines, e.g., unusable time (UUT) caused by master, cesium information, equipment problems peculiar to Master, flag values exceeded, et cetera.

3. WHISKEY (Name of LORSTA) - All comments relating only to this station or the Master-Whiskey baseline. Matters discussed in paragraph 2 need not be repeated here.

Note: For chains with less than four baselines, only operable baselines need be included. Adjust paragraphing as needed.

4. XRAY (Name of LORSTA) - Same as 3.

5. YANKEE (Name of LORSTA) - Same as 3.

6. ZULU (Name of LORSTA) - Same as 3.

7. MONSITES - All comments relating to the monitoring/control of your chain. Discuss equipment problems with remote or local PCMS's, control site equipment, interference, abnormal atmospheric or ionospheric problems, et cetera.

8. STATION PERFORMANCE AWARDS - Contains an awards status matrix and (if applicable) a list of performance awards earned during the month.

9. GENERAL - All comments which relate to two or more stations in the chain, but don't fit the above definitions. An example of this would be a transmitter-related problem, but only X and Y have this type of transmitter. Other areas such as reporting on chain-related special projects, award eligibility, user contacts, et cetera would be discussed here.

SECTION ONE. BODY OF THE LETTER (continued)

(COCO's signature)

- Enclosures: (1) Report of Loran-C Operations  
(2) Baseline Unusable Time Summary  
(3) Momentaries Summary

Distribution: (Indicate distribution of the report.)

COCO USWC\* COCO CWC, CCGD11(oan), CCGD13(oan),  
R&D Center (LORSTA UUT), All 9940 LORSTA's,  
COCO GOA, COCO SEUS, COCO NEUS

COCO CWC\* COCO USWC, COCO GOA, CCGD13(oan),  
CCGD17(oan), R&D Center (LORSTA UUT),  
All 5990 LORSTA's, COCO NEUS, COCO SEUS,  
CCG RMTE, CCG TAM WV, CCG TAM V,  
CCG OTTAWA(AMTF)

COCO GOA\* COCO CWC, CCGD17(oan), All 7960 LORSTA's,  
LORMONSTA Kodiak

COCO NORPAC\* CCGD17(oan), All 9990 LORSTA's,  
LORMONSTA Kodiak

COCO NWPAC\* CCGD14(oan), COMFESEC, All 9970 LORSTA's,  
LORMONCEN Yokota

COCO EA\* CCGD14(oan), COMFESEC, All 5970 LORSTA's,  
LORMONCEN Yokota, KMPA Korea

COCO CENPAC\* All 4990 LORSTA's, OMSTA Kaneohe

\* Include names of ALL entities that receive a copy, even if only one enclosure is all that was sent.

+++++

Each report enclosure is discussed in general terms below.  
Details are provided in sections 2-4 of this TAB.

ENCLOSURES:

(1) During the month, COCO enters data into a COCO LOIS Program. At the end of the report period, the LOIS Program makes the necessary calculations and orders a printout. This enclosure is adapted from that printout. See Section 2 of this TAB for details.

(2) This enclosure consists of a coded listing of Baseline UUT, PCMS Monsite UUT, and Landline UUT during the report period. The listing identifies the offending station, UUT start time, UUT stop time, cause of the UUT, and number of minutes in the event. See Section 3 of this TAB for details.

(3) This enclosure includes information on chain momentaries by cause and station. The enclosure will also contain Admin TTY and ROS Control line availability. See Section 4 of this TAB for details.

N-16-A-1-4

ORIGINAL

SECTION TWO. REPORT ENCLOSURE (1)

The following is a sample of how the data from the COCO LOIS Program printout is to be arranged and reported. See the explanatory notes for detailed explanations.

<b>REPORT OF LORAN-C OPERATIONS</b>					1
<b>U.S. WEST COAST LORAN-C CHAIN (9940)</b>					2
.					
Start Date: 06 FEB 1990	Stop Date: 05 MAR 1990	NR Weeks: 4			3
<b>CHAIN PARAMETERS (Microseconds)</b>					4
	M(FN)	W(GE)	X(MT)	Y(SL)	5
CSTD		15428.14	27494.29	42756.06	6
CSTD TOL		.1	.1	.1	7
CSECD	1.4	.2	1.6	.7	8
CSECD TOL	1.5	1.5	1.5	1.5	9
<b>PERFORMANCE QUALITY</b>					10
	M(FN)	W(GE)	X(MT)	Y(SL)	11
OFF AIR	0	0	3	1	12
AUTH UNUSABLE	0	0	0	0	13
		MW	MX	MY	14
BLINK		1	0	0	15
OOT W/O BLINK		0	0	0	16
UNUSABLE TIME		1	3	1	17
USABLE TIME (%)		99.99	99.99	99.99	18
NON-ALPHA		5	8	0	19
ALPHA-1 (%)		99.98	99.98	100.00	20
NON-ROS	16	53	N/A	0	21
ROS (%)	99.96	99.86	N/A	100.00	22

U.S. WEST COAST LORAN-C CHAIN (9940)

23

Start Date: 06 FEB 1990

Stop Date: 05 MAR 1990

NR Weeks: 4

24

SYNCHORNIZATION (Nanoseconds)

25

	MW	MX	MY	
ALPHA-1 24Hr AVG	8140	4290	6060	27
Sigma	1.9	1.2	1.2	28
ALPHA-1 TD SS AVG	8139	4285	6057	29
Sigma	8	10	9	30
Peak-to-Peak	38	33	52	31
Peak-to-Peak(Prior 4 Weeks)	34	29	48	32
ALPHA-2 TD SS AVG	382	4269	7426	33
Sigma	70	22	21	34
MASTER TINO AVG	9138	1679	9696	35
Sigma	58	99	55	36
Peak-to-Peak	31	18	32	37
SECONDARY TINO AVG	4403	6002	9586	38
Sigma	65	80	27	39
Peak-to-Peak	27	16	14	40
Rho (4 Weeks)	-0.8	-0.1	0.4	41
Rho (8 Weeks)	-0.6	0.8	0.0	42

ENVELOPE (Microseconds)

43

	M(FN)	W(GE)	X(MT)	Y(SL)	
ALPHA-1 ECD 24Hr AVG	1.6	0.4	2.0	1.0	45
Sigma	0.2	0.2	0.0	0.6	46
ALPHA-1 ECD SS AVG	1.7	0.3	2.0	0.9	47
Sigma	0.2	0.2	0.1	0.1	48
ALPHA-2 ECD SS AVG	1.7	0.7	1.9	-0.1	49
Sigma	0.2	0.1	0.0	0.1	50
RHO ECD	-0.1	0.3	-0.3	0.5	51
LOIS 2.0 ECD AVG	0.4	-0.4	0.6	-1.1	52
Sigma	0.1	0.1	0.1	0.1	53

