

ORDER

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
WESTERN-PACIFIC REGION

WP 6700.4C

1/30/86

SUBJ: NON-FEDERAL NAVIGATIONAL AID TECHNICAL INSPECTION PROGRAM

1. PURPOSE. This order establishes policy, authority, and guidelines for conducting the technical inspection of Non-Federal Navigation facilities in the Western-Pacific Region. This order applies to all presently commissioned and future facilities which provide or will provide an instrument approach procedure. These guidelines cover the electronic equipment, buildings, grounds, utilities, and leased services.
2. DISTRIBUTION. This order is distributed to the Airway Facilities Division, Branch level and above, with standard distribution to all Airway Facilities Sectors and field offices.
3. CANCELLATION. Order WP 6700.4B, Non-Federal Navigational Aid Ground Inspection and Certification, dated 4/12/68, is cancelled.
4. BACKGROUND. Non-Federal sponsors/entities have the capability to establish and maintain electronic Navigational Aids required to provide aviation services to the public. The users are entitled to the assurance that they are receiving a quality of service equivalent to that provided by the Federal Aviation Administration. To insure a uniform navigational system, it is incumbent upon the Airway Facilities Division to manage the technical inspections of facilities owned and maintained by Non-Federal sponsors.
5. RESPONSIBILITY. Responsibility for the Non-Federal NAVAIDS program management rests with the Airway Facilities Division, Program and Planning Branch, Operations Section, AWP-423. The Facility Technical Inspection Program is assigned to the various Sectors by AWP-400.
6. POLICY.
 - a. The regulations governing Non-Federal Navigational Aids are contained in Federal Aviation Regulations (FAR) Part 171, and the Operations and Maintenance Manual and Memorandum of Understanding (Appendix 1 and 2), which is an extension of that Part. All applicable FAA Orders will be specified in the Memorandum of Understanding (Appendix 2).
 - b. The inspection procedures of Non-Federal navigational facilities must meet existing FAA standards. Where no FAA equipment standards exist for a given facility, the manufacturer's handbook shall be cited.

7. GUIDELINES. The following documents relate to the implementation of this order:

- a. Federal Aviation Regulations, Part 171.
- b. International Standards and Recommended Aeronautical Telecommunications - Annex 10 (Appropriate sections)
- c. Order 6740.2B, Maintenance of Non Directional Beacon Equipment.
- d. Order 6750.15A, Maintenance of ILS Localizer Equipment.
- e. Order 6750.32, Maintenance of Null Reference Glide Slope Equipment.
- f. Order 6750.33, Maintenance of Capture Effect Glide Slope Equipment.
- g. Order 6750.34, Maintenance of Sideband Reference Glide Slope Equipment.
- h. Order 6770.2A, Maintenance of 75 MHz Marker Facilities.
- i. Order 6790.4A, Maintenance of VHF Omnirange Equipment.
- j. Order 6780.3A, Maintenance of TACAN/DME Equipment.
- k. Order 3400.3E, Airway Facilities Maintenance Personnel Certification

8. INSPECTION FORMS. The "Non-Federal Navigational Aid Ground Inspection Report", WP Forms 6710-2, -3, -4, and -6 are general coverage forms and will be used in the inspection of all facilities. WP Forms 6710-5, -7, -8, and -9 are for specific facilities only. Appendixes 3, 4, 5 are sample forms used for example only.

a. General Coverage Forms

(1) WP Form 6710-2, Ground Inspection Report. This form is the cover sheet for the ground inspection report and provides facility and man-hour data.

(2) WP Form 6710-6, Remarks. A clear and detailed explanation of each discrepancy should be outlined on this page. Any other comments regarding the facility can be entered here.

(3) WP Form 6710-3, Summary. This form provides a concise summary of both electronic and environmental elements for each facility. With the use of Appendixes, 3, 4, & 5, the form is self-explanatory. The following items require additional explanation.

(a) Analysis of 6xxx.xx. The technical performance record shall be maintained for all equipment by the Non-Federal technician. The inspector will review the forms and instruct the Non-Federal technician on their use.

(b) Analysis of FAA FORMS 198. The Inspector will review the accuracy and advise the site technician to update as needed.

(c) Analysis of 6030-1 logs. The logs are required in accordance with the Operation and Maintenance Manual and FAR Part 171. The example "Directions for Non-Federal Facility Maintenance Log, FAA Form 6030-1: included in Appendix 6, shall be used to instruct the site technician in proper documentaion techniques. (THE FEDERAL INSPECTOR IS NOT AUTHORIZED TO MAKE ENTRIES IN THE NON-FEDERAL FACILITY LOGS,) except when the inspection is completed because of an aircraft accident/incident (see Part III of Operation and Maintenance Manual, Appendix 1).

(d) Verification Validity. The inspector should insure that the Non-Federal technician has in his possession: 1) a letter of skills verification (Appendix 7) ; and 2) a current General Class FCC license. The Non-Federal verification program is analogous to the FAA's technician certification program (FAA Order 3400.3E, Chapter 10) (Appendix 8). Only a verified Non-Federal technician can perform maintenance on the facility.

(e) Operations and Maintenance Manual/Memorandum of Understanding. A current Operations and Maintenance Manual (Appendix 1) and a signed Memorandum of Understanding (Appendix 2) should be on file at each facility. The Inspector should inform the facility owner or his representative of his responsibility to notify the FAA whenever the owner or the site technician or monitoring location (category) has changed. The Airway Facilities Sector Manager and Inspector shall insure that the manual and memorandum for each facility are updated or revised as needed.

(f) Technician Verified. Report the ability of the Non-Federal technician to maintain the subject system(s) as satisfactory or unsatisfactory. The inspector shall provide technical advice and guidance as needed.

(g) Federal Communications Commission (FCC) License Expiration Date. Record the expiration date of the facility FCC license. If the license is expired, advise the facility owner to reapply for a new license before the next inspection. Use FCC Form 405-A for renewal and FCC Form 406 to reapply for an expired license.

(4) WP Form 6710-4, Data Worksheet. (General) This form is self-explanatory.

(5) WP Form 6710-5, -7, -8, -9 Data Worksheet. (Specific) These forms cover selected inspection elements which will provide for assessment of key inspection elements as indicated in the handbook guidelines. All key performance parameters shall be checked and the actual values entered on the form. The specific applications are as follows:

WP Form 6710-5;	NDB Data Worksheet
" " " -7;	VOR Data Worksheet
" " " -9;	ILS/ISMLS/SDF Data Worksheet
" " " -8;	DME Data Worksheet

9. FREQUENCY OF INSPECTION. The NDB's, Markers, and LOM's shall be inspected on an annual basis. The ILS (LOC, GS), ISMLS/MLS, and VOR/DME shall be inspected on a semi-annual basis.

10. SCHEDULING OF FACILITIES. The AF Sector shall schedule and assign inspection duties to the field units. A complete schedule for each fiscal year shall be submitted to AWP-423 by October 1 of each year.

11. RESPONSIBILITIES.

a. Program and Planning Branch, Operations Section, AWP-423, shall:

- (1) Act as Regional Office focal point for all Non-Fed matters.
- (2) Establish technical inspection forms and provide guidelines to insure program administration, scope and depth of inspections, and reporting practices.
- (3) Provide guidance and advice to the Airway Facilities Sectors.
- (4) Monitor quality of inspections, program accomplishments, and provide periodic status reports and recommendations to the Division.

b. Airway Facilities Sectors shall:

- (1) Assign responsibility to technically qualified persons for inspections of the facilities.
- (2) Provide the inspector with adequate materials, forms, guidelines, and insure sponsor has the test equipment necessary to perform the inspection in a professional manner.
- (3) Budget for the necessary travel funds.
- (4) Establish and maintain a record of inspections for each facility within their sector.
- (5) Establish a procedure for evaluating each inspection and provide a formal typed report and cover letter to the owner/operator (sample letter, Appendix 9).

