



DEPARTMENT OF THE NAVY  
OFFICE OF THE CHIEF OF NAVAL OPERATIONS  
2000 NAVY PENTAGON  
WASHINGTON, D.C. 20350-2000

IN REPLY REFER TO  
OPNAVINST 3960.16  
N433  
18 January 1995

OPNAV INSTRUCTION 3960.16

From: Chief of Naval Operations

Subj: NAVY TEST AND MONITORING SYSTEMS (TAMS)

- Ref:
- (a) SECNAVINST 3960.6, Department of the Navy Policy and Responsibility for Test, Measurement, Monitoring, Diagnostic Equipment and Systems, and Metrology and Calibration (METCAL)
  - (b) OPNAVINST 4790.2E, The Naval Aviation Maintenance Program (NAMP)
  - (c) OPNAVINST 4700 (Series) Maintenance Policy for Naval Ships
  - (d) OPNAVINST 4000.57, Logistic Support of the Trident and Poseidon Fleet Ballistic Missile (FBM) Systems
  - (e) MCO 10510.10, Policy and Responsibility for Test and Measurement and Diagnostic Equipment (TMDE) (NOTAL)
  - (f) MCO 4733.1, Marine Corps Test, Measurement and Diagnostic equipment (TMDE) Calibration and Maintenance Program (CAMP) (NOTAL)
  - (g) MCO P4790.1, Marine Corps Maintenance Management Systems (MIMMS) Introduction Manual (NOTAL)
  - (h) MIL-STD-1309 (Series) (Navy), Definitions of Terms for Test, Measurement and Diagnostic Equipment
  - (i) SECNAVINST 5000.2A, Implementation of Defense Acquisition Management Policies, Procedures, Documentation and Report
  - (j) OPNAVINST 5000.42D, OPNAV Role and Responsibilities in the Acquisition Process
  - (k) MIL-STD-1388-1 (Series), Logistic Support Analysis
  - (l) MIL-STD-2165 (Series), Testability Program for Electronic Systems and Equipments
  - (m) MIL-STD-1839A, Calibration and Measurement Requirements
  - (n) DODINST 5000.2, Defense Acquisition Management Policies and Procedures
  - (o) NAVSEAINST 5000.39, Acquisition Management of Integrated Logistic Support for Ships Systems and Equipment
  - (p) OPNAVINST 4110.2, Hazardous Material Control and Management



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- (q) MIL-STD-1364 (Series) (Navy), Standard General Purpose Electronic Test Equipment
- (r) NAVSEA OD 54585 (Series), FBM/Trident Test and Measurement Equipment Selection
- (s) NAVAIR 17-35NCE-1, NAVSEA OD 48939, USMC TI-4733-45/16, Navy Calibration Equipment List (NCE)
- (t) ML-STD-45662 (SERIES) Calibration Systems Requirements
- (u) NAVAIR 17-35FR-01, NAVSEA OD 45843, Calibration Facility Requirements for Navy Field Calibration Activities
- (v) NAVAIR 17-35FR-02, NAVSEA OD 45842, Calibration Facility Requirements for Shore Based Navy Calibration Laboratories
- (w) NAVAIR 17-35FR-03, NAVSEA OD 45844, Calibration Facility Requirements for Shipboard Navy Calibration Laboratories
- (x) NAVAIR 17-35FR-04, Calibration Facility Requirements for Navy Type I and II Standards Laboratories
- (y) NAVAIR 17-35MTL-1, NAVSEA OD 45845, USMC TI-4733-15/13, Metrology Requirements List (METRL)
- (z) NAVAIR 17-35NCA-1, NAVSEA ST700-AA-LST-010/NCA, USMC TI-4733-15/17, Navy Calibration Activity List (NCA)
- (aa) OP 43P6, Metrology Automated System for Uniform Recall and Reporting (MEASURE) Users Manual

Encl: (1) LIST OF ACRONYMS

1. Purpose. To implement reference (a) and sets policy and assigns responsibility for the management of Navy Test and Monitoring Systems (TAMS) which includes the associated Metrology and Calibration (METCAL) program, and the supporting information resource management program.