	XMIR#1	XMIR#2	XMIR#1	XMIR#2	XMIR#1	XMIR#2	XMIR#1	XMIR#2	
PEAK VOLTAGE	64.9	94.8	55.1	55.5	65.0	65.0	70.2	70.2	54
CURRENT	1.6	1.6	10.5	10.9	1.4	1.4	1.5	1.8	55
RMS ERROR	0.7	0.6	0.8	0.8	0.7	0.7	0.7	0.5	56
DROOP	2.9	3.4	2.0	2.3	2.2	1.8	3.5	3.5	57

OSCILLATORS

58

	M(FN)			W(GE)			X(MT)			Y(SL)			
	OPER	STBY	TERT	OPER	STBY	TERT	OPER	STBY	TERT	OPER	STBY	TERT	
DAYS	4	4	4	4	4	3	4	4	4	4	4	4	60
OFFSET	58	33	-2	15	-24	2	45	19	-0	-50	58	58	61
SIGMA	26	11	4	43	28	6	35	15	1	35	25	62	62

N-16-A-1-6

ORIGINAL

EXPLANATORY NOTES:

1. Title of report.
2. Group repetition interval and the name of the chain.
3. Start date, stop date, and number of weeks for the report.
4. Title of the section and unit of measure.
5. Letter designation of the stations making up the chain and the two letter station abbreviation.
6. **CSTD** for the baseline. CSTD is assigned by Commandant and is the TD to which the baseline is held by the primary (A-1) control site. Report this number to the nearest hundredth, e.g., XX.00.
7. **CSTD tolerance**. The allowed tolerance on either side of CSTD. If the TD exceeds this limit for more than 60 seconds, the user must be notified by commencing secondary blink. Report this number to the nearest hundredth, e.g., XX.00.
8. **CSECD** for the station. CSECD is assigned by Commandant and is the A-1 PCMS-measured ECD when the LORSTA is holding the calculated (Version 2.0) EPA ECD on the assigned nominal.
9. **CSECD tolerance**. This number is the allowed tolerance (at the A-1 PCMS) on either side of CSECD.
10. Title of the section.
11. Letter designation of the stations making up the chain.
12. **OFF AIR**. Number of minutes of off-air. This number will include any emergency off-air
13. **AUTH UNUSABLE**. Number of minutes of authorized off-air. Each instance of AUTM will be described in COCO's comments.
14. Letter designation of the baselines making up the chain.
15. **BLINK**. Number of minutes of secondary blink on the indicated baseline during the report period. Note: Any Master station off-air will also be counted in this section.
16. **OOT W/O BLINK**. Number of minutes the indicated baseline was out-of-tolerance (OOT) without proper secondary blink. Note: Each instance of OTBK must be explained in COCO's comments.
17. **UNUSABLE TIME**. The total amount of unusable time, from all causes, occurring in the indicated baseline. Note: Any UUT period exceeding 10 minutes and not covered under AUTM or OTBK will be explained in the COCO comments.
18. **USABLE TIME (%)**. Percent of the reporting period the indicated baseline was available for use.
19. **NON-ALPHA**. Number of minutes the indicated baseline was not in Alpha control.
20. **ALPHA-1 (%)**. Percent of the reporting period that the indicated baseline was being controlled by the Alpha PCMS.
21. **NON-ROS**. Number of minutes the indicated baseline was not ROS controlled.
22. **ROS (%)**. Percent of the reporting period that the indicated baseline was being controlled by ROS.

23. Group repetition interval and the name of the chain.
24. Start date, stop date, and number of weeks for the report.
25. Title of the section and unit of measure.
26. Letter designation of the baselines making up the chain.
27. **ALPHA\_1 24Hr AVG.** At the end of each Loran day, the control station calculates and reports the average TD for that 24 hours. An average of these daily averages is calculated.
28. **Sigma.** The standard deviation of the mean of these daily averages.
29. **ALPHA-1 TD SS AVG.** The average TD (as measured by the A-1 PCMS) for this hour is observed, calculated, recorded and reported. An average of these daily averages is calculated.
30. **Sigma.** The standard deviation of the mean of the daily averages of (29).
31. **Peak-to-Peak.** During the sample period, the maximum peak-to-peak (PP) excursions of the A-1 TD are observed and recorded. At the end of the Loran month, these values are averaged and reported.
32. **Peak-to-Peak (prior # Weeks).** The PP value reported for the Loran month immediately prior to the current report period.
33. **ALPHA-2 TD SS AVG.** Each chain has a specified sample period. This daily period is one hour in length and is supposed to represent a normal operating period for that chain. The average TD (as measured by the A-2 PCMS) for this hour is observed, recorded and reported. Using these daily averages, a average for the report period is calculated and reported.
34. **Sigma.** The standard deviation of the mean of the daily averages of (33).
35. **MASTER TINO AVG.** At the Master, a psuedo-TOA is generated by comparing the secondary's received signal against a timing waveform in the TCE. During the sample period, an average of this TOA is determined. At the end of the Loran month, the mean of these sample period averages is calculated and reported.
36. **Sigma.** The standard deviation of the mean of the daily averages of (35).
37. **Peak-to-Peak.** During the sample period, the maximum peak-to-peak (PP) excursions of the master TINO are observed and recorded. At the end of the Loran month, these values are averaged and reported.
38. **SECONDARY TINO AVG.** With the exception of a secondary receiving the master vice the inverse, the explanation in (35) applies to this line as well.
39. **Sigma.** The standard deviation of the mean of the daily averages of (38).
40. **Peak-to-Peak.** During the sample period, the maximum peak-to-peak (PP) excursions of the secondary TINO are observed and recorded. At the end of the Loran month, these values are averaged and reported.

41. **RHO (# Weeks).** This number is the covariance coefficient. In this line, the two data series being compared are M-TINO and S-TINO. This line considers only the datasets for the period of the report.
42. **RHO (# Weeks).** This number is the covariance coefficient. In this line, the two data series being compared are M-TINO and S-TINO. This line considers the datasets for both the past Loran month and the period of the report.
43. Title of the section and unit of measure.
44. Letter designation of the stations making up the chain and the two letter station abbreviation.
45. **ALPHA-1 ECD 24Hr AVG.** At the end of each Loran day, the control station determines and later reports the average ECD for that 24 hours. An average of these daily averages is calculated and reported.
46. **Sigma.** The standard deviation of the mean of the daily averages of (45).
47. **ALPHA-1 ECD SS AVG.** During the sample period, the average ECD from the A-1 PCMS is observed, recorded, and reported. An average of these daily averages is calculated and reported.
48. **Sigma.** The standard deviation of the mean of the daily averages of (47).
49. **ALPHA-2 ECD SS AVG.** During the sample period, the average ECD from the A-2 PCMS is observed, recorded, and reported. An average of these daily averages is calculated and reported.
50. **Sigma.** The standard deviation of the mean of the daily averages of (49).
51. **RHO ECD.** A covariance coefficient of the two data series are A-1 ECD SS AVG (49) and LOIS 2.0 ECD AVG (52).
52. **LOIS 2.0 ECD AVG.** During the sample period, the average calculated ECD (as determined using the Version 2.0 program is observed and reported. An average of these sample period averages is calculated and reported.
53. **Sigma.** The standard deviation of the mean of the daily averages of (52).
54. **PEAK VOLTAGE.** During the sample period, the peak voltage (as measured on the LORSTA EPA) is observed and recorded. The report value is the lowest observed sample period voltage during the report period. Reading are reported for both transmitters.
55. **CURRENT.** The report value is the highest Total Cathode Current (TKI) noted during the report period.
56. **RMS ERROR.** The report value is the highest sample period percent of error noted during the report period.
57. **DROOP.** The droop for the pulse train is calculated and recorded. This report value is the highest calculated sample period droop during the report period.
58. Title of section

