

<b>MMC Metrology Lab, Inc.</b>	<b>Approved By: William Marcum, President</b>
<b>Policy Statement: MMC-9</b>	<b>Release Date: 29 December 2003</b>
<b>Title: Distributor / Supplier Quality System</b>	<b>Revision: 37</b>

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**1.0 Scope:** This policy statement establishes the administrative and operational procedures necessary to ensure that instruments / products supplied to customers meet all contractual requirements, including product conformance to drawings and specifications, and the completion of specified inspections and tests. To the extent of any inconsistency between the purchase contract or its general provisions and this policy statement the purchase contract shall control.

1.1 *Applicability.* This policy statement applies to all instruments / products supplied by MMC Metrology Lab when performing in its capacity as a manufacturer's distributor, whether presented as a value added instrument or distributed directly as finished product.

**2.0 Purpose:** This policy statement documents and establishes a quality system depicting the technical aspects of procurement, processing and sale of finished product that will meet the requirements of contract or purchase order specifications. It assures adequate quality throughout all areas of contract performance, including value added enhancement, document processing, inspection, test, packaging, shipping and storage.

2.1 *Policy References.* The procedures delineated in this policy statement are developed from the requirements contained in MIL-I-45208A, Inspection System Requirements, and MIL-Q-9858A, Quality Program Requirements, and are consistent with the requirements of NAVSEA Standard Item 009-04 and the quality system models ISO 9000 and ANSI/ASQC 9000 series.

### **3.0 Management:**

3.1 *Organization.* The management organization as it applies to the distributor / supplier function of MMC Metrology Lab, Inc. is generally described in Section 4 of this Quality Manual. More specific descriptions of responsibility as they pertain to pertinent personnel are contained in the following paragraphs.

3.1.1 *Quality Manager.* In addition to responsibilities delineated in Section 4, paragraph 4.2.2 of this Quality Manual the Quality Manager is also responsible for the overall test and inspection system for product provided to customers. These responsibilities include all required in-house inspection and testing, and the review of all test and inspection documentation provided by the manufacturer to support contract requirements. Additionally, he shall maintain current all pertinent Military Specifications, Standard Items and other reference documents.

3.1.2 *Contracting Officer.* In addition to responsibilities delineated in Section 4, paragraph 4.2.4 of this Quality Manual the Contracting Officer shall also be responsible for the review of all customer purchase orders, contracts, contract modifications and contract amendments to determine applicable specifications, federal regulations and unique requirements such as required delivery date, packaging and method of shipping. He shall, in conjunction with the Purchasing Officer, ensure that the order placed with the manufacturer reflects the invoked

### 3.1 Organization. (Continued)

3.1.2 (Continued) requirements of the customer's purchase order or contract. Additionally, he shall be responsible for the review of all customer Requests for Quote (RFQ) or Solicitations, ensuring any unique product requirements are addressed prior to the issuance or refusal (no bid) of any price and delivery quotation or proposal.

3.1.3 *Quality Engineer.* The Quality Engineer shall report to the Quality Manager in matters pertaining to the technical aspects of product quality requirements. He provides for manufacturer liaison in areas that require unique customer quality documentation and evidentiary, including Government Source Inspection. He shall also be responsible for assessing the customer's and client's quality requirements contained in their Request for Quotation (RFQ) or contract solicitation, and for advising the Contracting Officer of these specific additional contractual obligations.

3.1.3.1 Authorized Signatory. The Quality Engineer has signature authority of all technical related quality matters not specifically authorized to the Quality Manager, including but not limited to product Certificates of Identity, Certification Data Sheets, signature receipt of unclassified / unrestricted drawings and procedures, and test / inspection witness affidavits.

3.1.4 *Technical Consultant.* The Technical Consultant shall report to the Contracting Officer and provides information and technical support for Government contracts, associated testing requirements, and procurement history. Additionally, he reviews and analyzes usage rates, recommends contract procedures for future contracts and monitors contract activities.

3.1.5 *Purchasing Officer.* In addition to responsibilities delineated in Section 4, paragraph 4.2.6 of this Quality Manual the Purchasing Officer shall also be responsible for the coordination and application of special packaging, labeling, bar coding, RFID and shipping methods consistent with customer requirements and applicable regulations.