(6) Establish administrative procedures for monitoring the status of outstanding major discrepancies and insure that all key performance parameters out of tolerance conditions have been cleared or a NOTAM issued. Also, establish procedures with the Flight Service Stations to assure that owners/operators cannot cancel these NOTAM's until the discrepancies have been cleared to the satisfaction of the Inspector or the Airway Facilities Sector Office. Notify AWP-423 whenever NOTAM action is taken.

(7) Provide sector units with name, address, and telephone number of Non-Federal maintenance personnel responsible for the facilities to be evaluated. The sector shall submit an updated/revised list to the division for review on a annual basis.

(8) Provide to the AWP-423 a copy of all inspection reports and cover letters as they are completed.

c. The Inspector shall:

(1) Review the facility record and previous inspection reports prior to the facility inspection [Paragraph 10b(4)].

(2) Assure the sponsor has necessary FAA approved and calibrated test equipment available to complete the evaluation of all key performance parameters. The inspection is not complete until all of the key performance parameters are evaluated.

(3) Be prepared at the time of inspection to supply the following forms to the Non-Federal technician:

(a) FAA Form 6030-1, Maintenance Log

(b) 6xxx.xx, Technical Performance Records

(c) FAA Form 198, Technical Data Sheets

(d) Technical handbooks and appropriate changes for the type of equipment being evaluated (i.e., Maintenance Handbook, NDB 6740.2).

(4) Contact the Non-Federal technician and/or owner and arrange for a mutually acceptable date for the inspection of the facility. Coordinate this date with Flight Inspection when needed.

(5) Inspect the equipment monitoring system and insure that FAA policy is being followed. Navigational facilities are classified in accordance with the manner in which they are monitored. No change of monitoring status shall be effected without prior approval. (Appendix 1, Part 1, Operational Requirements, para C).

(a) Any time the ground inspection indicates that the monitor status of a facility has changed, the Flight Inspection and Procedures Staff, AWP-220, shall be notified. AWP-220 will evaluate the effects and take appropriate action.

(b) In the event a NAVAID (NDB, GS, LOC, Marker, etc.) becomes unmonitored during inspection, (No auto shut-down or remote status indicator) the inspector shall notify the appropriate Air Traffic facility and request a NOTAM stating the facility is "out of service." Also, the inspector shall advise the facility owner of the action taken.

(6) Conduct technical inspections and observe sponsors technician during inspection to establish that the equipment is operating reliably and within published standards and tolerances. When the equipment does not supply the advertised service or a key performance parameter is out of tolerance, the inspector shall notify the appropriate Air Traffic facility and request a NOTAM stating the facility is "out of service." In this event, the inspector shall inform the facility owner of the action and recommend the equipment be shut off until repairs are made.

(7) Insure a minimum interruption of service to the users. Local procedures and practices for coordination with Air Traffic personnel, issuance of routine NOTAM's, etc., shall be completed prior to interrupting service for inspection purposes. This coordination is normally accomplished by the facility maintenance technicians.

(8) Provide advice and guidance to the facility technician for completing the facility documentation or maintenance procedures. (Appendix 6).

(9) Disturb no facility parameter unless asked to assist by the responsible facility maintenance technician, and insure that a facility condition entry is made in the Facility Maintenance Log by the responsible technician prior to departing the site, as outlined in Appendix 6.

(10) Encourage the facility technician to correct discrepancies at the time of inspection. The inspector shall provide the time to the site technician for minor adjustments or repairs. Do not complete an inspection on a facility that is not operational.

(11) Complete and submit to the sector office the inspection forms as outlined in this order.

(12) Bring to the attention of the AF sector office any discrepancies noted in the technical proficiency of facility maintenance technicians to perform the required measurements and maintenance. The inspector shall annotate these deficiencies in the remarks section of WP Form 6710-6.

(13) Provide an exit briefing to the site technician and/or sponsor/airport manager prior to departure.

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d. NOTAM's. The inspector shall assure that the appropriate Air Traffic Control facility is notified of any condition which may derogate the level of service provided by the facility to the user in accordance with Order 7930.2A, Notices to Airmen (NOTAMS), and paragraphs 11 b (5,6) of this Order.



Alex Hammond
Manager, Airway Facilities Division

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Appendix 1

APPENDIX 1. MAINTENANCE MANUAL

OPERATIONS AND MAINTENANCE

MANUAL

FOR

(FACILITY IDENTIFIER)

(FACILITY TYPE)

AT

(LOCATION)

(This manual is prepared to fulfill the requirements of Federal Aviation Regulations, Part 171.)

Operations and Maintenance Manual Approved:

(Federal Aviation Administration Representative)

Date: _____

(Title)

PART 1
OPERATIONAL REQUIREMENTSA. Licensing.

1. Facility. The FCC license is to be conspicuously posted at the facility. The normal period of the license is five years, after which time it must be renewed. FCC Form 406 may be obtained from the FCC office. Each application must contain a statement indicating the FAA office has been notified and the date of notification.

2. Maintenance Technician. The equipment shall be operated and maintenance performed only by persons duly licensed by the FCC and approved by the FAA, respectively.

a. A general class radio telephone license satisfies the FCC requirement.

b. FAA approval is granted following the successful completion of both of the following:

(1) FAA or manufacturer's school, or satisfactory completion of a theory exam to be administered by a representative of the FAA. It is to be understood that the satisfactory completion of the theory exam precludes the necessity of resident training.

(2) A practical exam to be given by a representative of the FAA. (For NDBs, an oral exam may be substituted at the discretion of the FAA)

c. A letter of technical verification will be provided by the FAA stating these requirements have been met.

B. Notice to Airmen. A Notice to Airmen (NOTAM) contains the establishment, condition, or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations. Responsibilities for issuance of NOTAMS are contained in Advisory Circular AC-210-4A. NOTAM information must be personally conveyed to the flight service station.

C. Monitoring. It is the FAA policy that a monitoring system be provided for all electronic navigational facilities used in support of instrument flight procedures. For each facility, suitable monitoring equipment should be provided at an appropriate location to enable detection of any of the following conditions:

1. Failure of the facility transmitter.

2. A malfunction or failure of the monitor equipment itself.

Navigational facilities are classified in accordance with the manner in which they are monitored. No change of monitoring status of the navigational aids shall be effected without prior FAA approval. The monitoring categories are as follows:

a. Category 1 - Internal monitoring plus a status indicator installed at a manned remote monitor point. (Reverts to a temporary Cat 3 status when the remote point is not manned.)

b. Category 2 - Internal monitoring with status indicator at remote monitor inoperative, but pilot reports indicate operating normally. (This is a temporary system.)

c. Category 3 - Internal monitoring only. Status indicator not installed at remote monitor point.

d. Category 4 - Internal monitor not installed. Remote status indicator provided at remote monitor point. (This category is only applicable to NDBs.)

3. Upon receipt of an alarm indication, the person responsible for monitoring the facility shall notify the appropriate Flight Service Station and the owner or his designated representative.

4. At any time this system is not monitored on a continuous basis, the appropriate Air Traffic Facility shall be notified and a NOTAM issued stating the system (equipment), is "Out of Service." This shall not be construed as a release from responsibility for continuous monitoring, but rather as a procedure for public notification upon a system failure.