- 59. Letter designation of the stations making up the chain and the two letter station abbreviation.
- 60. **DAYS.** Number of days used to compute the data.
- 61. **OFFSET.** The average of the daily offset between this oscillator and it's reference.
- 62. **SIGMA.** The standard deviation of the mean of these daily averages.

SECTION THREE. REPORT ENCLOSURE (2)

The following is a sample of the COMPACAREA LORSTA Unusable Time summary. Use this format for Enclosure (3).

Unusable Time Code Summary Report

<u>CHAIN RATE</u>	<u>STATION CODE</u>	<u>START TIME</u>	<u>STOP TIME</u>	<u>UT CODE</u>	<u>COMMENTS</u>	<u>UT EVENT TOTALS</u>
9940	R1	061145 FEB	061316	5AA		91
9940	R1	070106 FEB	070700	5AA		354
9940	R1	110900 FEB	110926	6BA		26
9940	R1	171819 FEB	171849	5AA		30
9940	R1	180820 FEB	180839	6BA		19
9940	R1	250821 FEB	250844	6BA		23
9940	R1	271631 FEB	271714	7CA	W/S/T	43
9940	R1	281728 FEB	281827	7CA	W/S/T	59
9940	R1	281846 FEB	281913	6AA		27
9940	R1	021628 MAR	021732	7CA	W/S/T	64
9940	R1	040354 MAR	040443	7CA	W/S/T	49
9940	R1	041003 MAR	041026	6BA		23
9940	R1	041911 MAR	041956	5AA		45
9940	R1	042215 MAR	042300	5AA		45
TOTAL:						898
9940	R2	091733 FEB	091913	6AA		100
9940	R2	050131 MAR	050252	5AA		81
TOTAL:						181
9940	YY	121412 FEB	121413	1AB		1
TOTAL:						1

SECTION FOUR. REPORT ENCLOSURE (3)

The following is a sample of the COMPACAREA Loran-C data sheet. The form is generally self-explanatory.

U.S. West Coast Chain

Start Date: 2 January 1990

Stop Date: 5 February 1990

Momentary Off Air

Station	M	W	X	Y
Transmitter Overload	18	24	6	15
Transmitter Switch (routine)	6	7	6	45
Transmitter Switch (failure)		2		12
TCE Equipment Failure				
Power Interruption	3		12	1
All Others		2		2
Total	27	35	24	75

Momentary Out Of Tolerance

Station	M	W	X	Y
Equipment Failure			1	8
Personnel Error				3
Transmitting Station Test				
Control Site Test				
All Others				
Total	0	0	1	11

Admin TTY Available

Circuit	FN	GE	*	SL
Minutes Unavailable	0	948		90
Percent Available	100.00	98.12		99.82
Number of Outages	0	5		2
Maximum Duration (minutes)	0	602		78
Minimum Duration (minutes)	0	30		12
Average Duration (minutes)	0	190		45

ROS Control Available

Circuit	FN	GE	*	SL
Minutes Unavailable	0	1037		90
Percent Available	100.00	97.94		99.82
Number of Outages	0	6		2
Maximum Duration (minutes)	0	602		78
Minimum Duration (minutes)	0	30		12
Average Duration (minutes)	0	173		45

\* In this case the control station is collocated at the XRAY LORSTA, hence no Comms or ROS information.



COMMANDER (PTL)  
COAST GUARD PACIFIC AREA  
COAST GUARD ISLAND  
ALAMEDA, CA 94501

ENCLOSURE 2 TO TAB A TO APPENDIX 16 TO ANNEX N TO COMPACAREA SOP  
TABLE OF FAILURE CODES

REFERENCE: (a) COMDTINST M16500.13, USCG ATON Manual,  
Radionavigation

1. PURPOSE: This Tab amplifies the Failure Code information provided in reference (a).

2. APPLICABILITY: This Tab shall apply to PACAREA LORSTA's, Control Stations, and COCO's.

3. DISCUSSION: The Failure Code Table (Table 2-3) in reference (a) is quite detailed. Two additional codes are available below:

a. To accurately account for unusable time incurred due to DESLOT switches the Transmitter category is expanded:

1. Transmitter A. Tube Type h. DESLOT switch

b. To accurately account for unusable time incurred due to remote watchstander travel time to respond to a casualty the ROS category is expanded:

8. Remote Operating System (ROS) A. RSOS j. response time (recall time to attend station)

This failure code will document the amount of time from the start of the casualty until the watchstander arrives at the ROS LORSTA minus one minute. That minute is considered the reasonable response time for an attended, unwatched LORSTA watchstander to return to the timer room. Unusable time assigned this code should equate to the unusable time discounted by COCO for award purposes for travel time. Note this time may exceed the specified recall time if the control station fails to immediately notify the remote watchstander of the casualty.



COMMANDER (PTL)  
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ALAMEDA, CA 94501

TAB B TO APPENDIX 16 TO ANNEX N TO COMPACAREA SOP  
CASUALTY REPORTS

REFERENCE: (a) COMDTINST M16500.13, USCG ATON Manual,  
Radionavigation  
(b) CASUALTY REPORTING PROCEDURES (MATERIEL),  
COMDTINST M3501.3 (Series)  
(c) OPERATIONAL REPORTS MANUAL, NWP-10-1-10 (Series)

1. PURPOSE: This Tab provides instructions on requirements for the submission of loran system related casualty reports (CASREP's).

2. APPLICABILITY: This Tab shall apply to PACAREA USCG LORSTA's, Control Stations, and LORMONSITE's.

3. DISCUSSION: Reference (b) adopts the U.S. Navy CASREP system for USCG PACAREA Loran units. This permits uniformity in casualty reporting throughout the Coast Guard and in times when we operate as a part of the Navy. The guidance contained in this Appendix is supplementary to reference (b). It is emphasized that a thorough knowledge of the details of reference (b) are required by all unit personnel preparing CASREP's.

