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13 August 2002

Maintenance Center, Albany
Marine Corps Logistics Base, Albany, GA 31704-0325

MCA QUALITY PROCEDURE

CODE 883

CONTROL OF INSPECTION, MEASURING, & TEST EQUIPMENT

SIGNATURE/APPROVAL

The signature and date below indicates approval of this procedure for implementation at the Maintenance Center, Albany.

(Trent Blalock Signature on File for)

S. H. FOREMAN

Commander, Maintenance Center, Albany

13 August 2002

DATE

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Code 883**

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DOCUMENT HISTORY LOG

Status (Baseline/ Revision/ Canceled)	Document Revision	Effective Date	Description
Draft		07 Dec 98	This was Baseline; however, marked Draft
Revision	1	11 Jun 99	Rewrite to clarify ambiguity in original Draft Version
Revision	A, Change 1	24 Aug 99	Add Business Department to Actionee Column for paragraph 4.1.9.2, page 25 of 29
Revision	B	08 Feb 00	CAR QS-99-006-40 dtd 15 Nov 99
Revision	C	30 June 00	Chgs due to Management Working Group
Revision	D	24 Oct 00	Revised second sentence of para. 4.2.7.1.2 IAW Change Form No. 101800001 dtd 18 Oct 00.
Revision	E	12 Dec 00	Revised para 4.2.7 due to Change Form No. 120100001. Revised entire document in response to AMC-016.
Revision	F	21 Sept 01	a) Para 2, page 3, deleted NAVAIR-FR062, replaced with NAVAIR 17-35FR-06 and took out the words Calibration and Shore Based in sentence; b) Corrected grammatical wording of last sentence of para 4.1.1; c) Revised second sentence of para 4.2.1.4; d) Revised first sentence of para 4.2.3.1.2; e) Added Information Technology (IT) after Production Management in first sentence of para 4.2.3.1.5.1; f) Revised first sentence of para 4.2.3.1.5.2; g) Deleted Trades Department and added IT as Actionee under para 4.2.3.1.5.3 and rewrote sentence; h) Revised para 4.2.3.1.6 (a) and para 4.2.3.1.6(b). i) Para 4.2.3.1.8(e) deleted Director and Operations Manager and inserted Commander and Deputy Commander; j) Para 4.2.3.3 deleted Director and Operations Manager and inserted Commander and Deputy Commander; k) Inserted NAVAIR 17-35FR-06 in place of NAVAIR-FR062 in para 4.2.5.1; l) Rewrote second sentence in para 4.2.5.2; m) Added second sentence to para 4.2.5.3; n) Revised para 4.2.5.4; o) Rewrote 4 th section of para 4.2.7.1; p) Rewrote 2 nd sentence of para 4.2.7.1.1; q) Deleted 2 nd sentence of para 4.2.7.1.2; r) Deleted para 4.2.8 through 4.2.10.1; s) Annual review conducted this date; t) Revised format of para. 7; u) In response to CAR's QS-01-098 & QS-00-052
Revision	G	26 Feb 02	Transition from ISO 9002:1994 to 9001:2000
Revision	H	13 Aug 02	Added USMC TI-4733-35/24 to Paragraph 2.

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CONTROL OF INSPECTION, MEASURING & TEST EQUIPMENT

1. SCOPE.

1.1 Scope. This Maintenance Center, Albany (MCA) Quality Procedure (MQP) is to define the method and responsibilities for the control of Inspection, Measuring, and Test Equipment hereinafter called Test, Measurement, and Diagnostic Equipment (TMDE), at MCA to meet the requirements of the MCA Quality Manual (MCQM).

1.2 Purpose. The purpose of this MQP document is to establish a comprehensive calibration and metrology program that provides for the management of standards, TMDE and test software in a controlled process.

1.3 Applicability. This MSP is applicable to all MCA organizations and to all on-site contractors performing work under the MCQM or this MSP.

