U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

National Policy

**ORDER
6200.4G**

Effective Date:
03/08/2010

SUBJ: National Test Equipment Program Management

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1. Purpose of This Order. This order prescribes Federal Aviation Administration (FAA) Air Traffic Organization (ATO) policy and responsibility for management and control of FAA's National Test Equipment Program (NTEP).

2. Audience. Employees involved in providing, safeguarding, and maximizing the utilization of FAA test equipment.

3. Where I Can Find This Order. You can find this order electronically at https://employees.faa.gov/tools_resources/orders_notices/

4. Cancellation. This order replaces Order 6200.4F, Test Equipment Management Handbook, dated August 18, 1997.

5. Explanation of Changes. This revision redefines FAA Test Equipment Program policy, roles, and responsibilities. This revision also allows for non-policy (procedural) information related to the National Test Equipment Program to be maintained in supplementary process and procedure guides.

6. Related Publications. For additional information, the latest versions of the following documents should be consulted.

   a. FAA Order 6000.15, General Maintenance Handbook for NAS Facilities. You can find this order at https://employees.faa.gov/tools_resources/orders_notices/

   b. ANSI /NCSL Z540, Calibration Laboratories and Measuring and Test Equipment- General Requirements.

   c. ISO/IEC 17025: 1999, General Requirements for the Competence of Testing and Calibration Laboratories.

7. Policy. The FAA is responsible for the calibration, maintenance, and management of test equipment under its authority or control. This order establishes FAA's formal structure to record, track, safeguard, reutilize or dispose, and report on its test equipment.

8. Scope. Test, Measurement, and Diagnostic Equipment is defined as portable, stand-alone (not a component of a system) electrical and electronic equipment that is required to perform the functional checks, align, troubleshoot, or calibrate an operational National Airspace System (NAS).

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9. Roles and Responsibilities. To assist employees and managers in carrying out their responsibilities for safeguarding and maximizing the utilization of test equipment, FAA has established formal test equipment management positions and organizations. Primary responsibilities are listed below.

    a. National Test Equipment Program (NTEP) Office. The NTEP Office resides within Technical Operations Services in the Service Management Group (SMG). The NTEP ensures that each NAS facility has the necessary test equipment to meet the specifications required to maintain their associated NAS facilities/services. It establishes and maintains policy and guidance to all FAA ATO offices for the standardization of test equipment and configuration management in support of the NAS.

    b. National Test Equipment Program Manager (NTEPM). The NTEPM is responsible for the overall direction of the NTEP; that the Test Equipment Quality Assurance Plan is in place and posted on the Test Equipment Program website; secures a budget to support the calibration of test equipment and the replacement of test equipment used to support the NAS; evaluates commercially available test equipment; selects the test equipment needed to support new and legacy NAS platforms; evaluates life-cycle management requirements to determine the Agency's future needs; provides national guidance to the Service Area Test Equipment Program Managers (SATEPM) and delegates responsibilities to the SATEPM; ensures that configuration management of test equipment is maintained; is responsible to determine when changes are required to Calibration Cycle Requirements Table posted on the NTEP website when needed, not to exceed twice a year (October 1 and April 1); is the sole approver for all limited calibration procedure(s) on any test equipment, and coordinating the implementation of limited calibration procedure(s) on a national basis; reviews all National Change Proposals (NCP), System Engineering Requirements Documents (SERD), In-Service-Requirement (ISR) checklist, and other lifecycle planning and acquisition documentation relating to test equipment.

    c. Service Area Test Equipment Program Managers. The SATEPM provides any supplemental guidance to the District Offices and Calibration Delivery Points, System Support Centers (SSC). They inform the NTEPM when test equipment no longer serves the intended purpose. SATEPM recommends redistribution of test equipment within their Service Area to improve effectiveness and economy without compromising safety. SATEPM provides feedback regarding configuration management of test equipment recommended for purchase by the District Office. SATEPM approves purchases of initial issue test equipment.

    d. The District Offices (DO). The District Office Manager is responsible for ensuring: all test equipment that requires calibration is calibrated within the appropriate specified interval; that any procurement of test equipment is listed in the Calibration Cycle Requirements Table or is approved by the NTEPM if the device is deployed in the operational NAS; budget for battery replacement on test equipment requiring batteries; calibration records are maintained for three calibration cycles and that red-tagged equipment is not used in the support of any NAS systems; and adhering to the Test Equipment Quality Assurance Plan set forth in the Test Equipment Quality Assurance Plan (see Appendix 1, Supplemental Material).