4. SUBMISSION AND CATEGORIES:

a. CASREP's. CASREP's are required at any time a casualty may impair the operational mission of the unit. **CASREP's shall be sent if equipment cannot be repaired within 4 hours.** All CASREP's, SITREP's and CASCOR's affecting Loran operations, or the direct support of operations, will be sent as follows:

(1) Casualty reports shall be addressed IAW reference (b) and as follows:

(a) ACTION to COCO(s). Should the unit require MLC assistance, COMCOGARD MLC PAC//TES// will also be an ACTION addressee. State the request for MLC assistance in the CASREP. If no assistance is required COMCOGARD MLC PAC//TES// will be an INFO addressee.

(b) INFO to CM(s) and control station(s), and to EECEN, the district EMD, and other support facilities as appropriate. Frequency Standard Rack Equipment shall be INFO COGARD ISC ALEXANDRIA.

(c) For Canadian Coast Guard units see APPENDIX 13 for CASREP procedures.

(d) The CO/OIC will comply with both the casualty reporting procedures of this Appendix and district casualty reporting procedures.

b. The CASREP system also groups discrepancies into material readiness categories. Each discrepancy must fit into the correct category. The following descriptions should prove useful in determining the proper category:

(1) Category 4: Report by operational immediate message:

(a) Unit off air or signal not usable.

(2) Category 3:

(a) Primary Mission: Major Degradation (report by priority or higher message precedence): An equipment failure has occurred which cannot be alleviated. An example would be the failure of a Loran-C transmitter or timer or standby generator. Although these equipments are redundant and operations would continue, their failure places the Loran-C signal "at risk" until the redundant equipment is repaired. Further, any failure which will require a change in the attended/unattended status of a ROS unit shall be considered a major degradation. If direct and immediate assistance is required use operational immediate precedence, otherwise use priority.

(b) Primary Mission: Minor Degradation (report by routine or higher message precedence): An equipment failure has occurred which can be alleviated by instituting other procedures. An example would be the failure of the RCI. This failure could be alleviated by ROS or periodic manual phase adjustments.

(3) Category 2: Mission Essential Equipment: Report by routine precedence message. All other equipment required to meet demands of the unit's mission.

c. UPDATES (SITREP). Shall be sent as follows:

(1) Category 4: As changes occur

(2) Category 3:

(a) Major Degradation: as changes occur or at least weekly.

(b) Minor Degradation: as changes occur or at least monthly.

(3) Category 2: As changes occur

d. CORRECT (CASCOR). A CASUALTY CORRECT advises the correction of a casualty. It is sent in accordance with reference (b).

e. ACCOUNTING. The MSGID and CASUALTY lines require a numerical accounting of all CASREP categories and initial CASREP's respectively. It is therefore required that units maintain a central chronological file.

5. MODIFICATIONS/INFORMATION. Since this system was developed originally for U.S. Navy usage and geared, to a large degree, towards operational units utilizing a movement reporting system, some modifications are necessary to adapt it to PACAREA use. The following modifications and general information apply:

a. EIC, APL, CID Codes: Equipment Identification Codes (EIC), Allowance Parts List (APL), and Component Identification Document (CID) data are contained in references not usually available to LORSTA's. Accordingly, they will not be required. Units may include them if known.

b. JCN: The Job Control Number code represents the last five digits of the unit's OPFAC number together with the COMPACAREA designated code of "EN" for Engineering/Station support or "EL" for Electronics/Loran. The digit refers to the number of CASREP's that particular station department has had this CY. For example, "EN-01".

c. Supply Data: All supply data contained on a CASREP or SITREP is for information purposes only. Requisitioning/ordering of parts is still conducted using existing methods. Priority or higher message requisitions shall be submitted by the units for material required to correct a casualty. Several specific supply questions/modifications are discussed below:

(1) Commercial Procurement: If a part is required which must be procured commercially (No FSN Available), comply with paragraph B-42 of enclosure (1) to reference (b). Company information may be included in the AMPN or RMKS Fields.

(2) RQD/COSAL/ONBD: These items, taken from the 1PARTS line, refer to the parts required to correct a problem; the parts required to be onboard; and those parts actually aboard. COSAL is a term denoting a Spare Parts Allowance List.

The Coast Guard ERPAL for electronics and Spare Parts Allowance Listing and Inventory (SPALI), for engineering will be used in lieu of the COSAL. The term COSAL will remain to permit standardization. If a part is not included in either an ERPAL or SPALI the three spaces reserved for those parts may be left as /-/.

N-16-B-4

ORIGINAL

COMMANDER (PTL)  
COAST GUARD PACIFIC AREA  
COAST GUARD ISLAND  
ALAMEDA, CA 94501

TAB C TO APPENDIX 16 TO ANNEX N TO COMPACAREA SOP  
ABNORMALITY ANALYSES

REFERENCE: (a) COMDTINST M16500.13, USCG ATON Manual,  
Radionavigation  
(b) CG-241, Coast Guard Supplement to Manual of  
Courts Martial

1. PURPOSE: The intent behind the procedures outlined below are threefold: First, by allowing a message analysis of non-controversial events, we will reduce administrative workload; second, by specifying format and desired content, we will ensure a standard and more easily reviewed report; third, we will speed the preparation, submission and review process.

2. APPLICABILITY. This Tab shall apply to COCO's only. However, stations may find the Tab useful. Knowing the background for the various COCO directives/requirements may ease the job of meeting those requirements.

3. DISCUSSION: Reference (a) specifies the conditions requiring an abnormality analysis and the time frame for submission. In most instances a lengthy abnormality analysis will not be required. We have developed two formats for the analysis; one for events of a straightforward nature and a detailed one for those of a complex nature. The decision as to whether an UUT event is straightforward or complex rests with the COCO. If we disagree, we will discuss the matter with the COCO. If the discussions do not clear up the disagreement, we will require a detailed analysis.

3. ACTION: When required by reference (a) and using the format specified in Enclosure 1, COCO will submit an analysis of all abnormalities by message within 5 working days of the event (Simplified Abnormality Analysis). This analysis will suffice for most abnormalities. Unusual, complex, or controversial abnormalities will require a formal UUT analysis using the format in Enclosure 2 (Detailed Abnormality Analysis). If a Detailed Abnormality Analysis is required, it shall be submitted within 30 calendar days of the event.