D. Shutdown for Routine Maintenance. Maintenance should be performed only when the following conditions exist:

1. VFR conditions

2. Interruption shall be confined to daylight hours.

3. The interruption of service is to be coordinated with the Flight Service Station. Notification should be made so that the notice of shutdown or interruption will be published in advance of the proposed interruption.

4. The broadcast identifier shall be removed.

5. A message NOTAM shall be in effect announcing the proposed interruption to occur and the facility will not be shutdown until that specified time has arrived. The advance notification of interruption will state a specific period of time for the interruption to occur.

E. Pilot Reports. The owner shall remove the facility from service immediately upon receipt of two successive pilot reports of malfunctioning until the proper facility operation can be confirmed by the facility technician.

F. Requirement Support Items. Properly calibrated test instruments required for maintenance of the facility shall be the types approved by the FAA. There shall be a stock of spare parts, sufficient to make possible prompt replacement of components which fail or deteriorate in service.

G. Emergencies.

1. Military. In case of a national defense alert, the facility shall be shutdown in the shortest possible time after the alert is received from the Air Traffic facility and shall remain off the air until official notice is received that the alert is over. (This procedure meets FCC requirements.)

2. Aircraft Accident. Part III of this agreement provides guidance in case of aircraft accident.

PART II
MAINTENANCE REQUIREMENTSA. General.

1. The maintenance schedules and requirements contained in the applicable publications are to be considered the minimum level of maintenance.

2. Forms and publications for maintenance of the facility will be provided by FAA.

3. If a maintenance technician is not available for any reason, or if the maintenance schedules, as set forth in FAA maintenance procedures (see above) are not adhered to, the equipment shall be removed from service unless the owner or his designated representative has coordinated the exact circumstances with the FAA. Vacation schedules, for example, must be scheduled in this manner, if they conflict with maintenance schedules.

4. Facility equipment performance and adjustment data forms (called Record of meter and readings and adjustments (Form FAA 198 in FAR 171)) shall be filled out by the owner or his representative at the time of facility commissioning. One copy must be kept in the permanent records of the facility and one copy must be sent to the appropriate FAA office. The owner or his representative, must revise the data after any major repair, modernization, or retuning to reflect an accurate record of facility operation and adjustment. In the event the data is revised, the owner or his representative must notify the appropriate FAA office of such revisions, and forward copies of the revisions to the appropriate FAA office within ten working days.

5. Facility Maintenance Log, FAA Form 6030-1 (called Facility Maintenance Log (FAA Form 406c) in FAR Part 171) is a permanent record of all the activities required to maintain the facility. The entries must include all malfunctions encountered in maintaining the facility including information on the kind of work and adjustments made, equipment failures, causes (if determined), and corrective action taken. In addition, the entries must include completion of periodic maintenance required to maintain the facility and NOTAM information. The owner or his representative must keep the original of each form at the facility and send a copy to the appropriate FAA office at the end of each month in which it is prepared.

6. Technical Performance Record, FAA Form 6XXX-XX (called Technical Performance Record (FAA Form 418 in FAR Part 171)) contains a record of system parameters, recorded on each scheduled visit to the facility. The owner, or his representative, shall keep the original of each month's record at the facility and send a copy to the appropriate FAA office.

7. Ground Check Forms.

a. Localizer (FAA Form 6750-X). This form is a periodic record of data gathered in the performance of periodic maintenance of the facility and should reflect the parameters required in the periodic maintenance section of the Localizer Handbook. Data from quarterly, semi-annual, and annual checks may also be entered on these forms and should be clearly labeled as such.

b. Glide Slope (FAA Form 6750-X). This form is the equivalent to that described for the localizer in 7.a. above.

c. VOR (FAA Form 6790-4). This form is the equivalent to that described for the localizer in 7.a. above.

8. Improvements in maintenance procedures, or equipment brought about by system growth, change in the state-of-the-art, in order to generally improve the service provided the flying public, shall be funded and incorporated by the owner/sponsor following coordination with the FAA. An addendum to the Operations and Maintenance Manual approved by the FAA, shall be completed if necessary.

9. The owner shall submit to the FAA for approval, any proposed modifications to the facility and shall not permit any modifications to be performed without specific FAA approval.

10. Neither the transmitter nor the antenna will be relocated without FAA approval. No construction is to be planned in the vicinity that may alter or affect the facility without first coordinating with the FAA. Receiver monitors shall not be removed or relocated without FAA approval.

11. Submit all required logs, forms, reports, and address correspondence to:

FAA, Airway Facilities Sector Office
(STREET)
(CITY, STATE, ZIP CODE)

B. Physical Security. The facility shall be kept locked at all times. Normal protection shall be provided to insure that unauthorized personnel do not have access to the equipment.

C. Flight Inspections.

1. Flight inspections will be performed as stipulated in FAR Part 171. The owner/operator shall provide ground to air communications on 135.85 or 139.85 MHz for flight inspection when required. The maintenance technician shall participate in this inspection if required by the FAA.

2. Those activities requiring flight inspection are outlined in the FAA maintenance technical handbooks.

3. The FAA will bear the cost of successful precommissioning ground and flight inspections of non-federal owned facilities that are for public use.

D. Technical Inspections.

1. FAA technical inspections will be accomplished on a periodic basis to coincide with flight inspections when practicable. Prior notification of technical inspections will be given to the owners representatives. The maintenance technician shall participate in these inspections.

2. The FAA may conduct a follow-up inspection when a facility may have been a factor in an aircraft accident/incident. (See Part III).

E. Safety. OSHA requirement should be followed to assure personnel safety.

PART III
AIRCRAFT ACCIDENT/INCIDENT PROCEDURES

Procedure that shall be followed in case of an aircraft accident or incident which may have involved the facility/ies described herein.

I. NOTIFICATION

The FAA Airway Facilities Sector manager, the facility owner, or their designated representatives ensure the other is notified in the event of an aircraft accident where the non-federal navigational facility/ies may have been used by the aircraft involved.

II. RESPONSIBILITY

The policy within the Western Pacific Region is to have the Non-Federal technician conduct a technical evaluation of the ground electronic facility/ies that may have been used by the aircraft involved. The FAA technician shall act as an observer to this evaluation. The reason for the evaluation is to verify that the facility/ies is operating within the prescribed standards and tolerances in accordance with applicable handbooks.

III. FACILITY EVALUATION

To comply with current policy, the AF sector manager will promptly arrange with the sponsor/owner to have the responsible FAA-certified non-Federal technician accompany a certified FAA technician in making an evaluation of the operation of the facility and make appropriate facility-certification documentation. In all cases, the sponsor/owner should have its appropriate representative (other than the non-Federal technician) present during the evaluation. This evaluation shall be accomplished at the earliest practicable time and shall be done in accordance with applicable instructions in the maintenance handbook.

Flight Inspection. In the event that a facility flight inspection is to be performed as a result of an accident, inspection parties shall record on FAA Form 418:

1. "As found" conditions before the flight inspection.
2. Concise description of all adjustments made during the flight inspection.
3. "As left" conditions following the flight inspection.
4. Verification statement as shown in the example below.

Maintenance log Entry. The technician performing the evaluation shall verify in the 6030-1 maintenance logs attesting to the performance of the facility. A typical entry covering an ILS glide slope where no out of tolerance conditions were found would be as follows:

"08 - 1030 - The operation the ILS glide slope on Runway - _____ was checked beginning at 0930, this date, and found to be normal. Meter readings and other key performance parameters were within established standards and tolerances."

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A verifying statement shall follow the above entry.