2. APPLICABLE DOCUMENTS.

MCQM1000	Maintenance Centers Quality Manual
BO 10510.18	Policy and Responsibility for Test, Measurement, and Diagnostic Equipment (TMDE)
BO 4733.1	Marine Corps Test, Measurement, and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
BO 5101.9	RADIAC Instruments Calibration Program
IEEE/EIA 12207.0	IEEE Standard for Industry Implementation of ISO/IEC 12207: Standard for Information technology – Software Life Cycle Processes
IEEE/EIA 12207.1	Guide for ISO/IEC 12207, Standard for Information Technology – Software Life Cycle Processes – Life Cycle Data
IEEE/EIA 12207.2	Guide for ISO/IEC 12207, Standard for Information Technology – Software Life Cycle Processes – Implementation Considerations
MCO 10510.18	Marine Corps Policy and Responsibility for Test, Measurement, and Diagnostic Equipment (TMDE)
MCO 4733.1	Marine Corps Test, Measurement, and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
NAVAIR 17-35FR-06	Facility Requirements for Navy Calibration Laboratories
SC-6625/2	Electronic Test and Measuring Equipment Support Concept.
METPROCD	Navy Metrology products
SS POD 62477	Department of Defense Metrology Information and Document Automation System (DoDMIDAS)
TI-4700-15/1	Ground Equipment Records

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TI-4733-15/1	Calibration Requirements, Test, Measurement, and Diagnostic Equipment
TI-4733-15/2	Sliding Calibration Interval Program, Measurement, and Diagnostic Equipment
TI-4733-15/3	Initiating Action for Retirement of Unstable and Unreliable TMDE
TI-4733-15/6,	Test, Measurement, and Diagnostic Equipment Calibration and Maintenance Support
TI 4733-15/9	RADIAC Calibration Requirements
TI-4733-15/10	Special Calibration of Torque Wrenches
TI-4733-15/21	Survey Instrument Calibration Program (SICP)
TI-4733-35/8	Marine Corps Standards Program
TI-4733-35/23	Navy and Marine Corps Calibration Laboratory Audit/Certification Manual
TI-4733-35/24	United States Marine Corps Metrology Calibration Quality Program

See MCA ISO WEB page for applicable documents.

3. DEFINITIONS.

See MCA-QP5500 Appendix A for definitions

4. PROCEDURE

4.1 General.

4.1.1 Inspection, Measurement, and Test Validity/Accuracy. It shall be the policy of the MCA that no inspection, measurement, and/or tests will be made of any product and/or production process using Test Measurement Diagnostic Equipment (TMDE) that is not in a “current” calibrated status and has a valid and completed calibration label, tag, and/or sticker affixed. This shall also include any TMDE that is used to monitor, inspect, measure, and/or test environmental conditions or parameters, and/or machine/equipment operations for the purpose of safety and/or prevention of damage to equipment. The control of TMDE shall also include the process to ensure that the environment, the methods, and the techniques used to inspect, measure, and/or test any product and/or production process in the MCA achieves the requisite accuracies and that the results of any such inspection, measurement, and/or tests lie within the allowable limits of uncertainty specified. This shall include monitoring of environmental parameters in the areas in which inspection, measurement, and tests are being performed to ensure the validity of the inspection, measurement, and/or test being performed and the stipulated accuracies of the TMDE being used. Minimal time allowances for stabilization of materials due to environmental induced variations shall also be identified and included in the conditions for inspection, measurement, and tests of products and/or productions processes.

4.1.2 Calibration Program. The Trades Department Manager shall ensure that all items of TMDE in the MCA used for qualitative and/or quantitative measurements are calibrated and ensure the trace ability of all calibrations back to nationally and/or internationally recognized standards. The Trades Department Manager shall maintain the necessary capability to calibrate, and/or have calibrated by a third party, all TMDE in the MCA. The Trades Department Manager shall ensure that the facility used to conduct calibrations meets all requisite requirements. The Trades Department Manager shall maintain a comprehensive and accurate compilation of the requisite measurement

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capability in the MCA Metrology Laboratory and as required for calibration of all TMDE in the MCA. The Trades Department Manager shall also ensure, by appropriate records, audits, etc., that sources outside the MCA providing calibration support meet all stated requirements of this procedure and MCO 4733.1.

