**CHANGE**

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

6810.3A
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SUBJ: MAINTENANCE OF FA-10235 VERY-HIGH-FREQUENCY OMNIDIRECTIONAL RANGE TEST (VOT) FACILITIES

1. PURPOSE. This directive transmits revised pages to extend maximum allowable periodic maintenance intervals. Field offices will retain the control of determining their minimum maintenance intervals. This directive implements Configuration Control Decision (CCD) N17041, Extend Certification and Maintenance Intervals for Maintenance Handbooks.

2. DISTRIBUTION. This directive is distributed to selected offices and services within Washington Headquarters, regional Airway Facilities divisions, the FAA Technical Center, the Mike Monroney Aeronautical Center, and Airway Facilities field offices having the following facilities/equipment: VOT.

3. ACTION. Upon receipt of this directive, disregard the Order 6810.3A interval changes that were provided in N 6000.173, National Airspace System (NAS) Equipment Periodic Maintenance Intervals.

3. BACKGROUND. In January 1994, a National Quality Effectiveness Team (NQET) recommended to the Associate Administrator for Airway Facilities (AAF-1) that all national standard maintenance procedures and intervals be revalidated with the goal being a reduction in required maintenance activities and extending the periodicity of intervals. The team's recommendation was subsequently endorsed resulting in these changes.

4. DISPOSITION OF TRANSMITTAL. Retain this transmittal.

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| | Appendix 1 | | |
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Initiated By: AOS-210

# CHAPTER 4. PERIODIC MAINTENANCE

**75. GENERAL.**

This chapter establishes all the maintenance activities that are required for the VOT type FA-10235 equipment on a periodic, recurring basis and the schedules for their accomplishment. The chapter is divided into two sections. The first section identifies the performance checks (i.e., tests, measurements, and observations) of normal operating controls and functions, which are necessary to determine whether operation is within established tolerances/ limits. The second section identifies other tasks, which are necessary to prevent deterioration and/or ensure reliable operation. Refer to Order 6000.15B for additional general guidance.

## Section 1. SYSTEM PERFORMANCE CHECKS

| *Performance Checks* | *Reference Paragraph* | |
|---|---|---|
| | *Standards and Tolerances* | *Maintenance Procedures* |
| **76. QUARTERLY.** | | |
| **a. Check the following transmitter parameters:** | | |
| * (1) Forward power and rf currents | 31b, 37 | 104 |
| (2) Reflected power | — | 105 * |
| **b. Check the following monitor parameter.** System shutdown delay. * | 51e | 125 * |
| **77. ANNUALLY.** | | |
| **a. Measure the following transmitter parameters:** | | |
| (1) Carrier frequency | 31a | 108 |
| (2) 30-Hz variable phase frequency | 33a | 109 |
| (3) 30-Hz reference frequency | 34c | 109 |
| (4) 9960-Hz subcarrier frequency | 34a | 109 |
| (5) 9960-Hz subcarrier deviation | 34b | 109 |
| (6) 1020-Hz identification frequency | 35a | 109 |
| (7) Calibration generator clock frequency | 34e | 109 |
| (8) Voice modulation | 36a | 106 |
| * (9) Power supply voltages | 37g | 103 * |

## Section 1. SYSTEM PERFORMANCE CHECKS - (Continued)

| Performance Checks | Reference Paragraph: Standards and Tolerances | Reference Paragraph: Maintenance Procedures |
|---|---|---|
| * (10) Power supply currents | 37h | 103 |
| (11) 30-Hz variable phase modulation | 33b | 106 |
| (12) 9960-Hz subcarrier modulation | 34d | 106 |
| (13) 1020-Hz identification modulation | 35b | 106 * |
| **b. Measure the following monitor parameters:** | | |
| (1) 30-Hz variable phase frequency | 51b | 122 |
| (2) 30-Hz reference frequency | 51c(3) | 122 |
| (3) 9960-Hz subcarrier frequency | 51c(1) | 122 |
| (4) 9960-Hz subcarrier deviation | 51c(2) | 122 |
| (5) Calibration generator clock frequency | 51c(4) | 122 |
| * (6) Power supply voltages | 51a(5) | 120 |
| (7) Power supply currents | 51a(6) | 120 |
| (8) Monitor signal levels | 51a(1), (2), (3), and (4) | 121 |
| (9) Phase alarm threshold | 51d | 123 |
| (10) 400-Hz go/no-go signal | 50 | 126 |
| (11) Alarm LED operation | --- | 124 * |
| **c. Measure the RSCU voltage levels** | 60 | 136 |
| **d. Measure the following antenna parameters:** | | |
| (1) Voltage standing-wave ratio (vswr) | 65 | 150e(10) |
| (2) Monitor coupling loss[1] | 66 | 150e(10) |
| **78.-89. RESERVED.** | | |

[1]Not applicable at locations where the monitor loop antenna has been bypassed. See chapter 1, par 7.

# APPENDIX 1. CERTIFICATION REQUIREMENTS

## Table 1. TYPE FA-10235 VOT SYSTEM

| *Service* | *Certification Parameter* | *Reference Paragraph STDS and TOL/Limits* |
|---|---|---|
| 1. Coverage | Power output and rf attenuator setting | 31b, 32 |
| 2. Course sensitivity | Modulation levels (reference and variable) | 33, 34 |
| 3. Identification | Modulation level (1020 Hz) | 35 |
| 4. Operational continuity and integrity | Shutdown and remote alarm | 50, 51e, 51f, 60 |
| 5. Monitor | Phase shift alarm | 51d |
| | Reference and variable signal alarms (loss of reference or variable signal) | |
| | 1020 Hz identification alarm (loss of identification signal) | |

* **NORMAL CERTIFICATION INTERVAL:** Semiannually

**MAXIMUM CERTIFICATION INTERVAL:** 210 days *

**PERSON RESPONSIBLE FOR CERTIFICATION:** Person assigned the appropriate certification authority and responsibility.

**CERTIFICATION ENTRY IN FACILITY MAINTENANCE LOG:** Type FA-10235 VOT certified.



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