2. Background. TAMS are used for monitoring and testing all types of systems, equipments and devices, and the environmental conditions under which systems and naval personnel operate. The measurement accuracy of Navy TAMS used for quantitative measurements is insured through calibration traceability to the National Institute of Standards and Technology, the United States Naval Observatory (USNO), or Department of Defense approved sources. Policy for TAMS is established by reference (a).

3. Scope and Applicability. This instruction applies to all Navy commands and Marine Corps aircraft units whose maintenance policy and practices are under the cognizance of references (b), (c), and (d). The Navy TAMS program is applicable to all measurement areas of the physical sciences except radiation detection, indication and computation devices, the Marine Corps Test Measurement and Diagnostic Equipment Program and the Marine

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Corps Automated Test Equipment Program executed under the provisions of references (e), (f), and (g). TAMS includes all devices used to measure, calibrate, gage, test, inspect, diagnose, or otherwise examine materials, supplies, and equipment to determine compliance with specifications, engineering drawings, technical orders, technical manuals, maintenance instructions, and/or serviceability standards. It applies to TAMS used in the research, development, design, construction, inspection, acceptance, operation, and maintenance of equipment and systems. Automatic Test Equipment (ATE) and Support Equipment used for qualitative and non-quantitative measurements is included in the scope of TAMS.

4. Acronyms. Acronyms are spelled out when first used and are listed in enclosure (1).

5. Definitions. Existing definitions of the terms contained in reference (h) will be used.

6. Policy. It is Chief of Naval Operations (OPNAV N4) policy to provide the organizational, intermediate, and depot maintenance levels with diagnostic capabilities to detect and isolate faults and to ensure all testing and measurement equipment used for quantitative measurements is maintained and calibrated at the lowest practical maintenance level. Specifically it is CNO policy to:

- a. Establish a centrally managed TAMS program.
- b. Require single program points of contact at subordinate commands.
- c. Require common procedural instructions at subordinate commands.
- d. Support the TAMS initiatives of the Joint Services and the Joint Logistic Commanders.
- e. Establish and maintain a research and development program.
- f. Incorporate diagnostic capability thresholds into the operational requirement document process of reference (i) and (j) early in system development and continue through deployment of the system.

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g. Include the test and evaluation of diagnostic capability in the Test and Evaluation Master Plan (TEMP) as part of the equipment/system test and evaluation in accordance with reference (a).

h. Invoke during each phase of an acquisition as appropriate the following: (1) testability requirements of reference (k) to be performed under the general guidance of reference (l); (2) Integrated Diagnostic Support System like tools; (3) calibration and measurement requirements of reference (m); and, (4) Precise Time and Time Interval (PTTI) of reference (n).

i. Utilize built-in-test, built-in-test equipment, general purpose test equipment, special purpose test equipment and/or ATE for condition monitoring, fault verification and fault isolation at each level of maintenance. The mix of equipment utilized will be established by the results of the testability and level of repair portions of the logistics support analysis process performed up-front on the system to insure the availability of adequate test, measurements and calibration capability at the lowest cost effective maintenance level.

j. Minimize the use of special purpose (peculiar) test equipment and maximize the use of commercial/non-developmental standardized (common) test equipment.

k. Ensure TAMS has adequate Integrated Logistic Support (ILS) and is accompanied by ILS planning per references (d), (i) and (o) at the time of introduction to the fleet.

l. Distribute excess TAMS to fill deficiencies before acquisition.

m. Comply with reference (p) regarding minimizing hazardous material in the TAMS program.

n. Transport TAMS from one activity to another in a manner that will not damage the equipment.

o. Utilize approved ATE per reference (a). New ATE shall not be acquired if the requirement can be satisfied by the Consolidated Automated Support System (CASS). Exceptions to the use of CASS shall require a waiver approved by the Assistant Secretary of the Navy (Research Development, and Acquisition) (ASN(RD&A)).