e.   FAA Logistics Center (FAALC). The FAALC administers the National Calibration Contract in accordance with requirements outlined in a Service Order initiated and funded by the NTEP Office; provides logistical support for repair of test equipment through Exchange and Repair (E&R); provides Repair and Return (R&R) processes for assets no longer supported with E&R inventory. The FAALC also provides consultation, test equipment support status, and processes field orders for initial issue, repair, replacement, of test equipment; procures program office test equipment for field deployment, and provides supplemental calibration services.

f.   Business, Product and Service Teams. The Business, Product and Service Teams or other groups that have the responsibility to acquire or upgrade NAS systems will coordinate test equipment requirements (general as well as specialized test equipment in support of their platform) with the NTEP Office for standardization and optimization. Business, Product and Service Teams are responsible for the life-cycle management of all NAS equipment types. Test equipment procured by Business, Product and Service Teams for NAS systems or equipment type will include one year of calibration traceable to National Institute of Standards and Technology (NIST). When introducing a new piece of test equipment into the NAS, Business, Product and Service Teams shall budget for the initial test equipment and accessories, provide for the first year calibration transition for the national test equipment office. In addition they will provide sparing to the FAALC, operation and service manuals, training materials, and any other resources necessary to ensure lifecycle support as outlined in the maintenance concept for each new system. Also they will provide test equipment required for training by the FAA Academy. The Service, Business or Group Team purchasing test equipment shall be responsible for any maintenance costs upon purchasing a piece of test equipment that is not approved by the NTEP at the time of purchase.

10. Replacement of Test Equipment

a.   If a piece of test equipment used in a legacy platform becomes obsolete or unsupportable, field units will notify the SATEPM of the need for replacement test equipment.

b.   Approval must be obtained from both the SATEPM and NTEPM before new or replaced equipment is purchased, following the guidelines set forth in the Test Equipment Process and Procedure Guide (see Appendix 1).

c.   When the FAA acquires a non-Federal facility, it may be necessary to provide or replace test equipment. The procedures to be used for this process can be found in the Test Equipment Process and Procedure Guide (see Appendix 1).

11. Calibration of Test Equipment

a.   All test equipment will be calibrated according to calibration intervals as outlined in the Calibration Cycle Requirements Table (see Appendix 1).

b.   Only test equipment with a valid calibration sticker affixed to the unit and calibration certificate shall be used on NAS equipment. A "Statement of Calibration Practice" or similar documentation is not acceptable as evidence of traceability.

c. Only test equipment recorded in Automated Inventory Tracking System (AITS) is eligible for calibration.

d. Calibration services are provided by several vendors:

(1) National Calibration Contract is established for onsite calibration of test equipment.

(2) FAALC AML-4000 is established for R&R for calibration only.

(3) National Staging Area is established to back up AML-4000 and calibrate Special Test Equipment such as the Zero Indicator for Omni Range (ZIFOR).

(4) FAALC AML-7000 is established to service all models of the Mark-20 Portable Instrument Landing System Receiver (PIR).

e. All calibrations conducted must provide traceability to reference standards recognized by NIST.

f. Test equipment shall be calibrated according to the manufacturer's specifications. NTEPM shall make adjustments to manufacturer's recommended calibration intervals only after review of historical maintenance data. Further details can be found in the Calibration Cycle Requirements Table (see Appendix 1).

g. The NTEPM shall approve all limited calibrations. All test equipment with limited calibration must display a limited calibration label. Further details can be found in the Calibration Cycle Requirements Table (see Appendix 1).

h. Copies of the calibration certificates will be maintained for three calibration cycles. Further details can be found in the Test Equipment Quality Assurance Plan (see Appendix 1).

i. Test equipment may be used up to 30 days past the calibration due date, only with SATEM approval. Calibration extensions beyond 30 days must be approved by the NTEPM in writing. All calibration extensions need to be filed along with calibration documentation and retained for three calibration cycles. Further information can be found in the Test Equipment Quality Assurance Plan (see Appendix 1).

j. All calibration service providers will minimally comply with ANSI/NCSL Z540-1, Calibration Laboratories and Measuring and Test Equipment General Requirements for the Competence of Testing and Calibration Laboratories or ISO/IEC 17025 (International Organization for Standardization / Calibration, Measurement Gages and Test Laboratories). These are the guides used by the FAA for calibration laboratory organization, management, quality system, personnel, environment, standards/equipment, reference materials, procedures, traceability, certification, labeling, records, and reporting.