4.1.3 CAMP Coordinator. The Trades Department Manager shall provide for a TMDE Calibration and Maintenance Program (CAMP) Coordinator who shall provide the singular point of control for all TMDE in the MCA. This shall not include the items of TMDE used by the Metrology Laboratory as calibration standards. The CAMP Coordinator shall maintain custody of all unissued TMDE in an inactive "Ready for Use Pool". The CAMP Coordinator will provide for the pickup, replacement, and issue of all TMDE when due for calibration. The CAMP Coordinator shall provide for timely development and coordination of the Calibration Recall Roster. All TMDE, except for calibration standards, shall be maintained on special sub-account in the Consolidated Memorandum of Receipt (CMR), controlled and issued by the CAMP Coordinator by use of individual hand receipt, or other appropriate accountability records.

4.2 Control Procedures. Control procedures for all TMDE shall be as follows for each of the categories/requirements listed.

4.2.1 Measurement Accuracy. Engineering and technical analysis shall be conducted of all inspections, measurements, and tests conducted on products and/or as part of production processes to determine the appropriate TMDE to be used and to ensure that it is capable of the necessary accuracy and precision. Applicable Standards, Technical Manuals, Engineering Process Instructions, etc., will be used as appropriate to determine the methods, procedures, accuracies, and TMDE required. This analysis shall also include consideration of the acceptable upper and lower environmental limits. It shall provide for a determination of the environmental limits which will not void the accuracy of the measurement and/or test to be made or the inherent accuracy of the TMDE to be used.

<u>Actionee</u>	<u>Action</u>
Program Management Department	4.2.1.1 Identify the methods to be used in inspection, measurement, and test procedures for all products and processes when not provided by the customer's SOW.
Engineering Department	4.2.1.2 Upon request, determine and document the "allowable range of uncertainty" for the inspection, measurement, and/or test of all products and/or production processes in the MCA. Upon request, determine the appropriate Test Accuracy Ratio (TAR) for all inspections, measurements, and/or tests to be made of any products and/or production processes in the MCA.
All Departments	4.2.1.3 Ensure the TMDE used for inspection, measurement, and/or tests of all products and/or production processes in the MCA has the accuracy to meet the "allowable range of uncertainty". 4.2.1.4 Ensure that personnel using TMDE are properly trained in the operation and use of the TMDE. 4.2.1.5 Ensure that personnel using TMDE perform the periodic Preventive Maintenance (PM) actions applicable for that piece of TMDE.
Program Management Department	4.2.1.6 Ensure during the SOW review, the instructions and directions provided to personnel clearly include information about the accuracy requirements of the TMDE to be used

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4.2.2 Calibration Verification, Intervals, and Recall.

<u>Actionee</u>	<u>Action</u>
All Departments	4.2.2.1 Ensure that any item of TMDE that is not calibrated and/or does not have a valid calibration tag, label, and/or sticker is immediately removed from service and surrendered to the CAMP Coordinator.
Trades Department	4.2.2.2 Ensure all TMDE used for inspection, measurement, and/or tests is calibrated using standards with trace ability to nationally and/or internationally recognized standards. Ensure that all TMDE submitted for calibration is calibrated using approved procedures.
	Ensure the development of a Local Calibration Procedure (LCP) IAW MCA-QI-7600-EL0005. Establish process for the calibration of an item of TMDE if no standards exists having a known valid relationship to nationally and/or internationally recognized standards. Ensure that the basis used for calibration is fully documented.

4.2.3 Calibration Process.

<u>Actionee</u>	<u>Action</u>
Trades Department	4.2.3.1 Provide for operation of a cohesive TMDE Calibration And Measurement Program (CAMP) that is compliant with all applicable directives, technical instructions, standards, and this procedure.
	4.2.3.2 Provide for a systematic and controlled process of ensuring all TMDE is calibrated and recalibrated at prescribed intervals. The process shall include the following basic actions/functions.
	4.2.3.2.1 Determine items due for Calibration in advance of the required recalibration date.
	4.2.3.2.2 Ensure exchange/replacement items are on-hand by exchange/pick-up date or preparations and coordination have been made to minimize impact on production schedules if no exchange/replacement items exist.
	4.2.3.2.3 Notify users in advance of the exchange/pickup and coordinate the pickup and exchange as required to avoid or minimize the impact on the Cost Work Center (CWC) production processes
All Departments	4.2.3.2.4 . Ensure that all TMDE to be turned in to the CAMP Coordinator has had all of the applicable PM actions properly performed. Any TMDE not properly PM'd will be RED tagged and returned to the customer by CAMP Coordinator
Trades Department	4.2.3.2.5 CAMP Coordinator will recall, pickup, deliver, receive, and exchange TMDE with the user.
	4.2.3.2.6 CAMP Coordinator will update LABMATE files/records as to location and

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status of TMDE as appropriate.