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p. Ensure that system and subsystems contractors use the same diagnostic capability (i.e. no special factory test equipment) that will be used under operational conditions to perform factory diagnostics for units under production. This applies specifically to ATE for field, depot, and factory testing.

q. Use the version of Common Abbreviated Test Language for All Systems (C/ATLAS), Institute of Electrical and Electronic Engineers Standard 716 applicable to the target ATE, to develop the Test Program Sets (TPSs) and the calibration procedures used with automated calibrators.

r. Utilize approved General Purpose Electronic Test Equipment (GPETE) per reference (q) and (r).

s. Utilize approved calibration standards per reference (s).

t. Resource Sponsor for the development of calibration procedures, calibration standards, calibration intervals, support equipment recommendation data or equivalent, and calibration/measurement requirements summary data or equivalent during the acquisition of TAMS or weapon systems.

u. Provide traceability of measurements to national reference standards.

v. Require that all TAMS used for quantitative measurements be calibrated.

w. Invoke reference (t) or extracts in all pertinent procurement contracts to require suppliers to establish a calibration system acceptable to the government as part of their quality program or inspection system.

x. Assign all approved calibration laboratories a unique calibration identification code.

y. Maintain a calibration laboratory and activity hierarchy within the Navy that will include as a minimum:

(1) USNO. USNO will maintain and disseminate the most accurate measurements of PTTI and provide support to lower echelon calibration laboratories.

(2) Navy Primary Standards Laboratory (NPSL). NPSL will maintain and disseminate the most accurate units of measurement

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within the Navy, except for PTTI, and provide support to lower echelon calibration laboratories.

(3) Depot laboratories (Navy Standards Laboratories (NSL's), Reference Standards laboratories (RSL's) and Naval Air Systems Command (NAVAIRSYSCOM) Navy Calibration Laboratories (NCL's)). NSL's, RSL's and NAVAIRSYSCOM NCL's will calibrate and repair calibration standards and test equipment from lower echelon calibration laboratories, fleet activities, and shore activities and obtain services from NPSL and USNO as required.

(4) Intermediate laboratories (Non-NAVAIR NCL's, Local Calibration Laboratories (LCL's) and aviation Field Calibration Activities (FCA's)). Non-NAVAIRSYSCOM NCL's and LCL's at either fleet or civilian activities and aviation FCA's will calibrate and repair test equipment and standards within their capability from lower echelon calibration activities, fleet activities and shore activities and obtain services from NPSL, USNO, and depot laboratories as required.

(5) Organizational laboratories (Non-aviation FCA's). Non-aviation FCA's will calibrate and repair test equipment from fleet and shore activities within the capability of their approved phase package and obtain services from NPSL, USNO, depot, and intermediate laboratories as required.

z. Maintain laboratory and FCA facilities in accordance with references (u), (v), (w), or (x).

aa. Perform calibration within the technical capability of the lowest cost level possible.

ab. Establish end of period reliability equal to or greater than 72 percent for TAMS.

ac. Periodically review and update the calibration intervals of Navy TAMS.

ad. Calibrate TAMS in accordance with the approved procedures and intervals specified in reference (y).

ae. Calibrate TAMS using approved standards identified in reference (s).

af. Maintain a minimum measurement accuracy ratio of 4 to 1 between the TAMS and the standards used to calibrate where technically and economically feasible.

ag. Utilize approved labels and tags to identify the calibration status of the equipment.

ah. Establish procedures to insure that calibration laboratories and FCA's are in compliance with the policies of this instruction. Laboratories and FCA's shall be reviewed at least once every three years.

ai. Utilize approved laboratories and FCA's in accordance with reference (z) and utilize trained personnel to calibrate TAMS.

aj. Operate civilian manned calibration activities as prescribed by the headquarters command.

ak. Require non-aviation fleet and shore activities to fund for the repair and calibration of their TAMS.

al. Obtain calibration services from and/or make calibration services available to other military activities or government agencies when practicable.

am. Allow Navy calibration laboratories to calibrate TAMS belonging to Navy Contractors on a cost reimbursable basis.

an. Allow use of certified commercial sources for calibration services.

ao. Maintain a training program for personnel performing calibration and repair of TAMS.

ap. Approve development and use of all information resource management systems supporting the Navy TAMS programs.

aq. Collect management and technical data required to administer the TAMS programs.

7. Actions and Responsibilities. All Navy activities requiring Navy TAMS Program services are responsible for implementing the policies and responsibilities identified in this instruction.

a. Each command involved in the Navy TAMS Program:

(1) Comply with the policies of this instruction.

(2) Assign a TAMS program single point of contact.