3.1.6 *Product Representative.* Each manufacturer for which MMC Metrology Lab, Inc. distributes product is assigned a Product Representative. The Product Representative shall be responsible for all aspects of technical support for associated products and shall act as liaison with the manufacturer in all technical matters. Responsibilities include but are not limited to; (1) the development of product test and inspection criteria, (2) the conduct and documentation of required tests and inspections, and (3) maintaining a file of current manufacturer drawings and associated specifications. Additionally, the Product Representative shall oversee all value added enhancements for associated products, such as scale changes, calibrated range adjustments, custom colors, and mounting / hardware kit assembly, etc. The Product Representative shall also be responsible for documenting all product deficiencies and for coordinating product deficiency correction both in-house and with the manufacturer.

### 3.2 Organization Chart:

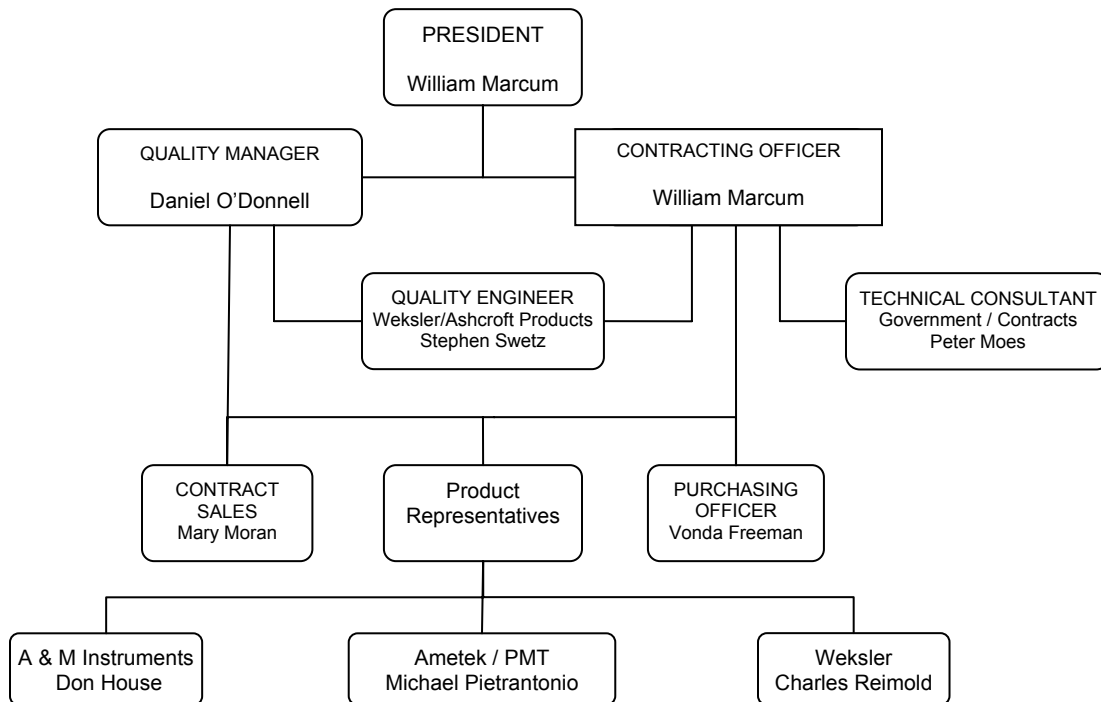


Figure 3.2-1. ORGANIZATION FLOW CHART.

**3.3 Quality Planning.** Initial quality planning as it pertains to the distributor / supplier system of MMC Metrology Lab shall commence when receiving a solicitation or request for quotation for new product. A complete review of the customer's requirements, including all attachments, addendums and amendments shall be accomplished at all levels involved prior to any official response. Particular attention shall be given to any specification requiring deviation from standard product configuration. Additionally, supplemental testing, cleaning, manufacturing procedure approvals and packaging methods are also requirements that dictate planning prior to responding to solicitation. This initial review shall be the responsibility of the Contracting Officer but is generally accomplished with the assistance of personnel as depicted in the product-specific sections of this policy statement.

**3.4 Order Processing Overview.** Requests for quotation, solicitations, and proposals as well as purchase orders and contracts shall be processed in accordance with a standard processing procedure. A standardized procedure shall permit a traceable path through the various functional areas of the internal order processing system and shall make available the information necessary to initiate appropriate planning and action at each level.

**3.4.1 Contract Sales.** Contract sales shall be conducted in such a manner so as to permit the reconstruction of any event involved in the ordering process. All documentation relating to each sales order shall be retained and filed in the associated Job File, including any technical data, procedure approvals and all customer communications. Telephone communication with buyers or other customer representatives shall be documented for record purposes.