"I verify that the above is a true record of the _____
(enter facility or equipment
type)

meter readings _____
(enter "as found," "as left" or "as found and left" date and time

_____ indicated

Signature: _____
(Technician)

_____ (Title)

Signature: _____
(Observer)

_____ (Title)

Signature: _____
(Owner of Designated Representative)

_____ (Title)

All entries shall be signed by both the technician making the entries and the FAA observer, this page shall then be terminated.

Records. A copy of the data collected shall be sent to the FAA at the address in Part II.

APPENDIX 1. SAMPLE OF WP FORM 6710-10

AIRCRAFT ACCIDENT/INCIDENT
INFORMATION WORKSHEET

1. DATE: _____ TIME RECEIVED: _____ (Local)
 2. SOURCE OF INFORMATION: _____

 3. LOCATION OF ACCIDENT/INCIDENT: _____
 4. DATE AND TIME OF ACCIDENT/INCIDENT: _____
 5. AIRCRAFT TYPE: _____
OWNER: _____
 6. WEATHER CONDITIONS: _____
 7. TYPE OF FLIGHT PLAN: _____
 8. LAST COMMUNICATION: _____

 9. DAMAGE TO FACILITIES: _____

 10. NUMBER OF FACILITIES: _____
 11. NAVIGATION AND COMMUNICATION AIDS THAT WERE OR MAY HAVE BEEN INVOLVED: _____

 12. FACILITIES VERIFIED: _____
- _____ (SIGNATURE) _____ (DATE)

WP FORM 6710- 10(10/85)

APPENDIX 2. MEMORANDUM OF UNDERSTANDING

MEMORANDUM OF UNDERSTANDING
BETWEEN THE
FEDERAL AVIATION ADMINISTRATION
AND

(Owner/Sponsor)

In accordance with the requirements of FAR Part 171, _____
(Owner/Sponsor)

having installed the _____
(Identifier) (Facility Type)

at _____ hereby submits the enclosed
Operations and Maintenance Manual for approval by the Federal Aviation
Administration.

The undersigned agree to operate and maintain the above facility in accordance
with all Federal Aviation Administration requirements, standards and criteria
governing such facility, including those requirements contained in FAR Part
171, _____, manufacturer's handbooks, and the
enclosed Operations and Maintenance Manual.

At any time that the undersigned or persons named in the Operations and
Maintenance Manual are no longer performing the functions indicated, the Federal
Aviation Administration shall be notified within ten working days.

The undersigned understand that the non-compliance with the above requirements
will be grounds for NOTAMing the facility out-of-service and/or cancellation of
Federal Aviation Administration approved instrument flight rules procedures.

It is expressly agreed and understood that the sponsor will hold the FAA,
officers, employees, or agents thereof, harmless for any and all liability,
losses, damages, costs and expenses, including legal fees, which may arise on
account of property damage or the death of injury of persons incident to the
operation and/or maintenance of the aforementioned navigational aid.

Signature: _____ Date: _____
(Owner or Designated Representative)

Signature: _____ Date: _____
(Facility Technician)

Signature: _____ Date: _____
(Monitoring Location Representative)

Enclosure: (Operations and Maintenance Manual)

NDB DATA SHEET

A. Equipment Type- Manufacturer/Model Number

Transmitter _____
Monitor _____
Transmitter Antenna _____
Monitor Antenna _____

B. Transmission Data

Power _____
Frequency _____
Emission _____
Identifier _____
Hrs. Operation _____

D. Battery Power ___ Yes ___ No

E. Location

Latitude _____
Longitude _____
In relation to the Runway:

C. Standby Equipment ___ Yes ___ No

Equipment serves Runway _____

F. Authorized Maintenance Technician

Name: _____
Address: _____
Phone: _____

G. In the Event of Emergency Notify:

Name _____	Phone _____
Name _____	Phone _____
Name _____	Phone _____

H. The Equipment is monitored by the _____
at least once each half hour to assure continuous operation.

I. All facility Outages are to be coordinated with the _____
Flight Service Station, _____
(Telephone)

VOR/DME DATA SHEET

A. Equipment Type Manufacturer/Model Number

VOR - _____
DME - _____

B. Transmission Data

	<u>VOR</u>	<u>DME</u>		<u>VOR</u>	<u>DME</u>
Power	_____	_____	Identifier	_____	_____
Frequency	_____	_____	Latitude	_____	_____
Emission	_____	_____	Longitude	_____	_____

C. Hours of Operation _____ Equipment Serves Runway _____

D. Battery Power Yes No

E. Authorized Maintenance Technician

Name: _____
Address: _____
Phone: _____

F. In the Event of Emergency Notify:

Name _____	Phone _____
Name _____	Phone _____
Name _____	Phone _____

G. The Equipment is monitored by the _____

H. All Facility Outages are to be coordinated with the _____
Flight Service Station, _____
(Telephone)

SDF DATA SHEET

- A. Equipment Type _____ Manufacturer/Model Number _____
SDF - _____
MKR - _____
NDB - _____
- B. Transmission Data
- | | <u>SDF</u> | <u>MKR</u> | <u>NDB</u> |
|------------|------------|------------|------------|
| Power | _____ | _____ | _____ |
| Frequency | _____ | _____ | _____ |
| Emission | _____ | _____ | _____ |
| Identifier | _____ | _____ | _____ |
| Latitude | _____ | _____ | _____ |
| Longitude | _____ | _____ | _____ |
- C. Hours of Operation _____ Equipment serves Runway _____
- D. Battery Power ___ Yes ___ No
- E. Authorized Maintenance Technician
Name: _____
Address: _____
Phone: _____
- F. In the event of Emergency Notify:
- | | |
|------------|-------------|
| Name _____ | Phone _____ |
| Name _____ | Phone _____ |
| Name _____ | Phone _____ |
- G. The Equipment is monitored by the _____
- H. All Facility Outages are to be Coordinated with the _____
Flight Service Station, _____
(Telephone)

ILS/ISMLS DATA SHEET

A. Equipment Type Manufacturer/Model Number

LOC	-	_____
GS	-	_____
MM	-	_____
OM	-	_____
LOM	-	_____

B. Transmission Data

	<u>LOC</u>	<u>GS</u>	<u>MM</u>	<u>OM</u>	<u>LOM</u>
Power	_____	_____	_____	_____	_____
Frequency	_____	_____	_____	_____	_____
Emission	_____	_____	_____	_____	_____
Identifier	_____	_____	_____	_____	_____
Latitude	_____	_____	_____	_____	_____
Longitude	_____	_____	_____	_____	_____

C. Hours of Operation _____ Equipment serves Runway _____

D. Battery Power _____ Yes _____ No _____
(If yes, Which facilities) _____

E. Authorized Maintenance Technician

Name: _____
Address: _____
Phone: _____

F. In the Event of Emergency Notify:

Name	_____	Phone	_____
Name	_____	Phone	_____
Name	_____	Phone	_____

G. The Equipment is monitored by the _____

H. All facility Outages are to Coordinated with the _____
Flight Service Station, _____
(Telephone)

APPENDIX 3. SAMPLE OF WP FORM 6710-2NON-FEDERAL NAVIGATIONAL AID TECHNICAL INSPECTION REPORT
(Ground Inspection Report Cover Sheet)

Facility Type: NDB

Ident: LPC

Frequency: 257KHZ

Date of Inspection: 6/27/83

Facility Location: Lompoc, California

Facility Owner: Santa Barbara County

Travel Time Round Trip: 2.5 Hrs.

Time On-Site: 1.5 Hrs.

This is to verify that a technical inspection of the above named facility was conducted on this date. Full acceptance is contingent upon FAA Flight Inspection confirming satisfactory facility performance.