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| Production Management | 4.2.3.2.7 | The CAMP personnel will deliver TMDE to the Shop Floor Control Team.(SFC). |
| Production Management | 4.2.3.2.8 | SFC Team will receipt/enter information on item of TMDE into LABMATE as required. |
| Production Management | 4.2.3.2.9 | SFC Team will schedule the TMDE into the Metrology Laboratory for Calibration and/or repair as required. |
| Trades Department | 4.2.3.2.10 | <p>The Metrology Laboratory will:</p> <ul style="list-style-type: none"> a. Calibrate and repair the TMDE as required. b. Enter all pertinent data related to the calibration of the item of TMDE into LABMATE. c. Notify the CAMP Coordinator and lab supervisor immediately via e-mail if an item of TMDE is found to be out of tolerance. This will include function, range, and extent of deviation from allowable limits, as well as all item identification information. |
| | 4.2.3.2.10.1 | The CAMP Coordinator will notify Quality Office, Program Management, Production Management, Information Technology (IT), the last user, Engineering, and Electronics Branch Manager of the item of TMDE found out of tolerance via e-mail. This notification will include type of TMDE, function, range, and extent of deviation from allowable limits, and the last User of the TMDE and the last User’s CWC. |
| | 4.2.3.2.11 | <p>The Metrology Laboratory will:</p> <ul style="list-style-type: none"> a. Review the Item’s Calibration and Maintenance History to determine if the item of TMDE was historically unstable or unreliable. b. If reliability/stability is not a problem item will be repaired/calibrated if possible and placed back into service. c. If found to be to be unstable/unreliable a “Cost Estimate” will be prepared, for non Maintenance Center Customers, and recommendations provided for appropriate disposition or actions, and forwarded to Program Management to use in development of Letters of Unserviceable Property. d. Affix appropriate reject stickers and tags if the item of TMDE is unserviceable and/or uneconomical to repair. If item is part of CAMP Complete discrepancy report and forward as appropriate. If item is from external customer complete Cost Estimate and discrepancy report and forward as appropriate. |

NOTE: Except for CAMP TMDE, the Metrology Laboratory will retain custody of all TMDE found to be unreliable, unstable, and/or unserviceable until appropriate disposition directions are provided. CAMP TMDE will be

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returned to the CAMP Coordinator for final disposition.

Business Department	4.2.3.2.11.1	When the Quality Office is notified that an item of TMDE is found to be out of tolerance during calibration, they will make an immediate assessment and determine need to reinspect/retest products. Based on the determination, appropriate action will be initiated to recall, rework, and/or reinspect/retest as required
IT Department	4.2.3.2.11.2	If necessary, the Quality Office will request that IT pull MRP II information to identify all items for recall. The MRP II information will include all work order operations performed by the employee(s) for that period of time.
Engineering Department	4.2.3.2.11.3	Evaluate out of tolerance conditions versus process/product requirement and make recommendations to Quality Office on the need to reinspect and/or retest products.
Production Management Department	4.2.3.2.11.4	Initiate actions as necessary to suspend processing and hold affected product(s) until directed by the Quality Office.
	4.2.3.2.11.5	Reschedule for rework, reinspection, remeasurement, and/or retesting as required.
Trades Department	4.2.3.2.12	The Metrology Laboratory will: <ul style="list-style-type: none"> a. Print Certificate of Calibration or Discrepancy Report, as appropriate, and affix proper calibration label, tag, and/or sticker. b. Return item of TMDE with certificate of calibration to the appropriate "outgoing" shelf/area.
Production Management	4.2.3.2.13	SFC Team will: <ul style="list-style-type: none"> a. Pick up item from "outgoing" shelf in Metrology Laboratory area with certificate of calibration. b. Notify CAMP Coordinator that item of TMDE is ready for pickup. c. Bill/ship and close out item in LABMATE. d. Ensure proper handling, transportation, and storage of items of TMDE while in SFC Team's possession and/or control.
Trades Department	4.2.3.2.14	CAMP Coordinator will: <ul style="list-style-type: none"> a. Pick up item of TMDE and certificate of calibration from the SFC Team and enter new location into LABMATE and ensure proper transportation, handling, and storage of the item of TMDE. b. Enter/update information in LABMATE on status and location of item of TMDE. c. Reissue/store the TMDE.