**3.4.1.1 Solicitations and Requests for Quotation.** Solicitations or Requests for Quotation (RFQ)



### 3.4 Order Processing Overview. (Continued)

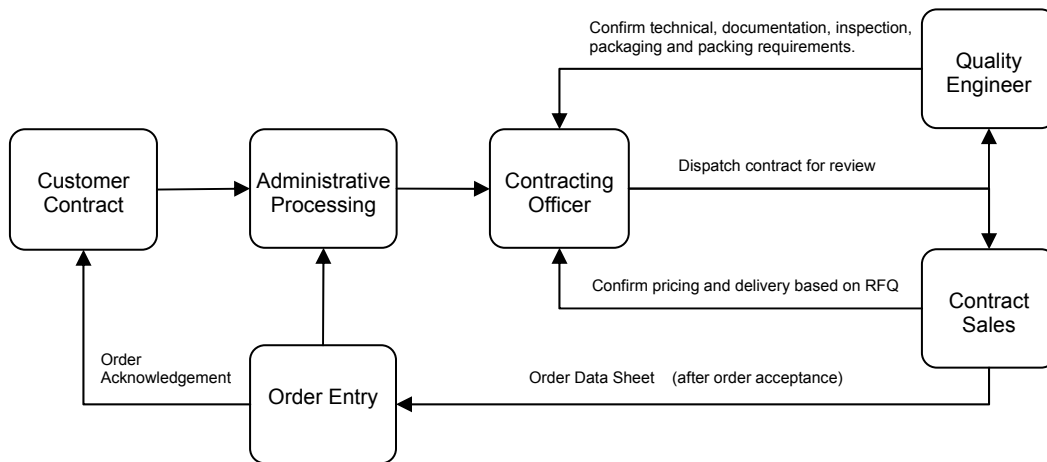


Figure 3.4-2. ORDER PROCESSING FLOW CHART

3.4.1.4 *Contract Sales Oversight.* Because of the complex nature that generally involves custom manufacturing and supplemental inspection requirements; contract sales shall be subjected to continual oversight. The Quality Manager shall have the overall responsibility for providing the customer the correct product with proper documentation, however, each functional level of the contract sales processing system shall ensure compliance to contractual and specification requirements.

3.4.2 *Over the Counter - Direct Sales.* Over the counter or direct sales are those transactions that are basically conducted utilizing any sales methods other than written purchase orders or sales contracts. Over the counter purchases generally involve purchases of stock inventory product or product that is ordered by part number and considered standard by the manufacturer. These type sales are generally funded by credit card or an open account with approved credit and shall be governed by standard business practice.

3.5 *Costs Related to Quality.* Quality cost data is used as a management element in the distributor / supplier quality system. These data identifies the cost of both the prevention and correction of nonconforming product, including labor for test, inspection and deficiency documentation, return shipping to manufacturer, and related customer expenses. This cost data is monitored at all levels of management and is used to develop sampling inspection rates, product processing procedures and the necessary level of interaction with the product manufacturer. Cost data although not specifically documented is derived from associated documentation contained in the Job File, including test reports, shipping documents, deficiency reports, return authorizations, and records of communication with manufacturer or customer.

## 4.0 Facilities:

4.1 *Product Storage and Handling.* All product provided to customers shall be stored or warehoused as determined by its status in the procurement process. At all times during product processing adequate protection shall be afforded so as not to damage or otherwise diminish product quality.

## 4.1 Product Storage and Handling. (Continued)

4.1.1 *Security.* When product is stored, long term or temporary, it shall be located in predetermined areas based on its status. All product storage areas are locked or are within the boundaries of a locked area when not manned. Keys to storage areas are maintained in the key lock box located at the front desk in the main office.

4.1.2 *Product Identification.* All new products regardless of storage location or status shall be labeled. This label shall be affixed by the manufacturer or by MMC Metrology Lab personnel during the receiving process, and as a minimum will depict product part number / catalog number, generic description and range / size. The labeling of product shall enable its positive identification without its removal from the packaging.

4.1.2.1 *Value Added Accessories and Parts.* All value added accessories and parts shall be stored where practicable and labeled individually or by bin with the manufacturer's part number or other readily identifiable marking system.