Ted Tellmore	6/27/83
FAA Inspector	Date
Fred Ihearya	6/7/83
Sector Manager	Date
John Betterbee	7/15/83
Manager, Operation Section, AWP-423	Date

APPENDIX 3. SAMPLE OF WP FORM 6710-6

NON-FEDERAL NAVIGATIONAL AID TECHNICAL INSPECTION REPORT
(REMARKS)

REMARKS: The Memorandum of Understanding and technician validity was not accurate due to change in technician. Verified the adequacy of new technician and advised the facility owner to contact the FAA Office for updating the Memorandum of Understanding.

One key performance parameter, the RF power output was out-of-tolerance, the site technician adjusted it within tolerance during inspection.

APPENDIX 3. SAMPLE OF WP FORM 6710-3

Non-Federal Navigational Aid Technical Inspection Report (Summary)

Instructions to Inspector: Enter the numerical value, yes or no, S (satisfactory) or U (unsatisfactory), in the appropriate column. All items recorded which reflect an undesirable result must be supported on the "Remarks" form, or be explained elsewhere in the report.

	Facility (ies)/Ident NDB	
<u>1 Documentation</u>		
a. Analysis of 6xxx.xx	S	_____
b. Analysis of 198s	S	_____
c. Analysis 6030-1 logs	S	_____
d. Verification validity	U	_____
e. Operations & Maintenance Manual/Memorandum of Understanding	U	_____
<u>2 Technician Verified</u>		
Adequacy of verified technicians.....	S	_____
<u>3 Preventive Maintenance</u>		
Accomplished per FAA Directives.....	S	_____
<u>4 Equipment Performance</u>		
a. No. of Key performance parameters found out of tolerance.	1	_____
b. No. of other performance parameters found out of tolerance.....	0	_____
c. Are chronic problems or unfavorable trends indicated	NO	_____
d. Physical condition of facility.....	S	_____
<u>5 Unauthorized Modifications</u>		
	0	_____
<u>6 Waivers</u>		
a. Are waivers required.....	NO	_____
b. Are current waivers adequate and necessary.....	N/A	_____

WP FORM 6710-3(10/85)

APPENDIX 3. PAGE 2 OF WP FORM 6710-3

7 Test Equipment

a. Condition and calibration..... S _____

b. Adequacy..... S _____

8 Directives

_____ S _____

9 Siting Analysis

Do potential known siting problems
exist..... NO _____

10 Physical Security

_____ S _____

11 Logistics

Ground-to-air Communications
Availability..... S _____

12 Environmental

a. Heating vent and air condi-
tioning system operation..... S _____

b. Physical condition of building
towers roads, fences, ditches,
ground fire and water tanks, etc. S _____

13 Miscellaneous

a. Non-Federal Technician

Name	Address	Telephone Number
Kent Petersen	201 S 95th St West Leona Valley, CA	(213) 430-2200

b. Airport Manager

Name	Telephone Number
Paul Smith	(213) 768-5252

c. Federal Communication Commission (FCC) license expiration date

10/30/86	Federal License Date
----------	----------------------

APPENDIX 3. SAMPLE OF WP FORM 6710-4

Non-Federal Navigational Aid Technical Inspection Report
(Data Worksheet)

All Key Performance Parameters, with the exception of those recorded below, were tested and found to be within operating tolerance. Signature of Inspector
Instruction to Inspector

Record Key Parameters not tested (give reasons for not testing). Record any technical performance parameters found out-of-tolerance or marginal.

Parameter	Handbook	Operating	Data	
	Reference	Tolerance	As Found	As Left
Output Power	6740.28, para. 70	25W \pm 20%	31W	25W

APPENDIX 3. SAMPLE OF WP FORM 6710-5

Non-Federal Navigational Aid Technical Inspection Report - (NDB) Data Worksheet

Monitoring

1. Location of monitor station Long Beach Police Station
2. Hours monitor is manned 24
3. Visual alarm at monitor station S
4. Aural alarm at monitor station S
5. Monitor fail-safe feature S
6. Monitor alarm adjustments
 - a. Decrease in field strength S
 - b. Failure of modulating tone S

Radiated Characteristics

7. Output power. 25 watts
8. Ident modulation percentage 89%
9. Frequency of modulating tone 1015 Hz
10. Frequency of transmitter carrier. 400.025

S - Satisfactory
U - Unsatisfactory
NC - Not Checked

APPENDIX 4. SAMPLE OF WP FORM 6710-2

Non-Federal Navigational aid Technical Inspection Report - (Ground Inspection Report Cover Sheet)

 Facility Type: VOR/DME

 Ident: BDE

 Frequency: 111.6 MHZ CHAN 53

 Date of Inspection: 6/27/83

 Facility Location: Baudette, Mn

 Facility Owner: State of Mn

 Travel Time Round Trip: 2.5 Hrs.

 Time On-Site: 4.0 Hrs.

This is to verify that a technical inspection of the above named facility was conducted on this date. FAA acceptance is contingent upon FAA Flight Inspection confirming satisfactory facility performance.

<u>Ted Tellmore</u>	<u>6/27/83</u>
FAA Inspector	Date
<u>Fred Iheary</u>	<u>6/7/83</u>
Sector Manager	Date
<u>John Betterbee</u>	<u>7/15/83</u>
Manager, Operations Section, AWP-423	Date

APPENDIX 4. SAMPLE OF WP FORM 6710-6

Non-Federal Navigational Aid Technical Inspection Report (Remarks)

Remarks: The ground error curve exceeded tolerance, the site technician was advised that the VOR/DME should be shutdown until repairs are made. Called the Hibbing FSS to issue a NOTAM, and advised the site technician that another inspection will be completed before returning the VOR to service.

WP FORM 6710-6 (10/85)

APPENDIX 4. SAMPLE OF WP FORM 6710-3

Non-Federal Navigational Aid Technical Inspection Report (Summary)

Instructions to Inspector. Enter the numerical value, yes or no. S (satisfactory) or U (unsatisfactory), in the appropriate column. All items recorded		which reflect an undesirable result must be supported on the "Remarks" form, or be explained elsewhere in the report.			
		Facility (ies)/Ident			
		VOR	DME		
1 Documentation					
a.	Analysis of 6xxx.xx	S			
b.	Analysis of 198s.....	S			
c.	Analysis 6030 logs.....	S			
d.	Verification validity.....	U			
e.	Operations & Maintenance Manual/Memorandum of Understanding	U			
2 Technician Verified					
	Adequacy of verified technicians. .	S			
3 Preventive Maintenance					
	Accomplished per FAA Directives. ..	S			
4 Equipment Performance					
a.	No of Key performance parameters found out of tolerance..	1			
b.	No of other performance parameters found out of tolerance..	0			
c.	Are chronic problems or unfavorable trends indicated.....	NO			
d.	Physical condition of facility.	S			
5 Unauthorized Modifications					
		0			
6 Waivers					
a.	Are waivers required.	NO			
b.	Are current waivers adequate and necessary.....	N/A			

WP FORM 6710-3 (10/85)

APPENDIX 4. PAGE 2 OF WP FORM 6710-3

7 Test Equipment

- a. Condition and calibration. S _____
- b. Adequacy..... S _____

8 Directives

S _____

9 Siting Analysis

Do potential known siting problems exist..... NO _____

10 Physical security

S _____

11 Logistics

Ground-to-air Communications Availability..... S _____

12 Environmental

- a. Heating vent fans and air conditioning system operation..... S _____
- b. Physical condition of building towers roads, fences, ditches, ground fire and water tanks.etc. S _____

13 Miscellaneous

a. Non-Federal Technician		
Name	Address	Telephone Number
Kent Petersen	201 S 95th St West Leona Valley, CA	(213) 430-2220
b. Airport Manager		
Name	Telephone Number	
Paul Smith	(213) 768-5252	
c. Federal Communication Commission (FCC) license expiration date		
10/30/86	Facility License Date	

APPENDIX 4. SAMPLE OF WP FORM 6710-4

Non-Federal Navigational Aid Technical Inspection Report
(Data Worksheet)

Signature of Inspection _____

All Key Performance Parameters, with the exception of those recorded below, were tested and found to be within operating tolerance

Instruction to Inspection _____

Record Key Parameters not tested, give reason for not testing.