ENCLOSURES

- 1 - SIMPLIFIED ABNORMALITY ANALYSIS
- 2 - DETAILED ABNORMALITY ANALYSIS



COMMANDER (PTL)  
COAST GUARD PACIFIC AREA  
COAST GUARD ISLAND  
ALAMEDA, CA 94501

ENCLOSURE 1 TO TAB C TO APPENDIX 16 TO ANNEX N TO COMPACAREA SOP  
SIMPLIFIED ABNORMALITY ANALYSIS

Message UUT Analysis Format  
(Simplified Message Report)  
(Submit for ALL reportable abnormalities)

1. **FORMAT:** Report shall be submitted by message, action to CM and COMPACAREA(Ptl), information to the affected LORSTA's/LORMONSTA. The report must specify who, what, when, where, why, how, and any corrective action recommended or taken. The following format shall be used:

+++++ SAMPLE +++++

R (Normally routine, use higher precedence if necessary)  
FM COCO (Appropriate Chain)  
TO (appropriate chain manager)  
COMPACAREA COGARD ALAMEDA CA//PTL//  
INFO LORSTA (Master)  
LORSTA (Involved Secondaries)  
LORSTA/LORMONSTA (Control Station)

BT

UNCLAS//N16562//

SUBJ: (Brief description of UUT event, e.g., LORSTA xxx off-air  
02 MAY 87)

1. DATE/TIMES OF EVENT: (Broken down as off-air, out-of-tolerance without blink (OTBK), and total UUT)
2. TIME COCO NOTIFIED.
3. SUMMARY OF EVENTS: (As best you can with the information available, describe the event. When and where information is not available, simply say so)
4. CORRECTIVE ACTION RECOMMENDED/TAKEN: (List all recommendations/actions generated by the information at hand)
5. CASREP's: (List any equipment that remains CASREPed)
6. RECOMMENDATION FOR DETAILED ANALYSIS.

BT

+++++ SAMPLE +++++

2. **CRITERIA FOR SIMPLIFIED ABNORMALITY ANALYSIS:** If a UUT event under review fits the criteria specified in COMDTINST M16500.13 an abnormality analysis is required. If it also meets the following, a simplified abnormality analysis will suffice:

- a. The UUT event is easily explained in a brief paragraph.
- b. Documentation; e.g., strip charts, logs, statements, etc., would merely confirm the explanatory paragraph vice being necessary to the explanation.
- c. Problem areas and corrective actions, if any, are obvious.

3. **SAMPLE EVENT LENDING ITSELF TO A SIMPLIFIED ANALYSIS:** LORSTA experiences an extensive off-air period. Transmitter #1 was standby and had previously failed. Station personnel are actively working on this transmitter when transmitter #2 fails. Considering the problems, one transmitter is returned on-air as quickly as could be expected. No significant aggravation of the UUT was caused by personnel error or improper passage of control. No specific correction action is indicated.

4. **SUBMISSION:** This report shall be submitted not later than 5 working days following the UUT event.

5. **REVIEW PROCESS:** After review of the message report, the CM will recommend action to COMPACAREA(Ptl) within 5 working days. If questions arise or we do not concur with the message content, RM will contact the CM/COCO and discuss the report. If the discussions indicate a detailed analysis is required, we will so direct. In any case, COCO may expect our response within 10 working days.

COMMANDER (PTL)  
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COAST GUARD ISLAND  
ALAMEDA, CA 94501

ENCLOSURE 2 TO TAB C TO APPENDIX 16 TO ANNEX N TO COMPACAREA SOP  
DETAILED ABNORMALITY ANALYSIS

UUT Analysis Format for  
Abnormalities of a Complex or Controversial Nature  
(Detailed Report)

1. **CRITERIA:** The UUT event under review fits the criteria specified in COMDTINST M16500.13 and an abnormality analysis is required. There are a number of causes for this event, some of them possibly operating concurrently, and the complexity of the event precludes a brief explanatory paragraph. Documentation; e.g., strip charts, logs, statements, etc.,; is required to clearly explain the event and identify corrective action.

2. **SAMPLE EVENT:** LORSTA loses all three oscillators; Control station fails to start blink or pass control; LORSTA watchstander returns to an in-tolerance condition (?); Control station does not have tracks; an argument ensues over control passage; secondary blink gets started, then stopped, then started again. Finally, after much confusion, recriminations, and argument, the system is back to normal ops. Significant corrective action is required.

3. **FORMAT/PREPARATION INSTRUCTIONS:** The report shall be COCO's report, not a rehash of a CO/OIC's input or a "dump" of all available documentation. We expect a thorough review of all available information sources. The resulting report shall be a well-considered, thoughtful analysis of the event. Report format is specified below:

a. Basic Letter. The letter will contain the following information:

1) An initial section which describes the event chronologically. This section shall be a factual presentation of the event. Do not offer opinion/conclusions or corrective action requirements in this section. Please note that simply stating, "1603Z M off air", is not sufficient. Describe in detail all events (and their causes) occurring at that time. An example, "1603Z M off air, Transmitter #1 failure. Log entries state the cause was failure of CB1. Transmitter #2 inoperative due to previous failure of primary power feed cables". If you feel that this chronological description is best illustrated graphically, use that method. However, the detail in the time diagram's description of events must also be as discussed above.

2) The second section should present opinions/conclusions concerning all aspects of the event. Opinions/conclusions shall be supported by reference to the initial section and/or the appropriate enclosure. An example, "The watchstander was clearly inattentive and in fact, failed to respond properly when he became aware of the situation (Encl 1, 2, 4)."

3) The third section shall address corrective action. By careful review of the station submitted documentation, COCO will be able to identify problem areas. Once identified, he will determine the appropriate corrective action. Corrective actions will fall in one of the three categories listed below:

a) Recommended, i.e., beyond COCO's scope of authority.

b) Taken, i.e., those which have already been implemented. Please indicate when the action was taken.

c) Planned, i.e., those which COCO plans to implement. Include an estimate of when the action will be taken.

4) The final section may be used to summarize, praise, find fault, or whatever, as long as it relates to the UUT event.

5) Copies to: Copies shall be provided to all Loran-C units involved in the event and to the other COCO's.

b. Enclosures to the Letter. When submission of documentation from a LORSTA/LORMONSTA is required, require the CO/OIC to submit an analysis of the UUT event. Please address this requirement to host nation LORSTA's/LORMONSTA as a request. DO NOT automatically forward all the documentation provided. The review of the submitted material will identify what is needed to properly explain the event and identify problem areas. Only this material need be submitted. If we have questions we will ask for what we need. Specifics regarding each type of enclosures are as follows:

1) CO/OIC/STATION LEADER ANALYSIS OF THE EVENT. This will be the first enclosure group. Criteria for inclusion of these analysis is difficult to specify. As a general rule, include only those which provide useful information. The determination as to what constitutes "useful" information is left to the judgment of COCO.