4.1.3 *Controlled Material.* Products requiring special handling and controls to preserve traceability and quality evidence, such as heat or lot numbers shall be segregated from other products. They shall be readily identifiable and stored in limited access areas having the necessary environmental controls so as not to compromise product integrity. Copies of traceability and other pertinent identification documentation shall be kept with the product at all times.

4.1.3.1 *Age Controlled Materials.* MMC Metrology Lab does not supply products that contain age controlled or shelf life limited materials or components that have expiration dates.

4.1.4 *Accommodation and Environment.* All storage areas utilized for new product regardless of status shall be environmentally controlled. In so much as possible the temperature shall be maintained within the range of 60° to 85°F, and the humidity within 20% to 60%RH. Long term storage facilities shall be such that product will be stored above floor level and on shelving of sufficient construction to support product weight and stacking requirements. Good housekeeping practices shall be employed at all times and trash shall not be permitted to accumulate.

4.1.4.1 *Hazardous Materials.* MMC Metrology Lab does not supply or service products containing mercury, asbestos, PCBs or cadmium plating, nor are any such materials present in storage or production facilities. Flammable liquids or other such hazardous materials shall not be stored in locations designated for long term storage. These type products shall be stored in designated areas in approved lockers designed for such use.

4.1.5 *Temporary Storage.* Temporary storage of new product is determined by its status in the procurement process. Product shall be segregated and grouped by order / job number and appropriately labeled.

4.1.5.1 *Awaiting Service.* All new product awaiting service, regardless if for calibration, sample inspection or value added enhancement, shall be appropriately labeled and temporarily stored in the incoming work area of the associated service facility. Upon completion of the required service the product is delivered to (1) long term storage for stock product or customer warehousing, (2) the packaging area for product requiring shipping, or (3) the outgoing product area for product that will be directly accepted by the customer.

## 4.1 Product Storage and Handling. (Continued)

4.1.5.2 *Awaiting Packaging.* All products being processed for shipping shall be temporarily stored in the packaging area. The product shall be individually labeled as required by contract, segregated and grouped by job / order number and accompanied with all the documentation required by the customer. Upon packaging the product utilizing methods and materials required by contract specification or industry standards and affixing the necessary shipping labels, the product shipping container is then delivered to the awaiting shipment storage area.

4.1.5.3 *Awaiting Shipment.* All products awaiting shipment shall be temporarily stored at the front desk area in the main office. These products are ready in all respects for shipping company acceptance and are stored to facilitate ease of access and loading.

4.1.5.4 *Awaiting Pick-up.* All new products that were purchased and will be directly accepted by the customer shall be temporarily stored in the outgoing product area. The product shall be appropriately labeled and be accompanied with all customer required documentation. Transfer of product custody is accomplished in accordance with procedures contained in Policy Statement MMC-1 of this Quality Manual. The outgoing product area is adjacent to the front desk area in the main office.

4.1.6. *Preparation for Delivery.* Product preservation and packaging shall be sufficient to afford adequate protection against corrosion, deterioration and physical damage during shipment from MMC Metrology Lab, Inc. facilities to the using activity.

4.1.6.1 *Packing.* Packing shall be accomplished in a manner which will insure acceptance by common carrier or any contractually specified means of transport and will afford protection against physical and environmental damage. Shipping containers and packing methods shall be consistent with industry standards or contractual requirements when invoked.

4.1.6.2 *Marking.* Shipment information shall be provided on exterior shipping containers in accordance with the requirements of the carrier being utilized. Special marking of interior or exterior containers, including bar codes, RFIDs, contract or order numbers, and product identification, shall be as specified by contract or purchase order.

4.2 *Test, Measurement and Diagnostic Equipment.* Appropriate test, measurement and diagnostic equipment (TMDE) shall be maintained as necessary to ensure that in-house inspection and testing of new product provided to customers conform to all technical contract requirements. The TMDE used in the inspection and testing process shall be of sufficient accuracy, generally four times as accurate as product specification, to assure adequacy of test. All TMDE shall be calibrated at established intervals in accordance with ANSI/NCSS Z540-1 and NAVSEA 04-4734 as specified by the procedures contained in this Quality Manual. Additionally if required, the TMDE utilized in the inspection process along with appropriately trained personnel will be made available to customer Quality Assurance Representatives for purposes of determining product conformance with contract or purchase order requirements.

4.2.1 *Production Tooling.* MMC Metrology Lab does not use production tooling such as jigs, fixtures, tooling masters, templates or patterns as a media of inspection.