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d. Retain the certificate of calibration until the item of TMDE is removed from service. The certificates shall be maintained in the CAMP office.

e. Establish process to ensure during the first week of every month the CAMP Coordinator provides a report on the status of all TMDE in the MCA to the Maintenance Center Commander, Maintenance Center Deputy Commander and all Maintenance Center Department Heads.

Trades/ Engineering Departments	4.2.3.3	Establish process IAW applicable directives for the procurement or reprourement of TMDE. The process shall be based on the actions/functions as follows.
All Departments	4.2.3.3.1	Identify requirements for new TMDE. Submit all requirements to CAMP Coordinator. Ensure requirements include information and data about inspections, measurements, and/or tests to be made using the item of TMDE. Also, include relative environmental limits and any known accuracy requirements.
Trades Department	4.2.3.3.2	Head of Trades Department will submit budgetary requirements for new and/or replacement TMDE valued at less than \$100,000 each to the Business Department. Also include listing of required TMDE by type, measurement category, process/product to be used for, and costs per item.
	4.2.3.3.3	For items of TMDE valued at greater than \$100,000, submit requirements to the Engineering Department under the Capital Purchase Program (CPP).
	4.2.3.3.4	Prepare specifications and/or salient characteristics for new and/or replacement TMDE. Submit with requisition/procurement request, to the Engineering Department, IAW normal procedures.
Engineering Department	4.2.3.3.5	Procure TMDE using specifications and/or salient characteristics provided
Trades Department	4.2.3.3.6	Receive and forward procured TMDE to CAMP Coordinator via the MCA Property Office. The CAMP Coordinator will submit each new item of TMDE for calibration before placing the item in service.
Production Management Department	4.2.3.3.7	Induct new TMDE into LABMATE and submit item for calibration
Trades Department	4.2.3.4	Establish process to ensure during the first week of every month the CAMP Coordinator provides a report on the status of all TMDE in the MCA to the Maintenance Center Commander, Maintenance Center Deputy Commander, and all Maintenance Center Department Heads.

4.2.4 Calibration Labels and Tags. Ensure calibration tags and labels are affixed to the items of TMDE in accordance with directives and technical instructions.

Actionee

Action

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All Departments 4.2.4.1 Personnel assigned to the Metrology Laboratory shall affix, complete, and/or remove calibration stickers, labels, and tags. The exceptions shall be:

a. The Trades Department Cost Work Center Supervisors may red tag a piece of calibration equipment and take it out of service and return it to the CAMP Office.

b. For items of TMDE which are to be inactivated, but are still within their calibration interval, that the CAMP Coordinator has requested Inactive or Calibration Not Required (CNR) labels from the Metrology Laboratory. These labels shall be affixed and/or removed by the CAMP Coordinator.

Trades Department 4.2.4.2 Ensure calibration labels, tags, and/or stickers are affixed to items of TMDE IAW directives and technical instructions

4.2.5 Environmental Conditions.

Actionee

Action

Trades Department	4.2.5.1	The Electronics Branch Manager establishes methods and procedures to ensure that environmental conditions in all areas where calibration of TMDE is being performed are monitored for compliance with NAVAIR 17-35FR-06.
	4.2.5.2	The Electronics Branch Manager ensures that charts and graphs recording the environmental conditions during the calibration of TMDE are annotated with start date, time, measurement are (i.e. ECU, Physical/Dimensional., etc) and any notes pertaining to environmental extremes documented on the charts. If the area is equipped with a data logger, annotations are not necessary due to all charts and graphs being electronically captured, downloaded, and retained on disks. The Branch Manager will also ensure that Quality and Engineering are notified when environmental conditions exceed the limitations.
	4.2.5.3	Once a week, the Electronics Branch Manager or designated representative, will replace all Thermo Humidigraph charts within the calibration laboratory. If an electronic data logger is in use, data will be downloaded to a 3 1/2" floppy disk on the last day of the month; and the data logger will be reset to capture the following month's data.
	4.2.5.4	The Electronics Branch Manager will ensure completed charts, graphs, and floppy disks from environmental monitors for calibration area are submitted to the Configuration/Data Management Office for retention in accordance with MCA-QP4230..