Record any technical performance parameters found out of tolerance or marginal.

parameter	Handbook Reference	Operating Tolerance	Data	
			As found	As left
Ground check error curve.	FAR Part 171	4.0 degrees	4.6°	4.6°

APPENDIX 4. SAMPLE OF WP FORM 6710-7

Non-Federal Navigational Aid Technical Inspection Report - (VOR) Data Worksheet

Monitoring

1. Monitor fail-safe feature S
2. Monitor alarms during VOR malfunction S
3. Monitoring of individual characteristics (S or U)
 - a. Reference and variable signal lengths S
 - b. Indicated azimuth S
 - c. Identification signal S
4. Location of monitor station Long Beach Hospital
5. Hours monitor is manned 24
6. Visual alarm at monitor station S
7. Aural alarm at monitor station S

Facility Characteristics

8. Station power/frequency 100 watts 111.6 MHz
9. Identification signal frequency 1020 Hz
10. Audio frequency response S
11. Reference 30Hz modulation percentage 30%
12. Variable 30Hz modulation percentage 30%
13. Identification modulation percentage 5%
14. Voice modulation percentage 30%
15. Residual AM tone wheel modulation percentage . . .N/A
16. Course shift for monitor alarm +0.9 -1.0
17. Amplitude level decrease for monitor alarm 13
18. Carrier to sideband phasing 0 Degrees from optimum

WP FORM 6710-7 (10/85)

APPENDIX 4. PAGE 2 OF WP FORM 6710-7

Non-Federal Navigational Aid Technical Inspection Report - (VOR) Data Worksheet
(Continued)

Ground Check

- 19. Monitor azimuth variation over 15 minute period 0°
- 20. Ground check error cure deviation from reference1.7°
- 21. Ground check maximum error spread 4.6°
- 22. Error curve deviation between the two equipmentsN/A

S - Satisfactory
U - Unsatisfactory
NC - Not Checked

APPENDIX 4. SAMPLE OF FORM WP 6710-8

Non-Federal Navigational Aid Technical Inspection Report - (DME) Data Worksheet

-
1. Monitor fail-safe feature S
 2. Monitor alarms during malfunction S
 3. Monitor alarms (S or U) S
 - a. Peak power. S
 - b. Squitter rate S
 - c. Identification tone frequency monitor S
 - d. Signal generator output level. S
 - e. Reply delay S
 - f. Pulse pair spacing. S
 4. Location of monitor station Long Beach Hospital
 5. Hours monitor is manned 24
 6. Visual alarm at monitor station S
 7. Aural alarm at monitor station S
 8. Transmitter Characteristics
 - a. Peak power. 100 watts
 - b. Pulse pair spacing. 12 U sec
 - c. Pulse width 3.5 U sec
 - d. Output pulse count. 268
 - e. Ident count 1348
 - f. Receiver sensitivity. -88
 - g. Receiver frequency reponse. S
 - h. Decoder pulse spacing exceptance range. S
 - i. Reply delay. 49.8 U sec

S - Satisfactory
U - Unsatisfactory
NC - Not Checked
WP FORM 6710-8 (10/85)

APPENDIX 5. SAMPLE OF WP FORM 6710-2

Non-Federal Navigational Aid Technical Inspection Report - (Ground Inspection Report Cover Sheet)

Facility Type ILS (LOC,GS,MM) NDB

Ident TYQ/HZP

Frequency 111.3 MHZ/333.7 MHZ

Date of Inspection 6/27/83

Facility Locator Zionsville, IN

Facility Owner Raymond Van Sickle

Travel Time Round Trip 2.5 Hrs.

Time On-Site 8.4 Hrs.

This is to verify that a technical inspection of the above named facility was conducted on this date. FAA acceptance is contingent upon FAA flight inspection confirming satisfactory facility performance.

Ted Tellmore
FAA Inspector

6/27/83
Date

Fred Ihearya
Sector Manager

7/8/83
Date

John Betterbee
Manager, Operations Section, AWP-423

7/15/83
Date

APPENDIX 5. SAMPLE OF WP FORM 6710-6

Non-Federal Navigational Aid Technical Inspection Report - (Remarks)

Remarks: The facility's logs were incomplete. Discussed proper procedures
4.2-1(d) with site technician and gave him a copy of the directions for Non-
Federal Maintenance Log.

4.2-8 No copy of FAA Order 6740.2B on hand. Gave a copy of the order to
the site technician.

APPENDIX 5. SAMPLE OF WP FORM 6710-3

Non-Federal Navigational Aid Technical Inspection Report (Summary)

Instructions to Inspector. Enter the numerical value, yes or no. S (satisfactory) or U (unsatisfactory), in the appropriate column. All items recorded which reflect an undesirable result must be supported on the "Remarks" form, or be explained elsewhere in the report.

	Facility (ies)/Ident				
	LOC	GS	MM		NDB
1 Documentation					
a. Analysis of 6xxx.xx	S				
b. Analysis of 198s.....	S				
c. Analysis 6030 logs.....	S				
d. Verification validity.....	U				
e. Operations & Maintenance Manual/Memorandum of Understanding	U				
2 Technician Verified					
Adequacy of verified technicians...	S				
3 Preventive Maintenance					
Accomplished per FAA Directives....	S				
4 Equipment Performance					
a. No of Key performance parameters found out of tolerance..	1				
b. No of other performance parameters found out of tolerance..	0				
c. Are chronic problems or unfavorable trends indicated.....	NO				
d. Physical condition of facility.	S				
5 Unauthorized Modifications					
	0				
6 Waivers					
a. Are waivers required.....	NO				
b. Are current waivers adequate and necessary.....	N/A				

WP FORM 6710-3 (10/85)

APPENDIX 5. SAMPLE OF WP FORM 6710-3

7 Test Equipment

a. Condition and calibration..... S _____

b. Adequacy..... S _____

8 Directives S _____

9 Siting Analysis

Do potential known siting problems exist..... NO _____

10 Physical security S _____

11 Logistics

Ground-to-air Communications Availability..... S _____

12 Environmental

a. Heating vent fans and air conditioning system operation..... S _____

b. Physical condition of building towers roads, fences, ditches, ground fire and water tanks.etc. S _____

13 Miscellaneous

a. Non-Federal Technician

Name	Address	Telephone Number
Kent Petersen	201 S 95th St West Leona Valley, CA	(213) 430-2220

b. Airport Manager

Name	Telephone Number
Paul Smith	(213) 768-5252

c. Federal Communication Commission (FCC) license expiration date

10/30/86	Facility License Date
----------	-----------------------

APPENDIX 5. SAMPLE OF WP FORM 6710-4

Non-Federal Navigational Aid Technical Inspection Report
(Data Worksheet)

Signature of Inspection

All Key Performance Parameters, with
the exception of those recorded below,
were tested and found to be within
operating tolerance

Instruction to Inspection

Record Key Parameters not tested, Record any technical performance para-
give reason for not testing. meters found out of tolerance or marginal.