4.3 *Test and Inspection Facilities.* Facilities used for the testing and inspection of new product are the same as provided for the associated calibration areas. The characteristics of calibration

### **4.3 Test and Inspection Facilities. (Continued)**

4.3 (Continued) area facilities are discussed in detail in Section 7.0 of this Quality Manual.

### **5.0 Inspection Methods and Procedures.**

#### *5.1 Documentation, Records and Corrective Action.*

*5.1.1 Inspection and Testing Documentation.* Inspection and testing shall be conducted in accordance with applicable Military Specification, manufacturer's build specification, contract specification, instrument calibration procedure or other pertinent inspection / test criteria invoked by contract, purchase order or as determined by a sampling plan. This inspection and / or testing may be accomplished and documented by the original equipment manufacturer or by in-house inspectors during sampling inspection, quality conformance inspection, contracted new product calibration or completion of a value added enhancement.

*5.1.2 Records.* Records documenting all contract or purchase order required inspections and tests are provided to the customer as specified by contract or at time of delivery. Copies of such records are also filed in the Job File, which is maintained in the front office for one year and then archived. Inspection and test records are also made available to customer Quality Assurance Representatives prior to acceptance of product provided by contract or purchase order.

*5.1.2.1 Sample Inspection.* Sample inspection documentation shall be accomplished utilizing a Sample Inspection Log. The Sample Inspection Log is maintained by the Product Representative and its format is depicted in Enclosure (3) of this policy statement. Successful completion of a sample inspection shall be so indicated in the log data sheet and a "tested" label (see 5.12.3) shall be affixed to the product and its packaging. An unsatisfactory sample inspection shall result in; (1) a Quality Deficiency Report being filed, (2) a Nonconforming Product label (see 5.12.3) being affixed to the product packaging and (3) a subsequent corrective action to be initiated.

*5.1.2.2 Calibration.* Calibrations of new product accomplished as a requirement of contract or purchase order shall be documented on a Certificate of Calibration and also recorded as an inspection in the Sample Inspection Log. This data shall be included in trend analysis when developing sample inspection plans.

*5.1.3 Document Corrections and Additions.* Inspection and test reports required by contract or otherwise required to substantiate product conformance are considered Objective Quality Evidence (OQE). There shall be no corrections or additions to reports of this nature unless accomplished by the entity originating the document. If corrections or additions are considered excessive, a new report shall be required.

*5.1.3.1 Corrections.* All corrections to OQE shall be made by drawing a single line through the incorrect entry, enter the correct data, and initial and date the transaction. There shall be no erasures, "white-out" or other type obliteration of data utilized. There shall be no corrections of any type permitted to MMC Metrology Lab, Inc. Certificates of Calibration.

*5.1.3.2 Additions.* Adding data to a report after initial issue shall be accomplished by annotating the original in a manner so as not to add confusion or misunderstanding of content. All data added to a report shall be identified by the word "added", initialed and dated in the margin of the

## 5.1 Documentation, Records and Corrective Action. (Continued)

5.1.3.2 (Continued) report. When additional pages are deemed necessary, the original report shall be annotated to indicate the number of additional pages and each added page shall reference the original report and be signed by an authorized signatory. Normally, corrections requiring additional pages are considered excessive and necessitate a new report.

5.1.4 *Corrective Action*. Prompt and effective action shall be taken to correct deficient conditions which have resulted in or could result in providing product to customers which do not conform to (1) the quality assurance provisions of the contract or purchase order specifications, (2) tests and inspections required by the contract or purchase order, and / or (3) other inspections and tests required to substantiate product conformance. These deficient conditions whether design, purchasing, manufacturing, testing or any other related operation shall be addressed at whatever level necessary to affect resolution. Corrective action shall extend to the performance of manufacturers as well and shall be responsive to customer or end-user input. Corrective action shall be based on (1) analysis of inspection data of nonconforming product to determine extent and cause, whether performed during in-house processes or as a result of customer / end-user return, (2) analysis of trends in product line performance or the performance of manufacturers to prevent nonconforming product, and (3) the introduction of required improvements and corrections, an initial evaluation of adequacy of such measures and monitoring of the effectiveness of action taken.

5.1.4.1 *Manufacturer Deficiencies*. Deficient conditions or nonconforming new product discovered during in-house inspection and / or calibration prior to delivery to the customer shall be brought to the immediate attention of the Product Representative for resolution. Nonconforming product shall be so labeled (see 5.12.3) and a product Quality Deficiency Report, Enclosure (1), shall be completed and filed. The Quality Deficiency Report (QDR) shall be assigned a sequential number by the Product Representative and maintained on file for a period of two years.