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(3) Issue implementing instructions as required.

(4) Submit waivers for non-standard ATE (non-CASS) to ASN(RD&A) via CNO (N43) for approval and waivers for remaining TAMS policy requirements to the Naval Sea Systems Command (NAVSEASYSKOM), NAVAIRSYSKOM, Strategic Systems Program (SSP), and Space and Naval Systems Command (SPAWAR) as appropriate.

b. Chief of Naval Operations (N4, N6, N8)

(1) Implement and monitor the TAMS program - CNO (N43)  
Lead. All CNO directives pertaining to TAMS shall be submitted to N43 for review. References (b), (c), and (d) will be reviewed by N43 and the TAMS Executive Board for impact on TAMS policy.

(2) Provide policy guidance to subordinate commands.

(3) Support and serve as resource sponsor for the TAMS required for systems and activities under their management - CNO (Deputy Chief of Naval Operations (Logistics) (N4), Director of Space and Electronic Warfare (N6) and Deputy Chief of Naval Operations (Resources, Warfare Requirements and Assessments (N8))).

(4) Serve as the resource sponsor for the lead System Command (SYSKOM) and Joint Service funding - CNO (N43) lead .

(5) Serve as resource sponsor for the Navy Research, Development and Production for ATE - CNO (N88) (Director, Air Warfare Division lead.

(6) Serve as assessment sponsor for GPETE - CNO (N43) lead.

(7) Serve as resource sponsor for the Navy Research and Development Program for Calibration Standards - CNO (N43) lead.

c. Lead SYSKOM for TAMS: COMNAVSEASYSKOM is designated as the Lead SYSKOM for TAMS. NAVSEASYSKOM will implement the Lead SYSKOM functions through a TAMS Executive Board.

d. TAMS Executive Board:

(1) Consist of senior managers from NAVAIRSYSKOM, NAVSEASYSKOM, SSP, SPAWARSYSKOM, Marine Corps Systems Command (MARCORSYSKOM), and Fleet Commanders in Chief.

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(2) Be chaired by a NAVSEASYSKOM Flag Officer or Senior Executive.

(3) Provide corporate overview and guidance for the Navy TAMS program including the policy, procedures, process, instruction, standards and guidance to procure, operate and maintain the TAMS program within CNO policy guidelines.

(4) Establish functional areas to be reviewed within the TAMS program.

(5) Establish and task TAMS working groups to review functional areas of the TAMS program for process improvements and consolidation efficiency to improve the quality of operation or reduce cost of operation.

(6) Receive and review any board, committee or steering group reports that address TAMS policy issues. Coordinate with the individual boards, committees, or groups and provide recommendations to CNO and those involved activities.

(7) Participate in all calibration reviews, decisions processes, and policy actions at the CNO level that results from any boards, committees or steering groups.

e. Commander, Marine Corps Systems Command: Is invited to provide a senior executive to TAMS Executive Board and participate as desired.

f. COMNAVAIRSYSKOM; COMNAVSEASYSKOM; DIRSSP; and, COMSPAWARSYSKOM (as TAMS program managers):

(1) Comply with subparagraph 7a of this instruction.

(2) Provide senior executives to the TAMS Executive Board.

(3) Provide technical and administrative support to the TAMS Executive Board.

(4) Coordinate Navy input to references (h), (l), (m), (q), (s), (t), (u), (v), (w), (x), (y), (z), (aa) - NAVSEASYSKOM Lead.

(5) Provide the Navy point of contact to the Joint Logistic Commander projects - NAVSEASYSKOM Lead with NAVAIRSYSKOM Lead for ATE.

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(6) Establish a program for handling hazardous materials in accordance with reference (p).

(7) Procure TAMS as required to support their systems and assign a point of contact to review TAMS excesses and redistribute TAMS among the SYSCOMS prior to procurement as appropriate.

(8) Provide guidance to acquisition managers regarding TAMS acquisition, selection and support.

(9) Approve non-standard TAMS and incorporate into references (q), (r) and (s) as appropriate.

(10) Develop and maintain adequate training programs for personnel.

(11) Maintain a database of Navy ATE which includes identification of preferred ATE - NAVAIRSYSCOM Lead.