2) STATEMENTS OF INVOLVED PERSONNEL. This will be the second enclosure group. These can be very illuminating regarding the course of an UUT event. The following are required:

a) Statements will be typewritten, signed, and dated. (NOTE: This analysis format can not be used if punitive action under the UCMJ is anticipated. If it appears punitive action is probable, stop working on the analysis and request an investigating officer. Under no circumstances may a statement be obtained from a party to an investigation without following the procedures for advising the member of his rights.)

b) If a statement is vague, poorly written, and useless for the purpose, return it to the station and require that it be rewritten and resubmitted.

c) Involved USCG personnel shall submit a statement. If the station CO/OIC desires, this statement shall be "via" his command. COCO will determine who shall be considered "involved".

d) Involved host nation personnel shall be requested, through their station leader, to submit a statement. Again, COCO will determine who shall be considered "involved".

3) CHARTS. This will be the third enclosure group. As with the other sections, forward only the relevant portions of charts. The following instructions apply:

a) Photocopies are preferred. Ensure copies are clear and easily legible. If the station must forward originals, advise them to annotate their records with the location of the missing sections.

b) Each chart shall be clearly labeled as to station name and function, type of data, and observed time differential between the chart and the actual time of the event.

4) LOGS and TTY ROLLS. This will be the fourth enclosure group. As with the other sections, forward only the relevant portions of the logs and rolls. The following instructions apply:

a) Photocopies are preferred. Ensure copies are clear and easily legible. If the station must forward originals, advise them to annotate their records with the location of the missing sections.

b) Teleprinter rolls shall be cut to conform with a paper size of 8 1/2 X 11 inches.

c) Each submitted sheet of teleprinter roll shall be clearly marked as to station name and function, teleprinter function, and date/times.

4. **SUBMISSION.** Every effort will be made to submit the report to the CM within 30 calendar days following the event. The CM will review the report and forward it and any statements/recommendations to COMPACAREA(Ptl) within 10 working days. We are well aware of the difficulties involved in getting charts, statements, etc., from the stations. COCO and the CM are authorized to use express mail to both obtain the necessary documentation and to submit the completed report to COMPACAREA(Ptl).

5. **REVIEW PROCESS.** This report will be reviewed by Regional Manager. We will provide a response within 10 working days after receipt of the analysis.

COMMANDER (PTL)  
COAST GUARD PACIFIC AREA  
COAST GUARD ISLAND  
ALAMEDA, CA 94501

TAB D TO APPENDIX 16 TO ANNEX N TO COMPACAREA SOP  
PUBLIC RELATIONS

1. PURPOSE. This Tab provides a public relations form, (Enclosure 1), which is used when responding to requests from the public to furnish Loran information materials or to document public complaints concerning Loran.
2. APPLICABILITY. This Tab shall apply to all COCO's, USCG PACAREA Loran units, and Canadian operated PACAREA Loran units.
3. DISCUSSION. PACAREA Loran-C personnel occasionally receive requests for Loran information or Loran complaints from the public. A Public Relations form has been developed to provide a mechanism to document these requests and complaints.
4. ACTION. The Enclosure provides a Public Relations form. Please reproduce it locally for your use. The Public Relations form shall be completed by the person taking the call. The information should be enough to determine what information is required, what is the problem, and if followup contact is desired/required. The completed Public Relations form shall be forwarded to the CM via the cognizant COCO. COCO is expected to comment on the report and, if necessary, get back to the caller with/for more information et cetera. COCO shall satisfy himself that the user receives all the information available. The CM shall review all reports and forward any significant reports or those requiring information (which is not available to the CM) to COMPACAREA (Ptl).

ENCLOSURE

1 - LORAN PUBLIC RELATIONS CHECK-OFF LIST

N-16-D-1

ORIGINAL  
REVERSE BLANK



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COAST GUARD PACIFIC AREA  
COAST GUARD ISLAND  
ALAMEDA, CA 94501

ENCLOSURE 1 TO TAB D TO APPENDIX 16 TO ANNEX N TO COMPACAREA SOP  
LORAN PUBLIC RELATIONS CHECK-OFF LIST

Date \_\_\_\_\_ Individual Handling Call \_\_\_\_\_  
Unit \_\_\_\_\_  
Phone (FIS/Commercial) \_\_\_\_\_

1. Purpose: Use this form as a guide and record when responding informally to requests for Loran information or complaints of Loran service. You should endeavor to develop a rapport with the requestor so that he/she is given to understand that we are not prying. By knowing more about the user community, we will be better equipped to serve their needs. The requestors may be useful contacts in the future for obtaining information with regard to our (or their) peculiar applications or needs.

2. Person/Organization (Print info or write legibly)

POC \_\_\_\_\_  
Name \_\_\_\_\_ Company/Organization Name \_\_\_\_\_  
Phone number \_\_\_\_\_ Address \_\_\_\_\_

3. Type of Organization or Application (check one if applicable)

Fishery: \_\_\_ Oceanographic: \_\_\_ Oil Transport: \_\_\_ Timing: \_\_\_  
Radionav Equip mfg: \_\_\_ AVL/AVM: \_\_\_ Survey: \_\_\_ Communications: \_\_\_

4. Type of Vessels (show quantity if more than 1)

Cargo: \_\_\_ Pleasure: (Power) \_\_\_ / (Sail) \_\_\_ Trawler: \_\_\_  
Aircraft: \_\_\_ Cars/Truck: \_\_\_ Other: \_\_\_

5. Model Loran-C Receiver(s) in Use: \_\_\_\_\_

6. Specific Comments Regarding Their Use of Loran-C:

How long have they used Loran-C: \_\_\_\_\_

General geographic area of use: \_\_\_\_\_

Do they have the "Loran-C User Handbook"? Yes/No Send flyer?: Yes/No  
On distribution for the Radionavigation Bulletin? Yes/No Send flyer?: Yes/No

Peculiar difficulties noted, comments, or requests (continue on reverse):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



COMMANDER (PTL)  
COAST GUARD PACIFIC AREA  
COAST GUARD ISLAND  
ALAMEDA, CA 94501

TAB E TO APPENDIX 16 TO ANNEX N TO COMPACAREA SOP  
LORAN OPERATIONS DATA REQUESTS FOR LITIGIOUS PURPOSE

REFERENCE: (a) COMDTINST M16500.13, USCG ATON Manual,  
Radionavigation

1. PURPOSE. This Tab amplifies the procedures specified in reference (a) for responses to information requests for litigious purposes.

2. APPLICABILITY. This Tab shall apply to all USCG PACAREA units.

3. ACTION. All requests for operations data and expert witnesses shall be referred to COMPACAREA(Ptl) for processing. We will screen the request and negotiate a minimum data capture with the requestor to discourage "fishing expeditions".