4.2.6 TMDE Handling, Preservation, & Storage. To ensure that the handling, preservation, and storage of TMDE is such that the accuracy and fitness for use are maintained, the MCA shall provide for handling, preservation, and storage of TMDE.

Actionee

Action

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Production Management	4.2.6.1	Establish process to provide proper techniques and methods for transportation, handling, preservation, and storage of TMDE.
All Departments	4.2.6.2	Handle, store, preserve, and transport TMDE in accordance with proper procedures and practices.

4.2.7 Test Software. To ensure that test software used in the MCA for test and/or inspection is capable of verifying the acceptability of product prior to release for use, during production, installation, or servicing, and is rechecked at prescribed intervals. MCA developed and/or Modified Commercial Off-The-Shelf (M-COTS) test software shall, at a minimum, have and maintain documentation for structured development and life cycle management, and support of test software that identifies and clearly and accurately depicts the information and data necessary for complete and comprehensive support during all life cycle phases. The MCA shall use the following Marine Corps directives and DoD approved standards as guidelines for development and Life Cycle Management. Any test software which controls the operation of any item of TMDE, and/or Automated Test Systems (ATS), and/or collects or conditions data from a point of measurement to the point of use, shall be procured, developed, and/or managed in accordance with the following, except for off-the-shelf software that is provided by outside agencies. To ensure that test software used in the MCA for test and/or inspection is capable of, and remains capable of, verifying the acceptability of products and/or production processes prior to the test software's release for use, during production, installation, or servicing and that the test software is rechecked at prescribed intervals, the following actions will be taken by the designated actionee.

NOTE: These procedures are not applicable to any software used for the calibration of TMDE and/or provided for the control of calibration standards. This software is controlled and managed through Marine Corps directives, instructions, and procedures under the MCO 4733.1.

<u>Actionee</u>	<u>Action</u>
Trades Department	4.2.7.1 Establish process IAW directives and standards for development and life cycle management and support of any test software to be developed and/or modified by the MCA for inspection, measuring, and tests.
	4.2.7.2 Establish process IAW directives and standards for the procurement and life cycle management and support of all test software procured by the MCA for inspection, measurement, and tests.
	4.2.7.3 Ensure full and complete verification and validation IAW standards for all test software which is undergoing or just completed development, modification, and/or procurement for use in the MCA. Appropriate verification and validation plans and test procedures shall be prepared and approved by the Trades Department Manager. The Quality Office shall function as the customers designated representative for verification and validation of test software procured, developed, and/or modified by the MCA. All test results will be fully documented. Ensure that not less than annually, all test software that is capable of being converted and stored in CD format is revalidated IAW MCA-QI7600-EL0014. Antiquated media that cannot be converted to CD format will be exempt from annual verification and will be revalidated at time of use, IAW MCA-QP7600-EL0014. This shall be separate from the initial verification and validation process done on newly developed and/or procured software and shall be for the purpose of ensuring that the software logic and algorithms have not been altered without having gone through the proper processes. The test

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plan and procedures shall be approved by the Trades Department Manager. The test plan and test procedures shall be fully documented and controlled. The test plan and procedures shall ensure that the test software is still capable of verifying the acceptability of the supported product and/or production process. The test plans and procedures shall also include verification/audit of supporting documentation to ensure that all changes to test software have been properly documented and recorded.