(12) Serve as the Navy representative on the Department of Defense Automatic Test Equipment Language Standardization Committee - NAVAIRSYSCOM Lead.

(13) Coordinate the approval and the use of non-standard ATE Languages. Recommendation for approval of non-standard test languages will be forwarded to ASN(RD&A) - NAVAIRSYSCOM Lead.

(14) Establish and maintain procedures for TPS configuration management - NAVAIRSYSCOM Lead.

(15) Manage the CASS program - NAVAIRSYSCOM lead.

(16) Establish Navy procedures to approve ATE hardware and software - NAVAIRSYSCOM lead.

(17) Serve as the Navy-wide acquisition manager for GPETE - NAVSEASYSKOM Lead.

(18) Coordinate, prioritize, and submit planned 7Z GPETE requirements to NAVSEASYSKOM for procurement.

(19) Coordinate and monitor shared funding requirements for metrology support with other SYSCOMS - NAVSEASYSKOM Lead.

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(20) Serve as the Navy functional manager for the Navy calibration research and development program - NAVSEASYSKOM Lead.

(21) Approve requests for establishment and disestablishment of calibration laboratories and activities.

(22) Establish laboratory and FCA review procedures and manage cognizant laboratories and FCA's.

(23) Provide or obtain calibration services from the approved laboratories and FCA's of reference (z).

(24) Budget and fund for procurement of calibration standards and required ILS.

(25) Budget and fund for the calibration of TAMS beyond the capability of the fleet as indicated: NAVAIRSYSKOM will fund for calibration of aviation TAMS beyond the capability of the fleet and SSP will fund for calibration of Trident and Fleet Ballistic Missile (FBM) TAMS. The fleet will fund for the calibration of TAMS in support of NAVSEASYSKOM systems.

(26) Manage NPSL - NAVAIRSYSKOM Lead.

(27) Maintain a central data base facility for METCAL - NAVSEASYSKOM Lead.

(28) Manage the development and update of a calibration recall system in support of fleet activities - NAVSEASYSKOM lead for surface and subsurface activities and NAVAIRSYSKOM lead for aviation activities.

(29) Manage the development and update of a calibration recall system in support of non-aviation shore activities - NAVSEASYSKOM lead.

(30) Manage the Metrology Automated System for Uniform Recall and Reporting Automated Information System for aviation shore activities and update reference (aa) - NAVAIRSYSKOM lead.

(31) Provide TAMS inventory and calibration data to the METCAL central data base.

(32) Standardize the identification of TAMS for the Navy in Navy data bases.

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(33) Use information systems approved by CNO to report and record TAMS allowancing, configuration, and calibration transaction data.

(34) Automatically update the data bases used to record calibration transactions with the current intervals of reference (y).

(35) Ensure that all data base entries in support of TAMS match reference (y).

(36) Manage the Support Equipment Resources Management Information System (SERMIS) program - NAVAIRSYSCOM lead.

(37) Manage the Ships/Shore Portable Electrical/Electronic Test Equipment Requirements List (SPETERL) program - NAVSEA Lead.

g. Program Executive Officers, and Direct Reporting Program Managers:

(1) Comply with subparagraph 7a of this instruction.

(2) Establish the TAMS requirements for their systems.

(3) Fund for research and development efforts for TAMS used to support their systems and coordinate measurement research with the Naval Warfare Assessment Division (NWADIV).

(4) Fund for procurement of TAMS needed to support their systems. Coordinate with NAVAIRSYSCOM for aviation, NAVSEASYSKOM for fleet and shore activities, and SSP for Trident and Fleet Ballistic Missile (FBM) systems to determine TAMS deficiencies as a result of adding a new system or equipment. Follow the guidance of NAVAIRSYSCOM, NAVSEASYSKOM, SPAWARSYSCOM and SSP with respect to the procurement and selection of TAMS.

(5) Fund for logistic support of TAMS for their system to include: development of calibration procedures, development of calibration standards, establishment of calibration intervals, development of provisioning documentation, spare parts and calibration of the TAMS used to support their systems until the capability to calibrate the TAMS is provided to the appropriate Navy calibration laboratories.

(6) Submit request for the use of non-standard TAMS and TAMS software to NAVAIRSYSCOM for aviation, NAVSEASYSKOM for non-

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aviation systems and SSP for Trident systems for review and approval.