parameter	Handbook Reference	Operating Tolerance	Data	
			As found	As left

None

APPENDIX 5. SAMPLE OF WP FORM 6710-5

NON FED NAV AID TECH INSP REPORT (NDB) DATA WORK SHEET

Monitoring

- | | |
|------------------------------------|------------------------------|
| 1. Location of Monitoring Station | CAT III (Auto shutdown only) |
| 2. Hours monitor is manned | N/A |
| 3. Visual alarm at monitor station | N/A |
| 4. Aural alarm at monitor station | N/A |
| 5. Monitor fail-safe feature | N/A |
| 6. Monitor alarm adjustments | |
| a. Decrease in field strength | S |
| b. Failure of modulating tone | S |

Radiated Characteristics

- | | | |
|--------------------------------------|------|-------|
| 7. Output power | 25 | watts |
| 8. Ident Modulation percentage | 95 | % |
| 9. Frequency of modulation tone | 1019 | Hz |
| 10. Frequency of transmitter carrier | 240 | Khz |

S - satisfactory

U - unsatisfactory

NC- not checked

APPENDIX 5. SAMPLE OF WP FORM 6710-9

Non-Federal Navigational Aid Technical Inspection Report - (ILS/ISMLS/SDF) Data Worksheet

Monitoring

	LOC	GS
1. Monitor fail-safe feature	_____	_____
2. Monitor alarms W/ILS malfunction.	_____	_____
3. Monitor alarms (S or U)	_____	_____
a. Course position	_____	_____
b. Course width.	_____	_____
c. Modulation percentage	_____	_____
d. RF level.	_____	_____
4. Location of monitor station	_____	_____
5. Hours monitor is manned	_____	_____
6. Visual alarm at monitor station	_____	_____
7. Aural alarm at monitor station	_____	_____

Facility Characteristics

	LOC	GS
8. Station power (measured).	_____	_____
9. Station frequency (measured).	_____	_____
10. Identification modulation percentage.	_____	N/A
11. 90/150Hz modulation percentage.	_____	_____
12. Identification modulation percentage.	_____	_____
13. Harmonic distortion (S or U).	_____	_____
14. Phasing (degrees from optimum).	_____	_____

WP FORM 6710-9 (10/85)

APPENDIX 5. PAGE 2 OF WP FORM 6710-9

Non-Federal Navigational Aid Technical Inspection Report - (ILS/ISMLS/SDF) Data
Worksheet (Continued)

Ground Check	LOC	GS
15. Position of course.	_____	_____
16. Edge of course locations.	_____	_____

S - Satisfactory
U - Unsatisfactory
NC - Not Checked

Appendix 6. Directions for Non-Federal
Facility Maintenance Log
FAA Form 6030-1

A. Station, city and state

B. Subject of log, three-letter identifier and type of facility.

C. Month and year

D. Date and time. Local time shall be used for all entries, utilizing the 24 hour system; for example: 3:00 p.m. would be 1500.

E. Log format

1. Fully legible entries shall be made using ballpoint pen with reproducible ink. The first entry of each interval shall be identified by beginning the entry with the statement "(First Entry)".

2. Appropriate instruction books, maintenance technical handbooks, FAA Directive, etc., shall be cited, where applicable, to support log entries.

3. No erasures shall be used. Draw a single line through your error and initial it. Clarify the correction if appropriate.

4. Each entry shall be initialed by the person making the entry.

5. At the end of each month in which maintenance is performed, a closing statement shall be entered into the log. Log terminated for (month, year).

6. Each site visit must be recorded in the facility log. The record shall include an arrival and departure entry, statements of equipment operational status on arrival and departure, the reason for the visit with times, names or initials, dates and details, and a complete description of the corrective action taken.

F. Notice to Airmen (NOTAM) information must be included in the facility log. This information must include the initials of the appropriate Air Traffic Control personnel to whom this information was passed, and the details of the information passed.

G. Do not leave any blank lines in the facility log between entries, as it is a legal document. Example of 6030- log entries on Appendix 6, Page 3.

H. At the end of each month in which maintenance is performed, detach the carbon copy and send to:

FAA, Airway Facilities Office
(Street)
(City, State, Zip Code)

Keep the original copy with the station log at the facility.

The following abbreviations may be used:

1. NDB Non-Directional Beacon
2. LOC Localizer
3. GS Glide Slope
4. MM Middle Marker
5. OM Outer Marker
6. LOM Locator Outer Marker
7. VOR Very High Frequency Ominirange
8. DME Distance Measuring Equipment
9. MLSA Microwave Landing System (Azimuth)
10. MLSE Microwave Landing System (Elevation)
11. SDF Simplified Directional Facility
12. OTS Out of Service
13. RTS Returned to Service
14. ESS Flight Service Station
15. ATCT Airport Traffic Control Tower
16. Maint. Maintenance
17. Para. Paragraph

1/30/86

WP 6700.4C
Appendix 7

APPENDIX 7. SAMPLE OF SKILLS VERIFICATION LETTER

(NAME)
(ADDRESS)
(CITY, STATE, ZIP)

Dear (MR./MRS./MS.):

Personnel maintaining Non-Federal public-use facilities that have been approved for instrument flight rules in the National Airspace System are required to meet the Federal Communications Commission (FCC) licensing requirements and, in addition, show that they have the special knowledge and skills needed to maintain these facilities.

This letter serves as verification that you currently meet Federal Aviation Administration (FAA) proficiency requirements to maintain the _____.

This verification of proficiency is based on your experience and your possession of a current general class radiotelephone license.

Sincerely,

(NAME)
Manager, Airway Facilities Sector

CC:
AWP-400
AWP-423
XYZ AFS

APPENDIX 8. PORTION OF ORDER 3400.3E
AIRWAY FACILITIES PERSONNEL CERTIFICATION PROGRAM

CHAPTER 10. VERIFICATION OF PERSONNEL MAINTAINING NON-FEDERAL FACILITIES

60. GENERAL. Personnel maintaining non-federal public-use facilities that have been approved for instrument flight rules (IFR) and air traffic control (ATC) procedures in the National Airspace System (NAS) are required to meet the Federal Communication Commission licensing requirements, and, in addition, show that they have the special knowledge and skills needed to maintain these facilities. It is the responsibility of the regional Airway Facilities Division to administer this program, but portions may be delegated to the Airway Facilities sector.

61. RESPONSIBILITY FOR NON-FEDERAL FACILITIES. It is the responsibility of each Airway Facilities Division Chief to identify non-Federal Facilities in his/her geographical area which are used or will be used, in the National Airspace System and have been approved for IFR and ATC procedures as outlined in Federal Aviation Regulation (FAR) Par 171. He/she shall establish methods for the appropriated regional personnel to "verify" the capability of non-FAA personnel who are assigned maintenance responsibility for these facilities. This verification shall be accomplished through the administration of suitable examining procedures as delineated in this order.

62. PROCEDURES FOR VERIFICATION OF PERSONNEL MAINTAINING NON-FEDERAL FACILITIES

Personnel responsible for the maintenance of non-Federal facilities described in paragraph 60 shall show that they have the special knowledge and skills required adequately to perform this task. This will be accomplished through satisfactory completion of an appropriate FAA Academy conducted course, an FAA-approved factory conducted training course, or satisfactory completion of theory of operation and performance examinations administered by FAA employees. Performance examination shall be administered by FAA employees who are certified on or thoroughly familiar with similar FAA equipment and understand the procedures involved and the results to be achieved. Appendix 4 contains a list of the types of facilities that fall into the non-Federal facilities category and the appropriate examinations for each type. The above procedure is the normal verification process for non-FAA maintenance and operations personnel and should be adhered to except in cases of extreme hardship, in which case verification should be by alternate methods.