12. Service or Repair of Test Equipment. The FAALC will provide a calibrated replacement with a minimum of nine (9) months calibration remaining for any equipment that has gone through the E&R or R&R process. Test Equipment received from the FAALC or other contract support shall not be considered calibrated unless a current calibration label and a "Void if Removed" seal are affixed to the unit.

13. Test Equipment Quality Assurance

    a.   A minimum of three test equipment evaluations are performed within each service area yearly by the SATEPM, held at non-recurring locations, per the guidelines provided in the Test Equipment Process and Procedure Guide (see Appendix 1).

    b.   The NTEPM will perform three test equipment evaluations held at non-recurring locations, per the guidelines provided in the Test Equipment Process and Procedure Guide (see Appendix 1).

    c.   District Offices and their supporting field units will adhere to a Test Equipment Quality Assurance Plan. Guidance for a Test Equipment Quality Assurance Plan can be found in Appendix 1.

14. Disposition of Test Equipment

    a.   All field units will follow the guidelines set forth in The Reutilization and Disposition Process and Procedure Guide, found in Appendix 2 of FAA Order 4600.27, Personal Property Management, regarding the disposition of test equipment. The SATEPM will monitor and notify any property custodians of delinquent excess actions. The receipt of new test equipment will follow the process set forth in the Test Equipment Process and Procedure Guide (see Appendix 1).

    b.   Red-tagged equipment must never be used to support any NAS platform. Red-tagged equipment will be replaced through either the E&R or R&R process. When no support is available, contact your SATEPM for advice.

    c.   Obsolete test equipment will be reported as excess through AITS. At no time will replaced obsolete test equipment be transferred to another FAA site without the approval of the NTEPM. Please see the Test Equipment Process and Procedure Guide (see Appendix 1) for more information.

15. Distribution. This order is distributed in ATO headquarters, services areas, and service centers to group level; to the regional Flight Standards, Airports, and Logistics divisions; to director level at the FAA Logistics Center and the FAA Academy; to all Technical Operations System Support Center Managers, and to all Technical Operations field offices with a standard distribution.

16. Waivers. All waiver requests regarding any portion of this policy will be submitted for approval to the Vice President of Technical Operations Services. The request will contain rationale for the waiver, justification, and other appropriate information to support the request.

17. Changes to Process and Procedure Guides. The Vice President of Technical Operations Services and his/her delegate are authorized to issue or change FAA National Test Equipment Process and Procedure Guides as needed to meet the needs of the agency. Updates to the guides resulting from changes to system software and changes not related to procedures may be issued directly by the Technical Operations Service Management Group and evaluated for appropriateness by the office. Changes to procedures will be presented to affected offices for comment for a period of 30 days. After comment resolution, the addition or change will be added to the guide, which will become the current guidance.

Teri L. Bristol
Vice President, Technical Operations Services

APPENDIX 1. SUPPLEMENTAL MATERIAL

The following supplemental materials are available electronically at:
http://nas.amc.faa.gov/ajw14/ntep/te/

Calibration Cycle Requirements Table

Test Equipment Quality Assurance Plan

Test Equipment Process and Procedure Guide

APPENDIX 2. DEFINITIONS

a. **Business, Service, Group, Team Office or Unit** – in some instances formerly known as Product Team. These organizations are usually involved in procuring or enhancing NAS platforms and have financial resources to accomplish their mission.

b. **Calibration** - a set of operations which establish, under specified conditions, the relationship between values indicated by a measuring instrument or measuring system, or values represented by a material measure, and the corresponding known values of a measurand.

c. **Calibration Certificate**. a document that states a specific item was calibrated with measurement traceability. Information contained includes such details as the standards used, the parameters checked and the actual measurement results and uncertainty.