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| 4.2.7.3.1 | Ensure upon successful completion of test software verification and validation, three duplicates of the software will be created which are submitted to the C/DM. All versions of software will be archived indefinitely until authorized for destruction by the calibration laboratory |
| Business Department | 4.2.7.3.2 Ensure the Master and Archive are stored separately at remote sites to ensure survival of one or the other in catastrophic events such as fire, etc.. |
| Trades Department | 4.2.7.3.3 Ensure that the working copy will be released to the Trades Department as required for restoration of the software on the Test Systems. |
| 4.2.7.3.4 | Establish process to ensure that the Working copy will be properly stored and handled. Ensure that no alterations are made to the Working copy without following the established process for change and/or modification for test software. Ensure that the Working copy is used following proper process for restoration of the software on the Test Systems. Also ensure that no other copies of the software are created and/or maintained. |

4.3 Inspection, Measuring, and Test Equipment Records. The MCA shall maintain records for all inspection, measuring, and test equipment.

4.3.1 Calibration Recall Records. To ensure that items of TMDE are recalibrated at prescribed intervals, “calibration recall records” shall be maintained in LABMATE.

Actionee

Action

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| Trades Department | 4.3.1.1 Ensure that any item of TMDE used for inspection, measuring, and testing in the MCA is recalibrated at prescribed intervals. |
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4.3.2 Calibration History Records. Ensure that credible evidence of proper and timely calibration of all items of TMDE used for inspection, measurement, and tests of products and/or production processes exists, the MCA shall maintain “calibration history records” for each items of TMDE in LABMATE.

Actionee

Action

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| Information
Technology
Department | 4.3.2.1 Ensure that all calibration history and management data is backed up daily, weekly, monthly, as is necessary to ensure no loss of data due to equipment failure or inadvertent corruption of the data base. |
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4.4 Metrology Laboratory Operations. The Metrology Laboratory will ensure that all TMDE are calibrated against certified standards having a known valid relationship to internationally and/or nationally recognized standards.

Actionee

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Trades Department 4.4.1 Ensure the Metrology Laboratory in the MCA is operated in compliance with the MCQM and all applicable Marine Corps directives, instructions, and standards.

4.5 Outside Repair/Calibration Laboratory.

Actionee

Action

Trades Department 4.5.1 Identify and recommend vendors that comply with Quality Standards. Requests copy of Outside Calibration Laboratory certification. Conduct appropriate inspections and tests and prepare TMDE for shipment as appropriate.

Production Management 4.5.2 Package and ensure transportation of TMDE in accordance with shipping/handling directives. Deliver TMDE to carrier in accordance with directives on proper handling/shipping of TMDE.

Trades Department 4.5.3 When TMDE is returned from Outside Calibration Laboratory, perform applicable actions in 4.2.3 preceding. These actions will include receipt inspections, and entering of applicable data and/or information into LABMATE and return of the TMDE, with certificate of calibration, to the CAMP Coordinator via the SFC Team

5. NOTES. None.

6. DATA, FORMS, AND REPORTS. None

7. QUALITY RECORDS.

7.1 Quality Records will be retained in accordance with MCA-QI4230-BN4000. The Quality Records required by other procedures referenced herein are not included here. The Quality Records required by this procedure are as follows:

7.1.1 Calibration Records to include all calibration data entered into LABMATE.

7.1.2 Certificate of Calibration.

7.1.3 "Traceability" Records.

NOTE: The above quality documents are maintained in the LABMATE database. NOTE: LABMATE Calibration Management Software is commercial computer software licensed for use by the Government from Norfox Software Inc.. LABMATE is a Quality Record System within itself that maintains current and historical data and documents and traces all changes made within the system. LABMATE generates various reports and certificates based on the data entered and as such these reports and certificates are not required to be maintained in C/DM. LABMATE as a Quality Record system will be maintained by the Metrology Laboratory

7.1.4 "Calibration Records from Outside Calibration Laboratory". These documents are maintained in accordance with MCA-QI7600-EL0010.

7.1.5 "Disposition Tag". These quality documents are applied in accordance with MCA-QI8240-BN0030.

CHECK THE MASTER LIST – VERIFY THAT THIS IS THE CORRECT VERSION BEFORE USE

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7.1.6 Environmental monitor charts and graphs with appropriate annotations. These quality documents are maintained in accordance with MCA-QI7600-EL0044.

7.1.7 Test Software Verifications. These quality documents are maintained in accordance with MCA-QI7600-EL0014.

7.2 All other operational software such as COMPASS Contract will be maintained and controlled by Maintenance Center Albany IT Department.

8. FLOW DIAGRAM. Not Applicable to this document.