(7) Evaluate the diagnostic capability of their cognizant systems as a part of the TEMP.

(8) Establish and fund for the measurement traceability requirements for their system utilizing references (k), (m), (s) and (t). The TAMS data shall be reviewed by NAVAIRSYSCOM for aviation and NAVSEASYSYSCOM for non-aviation systems.

(9) Coordinate and fund for tasks regarding TAMS for the NWADIV and NPSL with NAVAIRSYSCOM for aviation systems, and NAVSEASYSYSCOM for non-aviation systems.

(10) Provide or obtain calibration services from the approved laboratories of reference (z).

(11) Ensure that all data base entries in support of TAMS match reference (y).

(12) Use approved information systems to report and record TAMS allowancing, configuration, and calibration transaction data.

(13) Provide TAMS data to the SERMIS and SPETERL allowance data base in accordance with NAVAIRSYSCOM and NAVSEASYSYSCOM instructions.

(14) Update the configuration and inventory data base and the calibration transaction data base of NAVAIRSYSCOM and NAVSEASYSYSCOM when TAMS is placed on aviation and non-aviation platform respectively.

h. Commander, Naval Supply Systems Command

(1) Procure TAMS in support of SYSCOM requirements.

(2) Procure or develop required ILS for TAMS in accordance with SYSCOM requirements.

i. Commanders in Chief, Type Commanders and Shore Commanders

(1) Comply with subparagraph 7a of this instruction.

(2) Submit TAMS allowance change requests to the TAMS

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allowance manager (NAVAIRSYSCOM for aviation activities, SSP for Trident and FBM activities, and NAVSEASYSYSCOM for all remaining activities).

(3) Redistribute excess TAMS and turn into supply TAMS which are excess to requirements. Aviation activities and Trident/FBM activities will follow the guidance of NAVAIRSYSCOM and SSP respectively in redistributing TAMS. Non-aviation fleet and shore activities will coordinate with NAVSEASYSYSCOM in redistributing TAMS.

(4) Fund for the calibration and repair of their TAMS, including standards, except as noted. NAVAIRSYSCOM will fund for fleet aviation TAMS calibration and repair. SSP will fund for TRIDENT and FBM TAMS calibration and repair.

(5) Provide properly trained personnel to authorized calibration activities for repair and calibration of assigned TAMS and manage assigned standards and calibration laboratories and FCA's in accordance with the policy of this instruction and guidance provided by the appropriate SYSCOM.

(6) Submit all proposals for establishment and disestablishment or major changes to laboratories and FCA's to the appropriate SYSCOM via the chain of command.

(7) Calibrate TAMS in accordance with the procedures and calibration intervals specified in reference (y) or appropriate SYSCOM policy.

(8) Periodically perform quality assurance review of their laboratories and insure that the laboratories comply with the policies of this instruction and the applicable SYSCOM instruction.

(9) Provide or obtain calibration services from the approved laboratories of reference (z).

(10) Ensure activity custodians obtain TAMS status reports as required indicating: authorized hardware and software, on hand assets, deficiencies and calibration status.

(11) Use approved Navy data systems to maintain TAMS allowance, inventory and METCAL transaction data.

(12) Inventory TAMS and report the inventory to the Navy configuration data base, i.e., the Ship Configuration and

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Logistics Support Information System for non-aviation activities, and SERMIS for aviation activities.

(13) Fund for the maintenance of TAMS allowances except as noted. NAVAIRSYSCOM will fund for the allowances for aviation activities. SSP will fund for the allowances for Trident and FBM activities. NAVSEASYSYSCOM will fund for allowances for fleet activities except aviation, Trident and FBM activities.

(14) Budget and fund for TAMS (Including standards) required to support their mission except as noted. NAVAIRSYSCOM will fund for procurement of calibration standards for all NAVAIRSYSCOM activities. SSP will fund for all TAMS applicable to Trident and FBM Strategic Weapons Systems for all fleet and shore activities except Field Calibration Activity standards and those special support standards required for support of NAVSEASYSYSCOM and SPAWARSYSCOM special purpose test equipment. NAVSEASYSYSCOM will fund for procurement of TAMS for fleet activities except aviation, Trident and FBM activities.

j. Chief, Bureau of Medicine and Surgery

(1) Comply with subparagraph 7a of this instruction.