d. **Calibration Codes** - the calibration codes identified below are provided for other then full calibration of the test equipment instrument.

     i. NCR- No Calibration Required
    ii. NC- No Cal Authorized
   iii. User Cal- Owner/User Validates Performance
   iv. Limited Cal - Limited Calibration

e. **Calibration Cycle or Calibration Interval** - period of time between calibrations.

f. **Calibration Delivery Points or Service Delivery Points or Staging Area** - location where test equipment is brought to receive calibration service.

g. **Calibration Due Date or Calibration Expiration or Calibration Service Date** - is the date on the calibration certificate and/or calibration sticker when the test equipment is due for calibration service

h. **Calibration Standard** - a device or instrument used as a basis to calibrate measure, gage, test, inspect, or otherwise examine basic accuracy values. The standard has a higher order of accuracy than the examined item and is traceable to the National Institute of Standards and Technology (NIST).

i. **Calibration Sticker** – a label attached to the test equipment when removed or tampered with will clearly be visible that it was meddled with thus voiding the calibration. The purpose is to ensure integrity of the calibration. A calibration sticker is usually imprinted with something such as "Calibration void if broken or removed". The label has current calibration date and calibration due date, service provider name or initials or the stamp of calibrator.

j. **Commercial off-the-Shelf Test Equipment (COTS)** - test equipment that normally can be bought from commercial vendors.

k. **Configuration Management (CM)** – is a discipline that applies technical and administrative direction to the development and support of configuration items. The configuration items in this order involve all test equipment used in the FAA to support all operational NAS platforms.

l. **Disposition** - method of properly managing electronic inventories, recycling electronic equipment, and disposing of excess or obsolete electronic equipment in an environmentally responsible manner.

m. **Exchange and Repair (E&R)** – a FAALC process where defective equipment is sent in and an identical serviceable item is returned in exchange. This field will be charged a fee for this service.

n. **Initial Issue Test Equipment** – new test equipment (general (example – multimeter) or specialized (example – beacon test set)) procured from one of several sources: Business, Group Team, Service Team, field offices or the National Test Equipment Program Office

o. **Legacy Platform** – all deployed operational NAS platforms prior to NEXGEN

p. **Limited Calibration** - is a passed calibration condition with specified limited performance.

q. **No Calibration Required (NCR)** - test equipment that requires no calibration.

r. **Reference Standard** - a basis from which the accuracy of other measurements may be determined.

s. **Repair and Replace (R&R)** - a FAALC process where defective equipment is sent in and cannot be supported by the E&R process. However, the item can be repaired and will be returned. This field will be charged a fee for this service.

t. **Test, Measurement, and Diagnostic Equipment** - any system or device used to evaluate the operating condition of a system or equipment to identify or isolate any actual or potential malfunction.

u. **Traceability** - the property of the result of a measurement or the value of a measurement standard whereby it can be related to stated references, usually national or international measurement standards, through an unbroken chain of comparisons all having stated uncertainties.

APPENDIX 3. ACRONYMS

AITS- Asset Inventory Tracking System

AJW - Technical Operation Services, Air Traffic Organization

ANSI- American National Standards Institute

ATO- Air Traffic Organization

COTS- Commercial off-the-Shelf Test Equipment

CM - Configuration Management

DO - District Office

E&R- Exchange and Repair

FAA- Federal Aviation Administration

FAALC- Federal Aviation Administration Logistics Center

IEC- International Electrotechnical Commission

ISO- International Organization for Standardization

ISR- In-Service Requirements

LIS - Logistics & Inventory System

NAS- National Airspace System

NC – No calibration authorized

NCSL- National Conference of Standards Laboratories

NCP- National Change Proposal

NCR - No Calibration Required

NIST- National Institute of Standards and Technology

NTEP- National Test Equipment Program

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NTEPM- National Test Equipment Program Manager

PIR - Portable Instrument Landing System Receiver

POC – Point Of Contact

R&R- Repair and Return

SA- Service Area

SATEPM- Service Area Test Equipment Program Managers

SERD - System Engineering Requirements Documents

SMG – Service Management Group

SSC- System Support Center

TSOG - Technical Services Operations Group

USER - Owner/User validates performance

ZIFOR - Zero Indicator for Omni Range (ZIFOR)