63. EFFECTIVE DATE OF VERIFICATION OF NON-FEDERAL PERSONNEL. Upon approval of a non-Federal type of system for use in the NAS, action is to be taken to initiate development of appropriate examinations to validate the knowledge and skills of personnel having maintenance responsibility for the equipment. The "effective date of verification" shall be one year after the announced availability date of the examinations for the particular system. After the "effective verification date," responsibility for the performance of a system shall be assigned only to those individuals possessing the authority granted under the provisions of paragraph 61. The "effective verification date" is April 13, 1974, for systems incorporated in to the NAS prior to March 12, 1973.

a. Personnel maintaining equipment incorporated in the NAS, who have received verification authority in any form prior to March 12, 1973, shall not be required to take examinations on the same system(s).

b. New employees assigned maintenance responsibility for presently approved systems and employees responsible for new systems, as they are approved for incorporation into the NAS, shall meet the requirements of paragraph 61.

64. INTERIM VERIFICATION PROCEDURES. Examinations may not be available immediately for non-Federal facilities added to the NAS. Under this circumstance, authority may be granted upon satisfaction completion of an oral examination administered by a qualified FAA technician or engineer, and a demonstration of ability to perform the tasks outlined in the equipment instruction book. Interim credentials may be converted to permanent credentials without further testing so long as the employee has performed his/her duties competently for at least a one year period.

65. VERIFICATION CREDENTIALS AND RECORDS. Customary FAA certification credentials and records will not be used in the verification of non-FAA personnel. The individual examinee and the organization to which he/she belongs, shall be issued written notice of successful completion of the verification requirements. This may take any form deemed appropriate by the responsible Regional Airway Facilities Division. The Regional Airway Facilities Division shall maintain a record of all non-Federal facilities within the area of justification, the name of the responsible authority for each system.

66. DEVELOPMENT OF VERIFICATION EXAMINATIONS. When approval is granted for IFR and ATC procedures, using types of non-Federal facilities that are not already in the program, the cognizant regional AF Division Chief shall notify the Airway Facilities Program Division, AAF-100, of the type of facility, location, and date of approval. AF-100 will then initiate action to have suitable verification examinations developed as soon as possible.

67. GRADING. Theory of operations examinations shall be graded exclusively by the examination Control Center.

68. STORAGE. Storage of written examinations shall be limited to the Examination Control Center. Under no circumstances shall theory of operations be in the custody of non-Airway Facilities personnel. A supply of performance examinations may be maintained in each region.

69. TRAINING FOR NON-FEDERAL PERSONNEL. The FAA Academy maintains an elaborate correspondence study program, primarily for FAA personnel. However, these courses may be made available to non-Federal personnel for a nominal cost as indicated in Appendix 4 of the latest edition of Order 3400.3E. The Procedures for enrolling in a course. are as follows:

- a. Fill out AC Form 3145-2 (3-77), Correspondence Study Enrollment Application.
- b. Send check, money order, or the address of an office to be billed along with the completed AC Form 3145-2 (3-77).
- c. Send AC Form 3145-2 (3-77) and payment to:

FAA
Mike Monroney Aeronautical Center, AAC-911A
Attn: Phillip Handke
P. O. Box 25082
Oklahoma City, Oklahoma 73125

1/30/86

WP 67004C
Appendix 9

(NAME)
(ADDRESS)
(CITY, STATE, ZIP)

Dear Mr. (NAME):

The (FACILITY NAME) serving the (NAME OF AIRPORT) was inspected by a representative of the (NAME) Airway Facilities Sector Office, on (DATE). The following discrepancies were noted:

(LIST DISCREPANCIES)

Please review the enclosed report and notify us within 30 days of the corrective action taken. File a copy of the report at the facility.

Direct all questions to the (NAME) Airway Facilities Sector Office, at (PHONE NUMBER).

Sincerely,

(NAME)
Manager, Airway Facilities Sector

Enclosure

ORDER

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
WESTERN REGION

WE 6740.2

11/1/68

SUBJ: COMPASS LOCATOR ANTENNA STABILIZATION (RIS: WE 6740-OT)

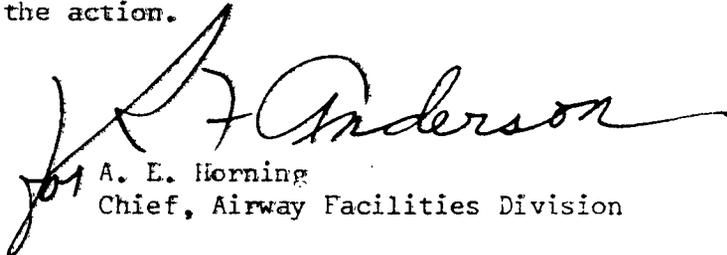
1. PURPOSE. This order provides modification guidelines to increase compass locator operational stability during severe weather conditions. It is of concern to Airway Facilities (AF) personnel responsible for the maintenance of compass locators and MH facilities operating in lieu of compass locators.
2. BACKGROUND. It was practical and beneficial to improve low frequency range center tower stability by resistance insertion in the antenna tuning unit. This measure minimized effects of severe weather. Where circumstances permit, the practice will be carried out at compass locators.
3. MODIFICATION GUIDELINES. The following guidelines are provided in place of specific modification instructions:
 - a. Add series resistance. Use largest value which will allow about a 20% reserve of power for tube aging above the power level established for normal radiated field strength. Make all comparative measurements on the basis of indicated RF current meter readings. Do not add resistance if reserve power cannot be obtained.
 - b. Install the smallest physical size resistor which has a dissipation rating at least twice the computed requirement. Use solid wire to make it self-supporting. If practical, place it between the antenna coupling coil and the RF current meter. The resistor need not be noninductive. The added inductance is insignificant.
 - c. Use of Ohmite Dividohm, or equivalent, adjustable resistors is recommended. These will normally range between 3 and 15 ohms, depending on frequency and type of antenna in service.
 - d. Check monitor level and reset as necessary for normal monitoring.
4. RESULTS OF MODIFICATION. Increased compass locator stability will result wherever resistance can be added and the original field strength maintained. The latter is assured by maintenance of the original value of antenna current. A flight check is not required. A comparison check by radio before and after the modification is suggested to verify signal strength and modulation level. A comparatively small resistor will reduce sensitivity to rain effects. Higher values of resistance will progressively improve stability during heavy rains and will also minimize effects of icing under severe weather conditions.

Distribution: RFS-3, RMAF-2, MFS-2, FFS-4, ZAF-48

Initiated by: WE-480

5. REPORTING. AF Sectors having compass locators should complete in duplicate, the report shown on Appendix I. The original of the form should be forwarded through channels to the Electronic Engineering Section, WE-483, Maintenance Branch. One copy should be retained for Sector files.

6. TARGET DATE. Target date for completion of this modification is November 27, 1968. The required reports should be submitted within six weeks following completion of the action.

A handwritten signature in cursive script, appearing to read "J. R. Anderson".

101 A. E. Horning
Chief, Airway Facilities Division

APPENDIX 1. COMPASS LOCATOR REPORT (RIS: WE 6740-OT)

SUBJECT: Compass Locator Antenna Stabilization

FROM : Airway Facility Sector No. _____

ILS Location _____ Runway _____

- 1. Facility Type _____
- 2. Facility Identification _____
- 3. Frequency _____ KHz
- 4. Transmitter Type _____
- 5. Antenna Tuning Unit Type (if separate) _____
- 6. Antenna Type _____
- 7. Antenna height _____
- 8. Antenna overall length _____
- 9. Resistance added was approximately _____ ohms
- 10. Its location is _____

- 11. Resistance cannot be added because _____

- 12. Remarks