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COMMANDER (PTL)  
COAST GUARD PACIFIC AREA  
COAST GUARD ISLAND  
ALAMEDA, CA 94501

APPENDIX 19 TO ANNEX N TO COMPACAREA SOP  
COORDINATOR OF CHAIN OPERATIONS INSTRUCTIONS

1. PURPOSE. This Appendix provides a place to file the COCO instructions applicable to your Loran facility.
2. APPLICABILITY. This Appendix is applicable to all Pacific Area Loran facilities.
3. DISCUSSION. This Appendix will normally be empty if you are not on the distribution for COCO Instructions.
4. ACTION. Applicable COCO instructions shall be filed here. For further instructions refer to Appendix 2, REFERENCES.



COMMANDER (PTL)  
COAST GUARD PACIFIC AREA  
COAST GUARD ISLAND  
ALAMEDA, CA 94501

APPENDIX 20 TO ANNEX N TO COMPACAREA SOP  
CHAIN MANAGER'S INSTRUCTIONS TO COCOS

1. PURPOSE. The correspondence listed and filed in this Appendix has been provided over the years to assist the COCO's in performing their jobs. Rather than republish this information, this Appendix is provided as a place holder for CM articles and directives of a lasting nature.
2. APPLICABILITY. Only COCO's will have material filed in this Appendix.
3. ACTION. CM's shall republish this page for their COCO's. CM's shall also publish policy on availability of their COCO's/Alternate COCO's. COCO's will keep the following in this Appendix:

FILE NUMBER	DATE	TOPIC

MEMO NUMBER	DATE	TOPIC

TABS

A - COCO/Alternate COCO Availability



COMMANDER (PTL)  
COAST GUARD PACIFIC AREA  
COAST GUARD ISLAND  
ALAMEDA, CA 94501

APPENDIX 22 TO ANNEX N TO COMPACAREA SOP  
GLOSSARY

REFERENCE: (a) COMDTINST M16500.13, USCG ATON Manual,  
Radionavigation

1. PURPOSE. This Appendix supplements the glossary in reference (a) of Loran. Tab A provides an equipment nomenclature cross reference list from old designations to new.

2. APPLICABILITY. This Appendix applies to all need it.

3. ACTION. The following terms are defined:

**AEUTM:** Authorized Emergency Unusable Time. AUTM which did not give the users sufficient time to comment or object. Generally less than ten days notification, often less than two days.

**ARTCC:** Air Route Traffic Control Center

**ARU:** Alarm Repeater Unit

**ATTENDED:** A station is attended if someone is physically at the station in a duty status. You may not infer this person is necessarily awake.

**BL:** BaseLine

**BLL:** BaseLine Length, may be expressed in microseconds, nautical miles, statute miles, or kilometers.

**CPA:** Commander Pacific Area

**CCG:** Canadian Coast Guard

**CDED:** TRACOR

**CDFO:** AUSTRON

**CDLX:** ELGAR

**CENPAC:** CENTral PACific

**CESIUM:** Loran-C timing reference oscillator. HP-5061A.

**CINCNORAD:** Commander-In-Chief NORTH American Defense

**CLIP:** Sample CLIPPING, a function of the Alpha monitor receiver

CWC: Canadian West Coast  
DLR: Depot Level Repairable  
DTG: Date Time Group  
EA: East Asian  
ECD(L): LORSTA ECD  
ECD(MS): Monitor Site ECD  
ENV: ENvelope  
GN: Gain Number  
GOA: Gulf Of Alaska  
HP: Hewlett Packard  
HQ: HeadQuarters  
I/O: Input/Output  
I/F: InterFace

MOMENTARY or MOM: Unusable time of 59 seconds or less. Momentaries do not currently count towards unusable time but LORSTAs should strive to minimize them.

MICROSTEPPER: Instrument for adjusting frequency of signal in small steps.

NEAR FAR-FIELD: The boundary between the near field and the far field. When the distance from the transmitting antenna exceeds 5 wavelenghts, the radial electric field becomes negligible with respect to the tangential field. This region is called the far-field. (Section 4.K. to COMDTINST M16562.4)

NORAD: NORTH American Defense

NORPAC: NORTH PACific

NWPAC: NorthWest PACific

OLM: Organizational Level Maintenance

OPR: OPeRate

PCMS-A: PCMS type A - Consists of one CDFO 5000A monitor receiver and ancillary equipment.

**PCMS-B:** PCMS type B - Consists of two CDFO 5000A receivers and ancillary equipments at one location.

**Ptl:** Current designation of COMPACAREA Loran-C Branch

**RDD:** Required Delivery Date

**RM:** Regional Manager

**S:** Secondary

**SCATANA:** Security Control of Air Traffic and Air Navigation Aids

**SLT:** Sectionalized Loran Tower

**SSIC:** Standard Subject Identification Code

**SUPCEN:** Supply Center

**TMCN:** Timing Control Number

**UNATTENDED:** A station is operating in the unattended mode when there is no one standing an operational loran watch on board the station. Personnel are usually not physically aboard.

**UNWATCHED:** A station is in the unwatched mode when there is someone physically present not standing a Loran-C watch but within range of audible alarms.

**US:** United States

**USCG:** United States Coast Guard

**USWC:** United States West Coast

**UT:** Usable Time

**WATCHED:** A station is watched when someone is physically present, and actively monitoring station alarms and parameters.

**TAB**

**A - EQUIPMENT CROSS REFERENCE**



COMMANDER (PTL)  
 COAST GUARD PACIFIC AREA  
 COAST GUARD ISLAND  
 ALAMEDA, CA 94501

TAB A TO APPENDIX 22 TO ANNEX N TO COMPACAREA SOP  
EQUIPMENT CROSS REFERENCE

1. PURPOSE. This Tab is provided for the convenience of Loran-C maintenance personnel.
2. APPLICABILITY. This Tab is applicable to all Loran-C maintenance personnel.
3. DISCUSSION. Several Loran-C timing and control equipment designations have changed. The following cross reference is provided for convenience:

<u>New Model Number</u>	<u>Equipment Name</u>	<u>Old Model Number</u>
<b>AN/FPN-54A</b>	<b>LORAN-C TIMER SET</b>	<b>Same</b>
TD-989A/FPN-54A	LORAN-C TIMER	Same
C-8621A/FPN	TIMER CONTROL UNIT	C-8621A/FPN-54A
PP-7839/G	POWER SUPPLY	CDED-312
CY-7529/FPN	ELECTRICAL EQUIPMENT CABINET	CY-7529/FPN-54A
<b>AN/FPN-60 (V)</b>	<b>TRANSMITTER CONTROL SET</b>	<b>AN/FPN-60</b>
SA-2063/FPN-60 (V)	SWITCH ASSEMBLY	SA-2063/FPN-60
C-9888/FPN-60 (V)	COUPLER-TRANSMITTER CONTROL	C-9888/FPN-60
TS-3550/FPN	ELECTRICAL PULSE ANALYZER	TS-3550/FPN-60
SG-1099/FPN-60 (V)	PULSE GENERATOR	SG-1099/FPN-60
SB-4156/FPN-60 (V)	WAVEFORM PANEL	None
J-3353/FPN-60 (V)	INTERFACE UNIT	J-3353/FPN-60
CY-7523/FPN-60 (V)	ELECTRICAL EQUIPMENT CABINET	CY-7523/FPN-60
<b>AN/FPN-65</b>	<b>LORAN-C TIMER SET</b>	<b>AN/FPN-54A SSX</b>
TD-1365/FPN-65	LORAN-C TIMER	TD-989A/FPN-54A
SSX		
C-8621A/FPN	TIMER CONTROL UNIT	C-8621A/FPN-54A
PP-7839/G	POWER SUPPLY	CDED-312
CY-7529/FPN	ELECTRICAL EQUIPMENT CABINET	CY-7529/FPN-54A
<b>AN/FSN-1 (V)</b>	<b>LORAN-C REMOTE CONTROL SET</b>	<b>GCF-W-683-RCG</b>
J-4382/FSN-1 (V)	REMOTE CONTROL INTERFACE	GCF-W-683-RCI
SB-4153/UG	TELETYPE PATCH PANEL	CDVH-PPCC-26
TS-4032/UG	DATA ANALYZER TEST UNIT	DA 404
TS-4033/UG	PATTERN GENERATOR TEST UNIT	PG 404
PP-3495A/UG	POWER SUPPLY	Same
CY-8024/FSN-1 (V)	ELECTRICAL EQUIPMENT CABINET	None

AN/FSN-2 (V)	TIMING STATUS MONITOR SET	None
R-2240/FSN-2 (V)	LORAN-C RECEIVER	CDFO-2000C-1
BZ-265/FSN-2 (V)	STATUS ALARM UNIT	GCF-W-686-SAU
BZ-266/FSN-2 (V)	STATUS ALARM UNIT	GCF-W-686-SAU-SSX
BZ-267/FSN-2 (V)	ALARM REPEATER UNIT	GCF-W-686-ARU
BZ-268/FSN-2 (V)	REMOTE ALARM UNIT	GCF-W-686-RAU
SB-4266/FSN-2 (V)	TIME INTERVAL COUNTER PANEL	GCF-W-678-PP/TIC
CU-2297/FSN-2 (V)	ANTENNA MULTICOUPLER	CDFO-2080
F-1543/G	NOTCH FILTER	GCF-W-379-6
RD-566/U	CHARIS RECORDER, 60 HZ	CEV-YMS-401C/60
RD-567/U	CHARIS RECORDER, 50 HZ	CEV-YMS-401C/50
CY-8025/FSN-2 (V)	ELECTRICAL EQUIPMENT CABINET	None

AN/FSN-3	LOCAL STATUS MONITOR SET	GCF-W-861-LSM
SA-2376/FSN-3	EMERGENCY STOP SWITCH	GCF-W-861-ESP
SB-4155/FSN-3	WAVEFORM PANEL	GCF-W-881-WF
J-4008/FSN-3	STATUS MONITOR INTERFACE	GCF-W-861-LSM I/F
J-4009/FSN-3	AN/FPN-64 (V) TRANSMITTER INTERFACE	GCF-W-861-SSX I/F
TS-3550/FPN	ELECTRICAL PULSE ANALYZER	TS-3550/FPN-60
CY-8026/FSN-3	ELECTRICAL EQUIPMENT CABINET	None

AN/FSN-6 (V)	TWO PULSE COMMUNICATIONS SET	None
MD-1144/FSN-6 (V)	COMMUNICATIONS MODULATOR	GCF-W-756-TPC
R-2315/FSN-6 (V)	LORAN-C RECEIVER	CDFO-2000C-3
MX-10726/FSN-6 (V)	DATA CODE DETECTOR	CDGD-444-1
CY-8426/FSN-6 (V)	ELECTRICAL EQUIPMENT CABINET	None

COMMANDER (PTL)  
COAST GUARD PACIFIC AREA  
COAST GUARD ISLAND  
ALAMEDA, CA 94501

TAB B TO APPENDIX 22 TO ANNEX N TO COMPACAREA SOP  
COMPACAREA LORAN TELEPHONE LIST

The following list provides telephone numbers for the Loran entities within COMPACAREA. FTS numbers are in Bold.

RM: COMPACAREA(Pt) 536-3231 / 415 437-3231  
COMPACAREA(Pt1) 536-3232 / 415 437-3232

CM: USWC/CWC: COMPACAREA(Pt1) 536-3232 / 415 437-3232  
CENPAC/NWPAC/EA: CCGD14(oan) 551-2323 / 808 541-2323  
GOA/NORPAC: CCGD17(oan) 907 586-7705

GOCQ: USWC/CWC: (LORSTA Middletown) 707 987-2911  
CENPAC: (CCGD14(oan)) 551-2323 / 808 541-2323  
NWPAC/EA: (FESEC Office) AV: 315 225-8405 / 011-81-425-52-2511  
/ask operator for x8405  
GOA/NORPAC: (LORSTA Kodiak) 907 487-5583

Loran/Control Stations

Attu, AK	907 987-3315	Marcus, JA	radio via 671 355-5653
Barrigada, GQ	011-671-344-6295	Middletown, CA	707 987-3144
Fallon, NV	702 867-2277	Pohang, RK	011-82-562-436-686
George, WA	509 765-8483	Port Clarence, AK	907 642-3844
Gesashi, JA	011-0988-92-5111	Port Hardy, BC	604 956-3244
/then ask operator for AV 635-3059		Searchlight, NV	702 297-1535
/or AV 315 635-4017		Shoal Cove, AK	907 225-4791
Hokkaido, JA	011-81-155-76-4429	St. Paul Island, AK	907 546-2224
Iwo Jima, JA	radio via 671 355-5653	Tok, AK	907 883-5131
Johnston Island, HI	808 622-5824	Upolu Point, HI	808 889-6939
Kaneohe, HI	808 546-7547	Williams Lake, BC	604 659-5611
Kodiak, AK	907 487-5581	Yokota, JA	AV 315-225-8405
Kure Island, HI	808 422-6625		or: 011-81-425-52-2511
	ext 625		/ask operator for x8405
Kwang Ju, RK	011-82-6115-324-0900		

MLC Pacific: (tes) 536-5611 / 415 437-5611; (tes-3) 536-3377 / 415 437-3377  
(s) 536-3911 / 415 437-3911

MLC Detachments: Electronics Shore

Alameda	536-3922 / 415 437-3922	536-3637 / 415 437-3637
Honolulu	551-2228 / 808 541 2228	551-2199 / 808 541-2199
Kodiak	907 487-5598	907 586-7693
Seattle	396-5624 / 206 286-5624	

Host Nation Contacts:

Canada - RMTE Vancouver: 604 631-3870, Maintenance 604 631-3876



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