(2) Fund for and maintain TAMS allowances.

(3) Budget and fund for the TAMS (including standards) required to support their mission.

(4) Fund for the calibration and repair of their TAMS, including standards.

(5) Provide properly trained personnel to authorized calibration activities for repair and calibration of assigned TAMS and manage assigned standards and calibration laboratories and FCA's in accordance with the policy of this instruction.

(6) Submit all proposals for establishment and disestablishment or major changes to laboratories to the lead SYSCOM.

(7) Calibrate TAMS in accordance with the procedures and calibration intervals specified in reference (y).

(8) Periodically perform quality assurance review of their laboratories and insure that the laboratories comply with the policies of this instruction.

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(9) Provide or obtain calibration services from the approved laboratories of reference (z).

(10) Utilize approved Navy data systems to maintain TAMS inventory, and METCAL transactions.

(11) Perform TAMS inventories and report the inventory to the Navy configuration data base.

k. Commanding Officer, Naval Warfare Assessment Division:

(1) Serve as scientific and technical authority for the Navy METCAL Program by serving as the METCAL technical authority to the Navy's acquisition and logistics managers to help ensure that the Navy's measurement capability and calibration standards are properly planned, implemented, and supported.

(2) Provide centralized direction and coordination to advance the state-of-the-art in metrology and calibration to keep pace with advancements in weapons and test equipment technology and measurement requirements as tasked by the appropriate SYSCOM or program office.

(3) Approve calibration procedures and documentation for use at all Navy laboratories and FCA's.

(4) Establish and adjust calibration intervals for Navy TAMS and calibration standards.

(5) Develop and maintain Navy calibration capability and environmental requirements, references (u), (v), (w), and (x) for laboratories and FCA's. NAVAIRSYSCOM, NAVSEASYSYSCOM, SSP and MARCORSYSYSCOM shall approve the documents prior to release.

(6) Represent the Navy on the Joint Technical Coordination Group - Calibration and Measurement Technology as designated by the lead SYSCOM.

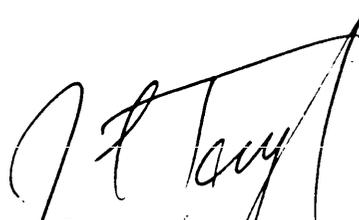
(7) Assign and maintain Navy laboratory codes and maintain reference (z)

(8) Approve specifications for calibration labels and tags.

(9) Maintain the Navy Calibration Equipment List - reference(s) and the Metrology Requirements list - reference (y).

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(10) Develop and evaluate calibration standards specifications and standards as tasked by SYSCOMs and program offices.



**JAMES L. TAYLOR**  
By direction

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LIST OF ACRONYMS

ASN(RD&A)	Assistant Secretary of the Navy (Research, Development, and Acquisition)
ATE	Automatic Test Equipment
CASS	Consolidated Automatic Support System
C/ATLAS	Common Abbreviated Test Language for All Systems
CNO	Chief of Naval Operations
FCA	Field Calibration Activity
FBM	Fleet Ballistic Missile
GPETE	General Purpose Electronic Test Equipment
ILS	Integrated Logistics Support
LCL	Local Calibration Laboratory
MARCORSYSCOM	Marine Corps Systems Command
METCAL	Metrology and Calibration
NAVAIRSYSCOM	Naval Air Systems Command
NAVSEASYSCOM	Naval Sea Systems Command
NCL	Navy Calibration Laboratory
NPSL	Navy Primary Standards Laboratory
NSL	Navy Standards Laboratory
PTTI	Precise Time and Time Interval
RSL	Reference Standards Laboratory
SERMIS	Support Equipment Resources Management Information System
SPAWARSYSCOM	Space and Naval Warfare Systems Command
SPETERL	Ships Portable Electrical/Electronic Test Equipment Requirements List
SSP	Strategic Systems Programs
SYSCOM	Systems Command
TAMS	Test and Monitoring Systems
TEMP	Test and Evaluation Master Plan
TPS	Test Program Set
USNO	United States Naval Observatory