5.1.4.2 *Customer Feedback*. A report of deficient new product, verbal or written, from a customer subsequent to product delivery shall be documented and resolved utilizing procedures contained in Policy Statement MMC-2, Customer Complaints. If the product is to be returned to MMC Metrology Lab, Inc. for deficiency resolution or investigation, a sequential Return Material Authorization (RMA) number shall be assigned the transaction and the customer directed to return the product utilizing collect shipping procedures. The Return Material Authorization log shall be maintained by the Product Representative.

5.2 *Inspection Provisions*. All inspections and tests required by contract or purchase order will be conducted as specified in so much as practicable. In the rare instance where alternative inspection procedures or alternative inspection equipment become necessary, a written description of the proposed inspection or demonstration of alternative equipment shall be presented to the customer's Quality Assurance Representative for approval. If the customer's Quality Assurance Representative considers the alternative procedures less effective than the originally specified procedures, the contractual specification shall apply.

5.2.1 *Inspection Accessibility*. Products, procedures and workmanship forming part of an order are available for inspection by authorized representatives of the purchasing customer when such requirement is included in the order or contract. This inspection shall be on premises only during normal work hours and shall be coordinated with the Quality Manager.

**5.3 Authorized Inspectors.** Personnel whose demonstrated training level is sufficient to be considered qualified by calibration area supervisors and the Technical Supervisor to perform calibrations and repair service on associated instruments are also authorized to perform as quality inspector in areas for which they are qualified. Personnel training records are maintained in accordance with procedures contained in this Quality Manual. A listing of authorized quality inspectors and their areas of qualification are provided in Enclosure (2).

**5.4 Process Controls.** Process control procedures when applicable are addressed in the product-specific sections of this policy statement.

**5.5 Indication of Inspection Status.** All products procured with the intent of providing such product to a customer or client shall be subject to receiving and sampling inspections. These inspections are applicable to products procured for both direct sale and stock inventory, and are further addressed in the product-specific sections of this policy statement.

**5.5.1 New Receipts.** All product received from the manufacturer and not yet inspected shall remain in the original shipping containers, grouped by purchase order lot and tagged with a copy of the manufacturer's packing list. Receiving inspection of products shall commence as soon as practicable (see 5.11) and shall be considered complete when the lot's attached manufacturer's packing list is dated and annotated by the inspector as "accepted". All products procured for stock inventory shall be subjected to product-specific receiving procedures prior to being placed in inventory storage. All products procured for direct sale shall be grouped by order, identified with a Material Control Tag / Job History Card and subjected to inspection as required by contract or the product-specific sections of this policy statement.

**5.5.2 Technical Inspection.** When the product-specific sampling plan dictates, a technical sampling inspection shall be conducted to assure specification conformance as directed by the Product Representative. Indicating the successful completion of a technical sampling inspection shall be accomplished by affixing an "Inspected" label (see 5.12.3) to the product and its packaging. This label shall be annotated with the date and initials of the technician who performed the inspection. Identification of a product not conforming to the requirements of the physical / documentation inspection or the technical sampling inspection shall be accomplished by affixing a "Nonconforming Product" label (see 5.12.3). Nonconforming product will be handled in accordance with the product-specific sections of this policy statement.

**5.5.3 Customer Source Inspection.** Material designated for source inspection at the time of purchase shall be labeled as such when received from the manufacturer. The Quality Manager or his representative shall assemble the test and inspection documentation required by contract and labels all products that require inspection as Source Inspection Material. This label shall indicate the customer's purchase order number, line item and part number. All products requiring source inspection (100%) shall be subjected to technical testing utilizing procedures contained in this manual. If contractually required a calibration label shall be affixed to each item. If calibration is not contractually required, an inspected label shall be affixed. Upon completion of technical testing all Source Inspection Material shall be re-packaged and placed in secure temporary storage designated for this purpose pending customer inspection.

**5.5.4 Conditional Release Material.** Products may require additional product testing, inspection, evaluation or software approvals after the product has been delivered to the customer or client, such as shock and vibration testing or First Article Testing. Product preparation in these instances shall be similar to that of Source Inspection Material and shall be the responsibility of the Quality Manager. In all cases post-delivery testing and evaluation shall be included in the purchase contract and funded by the customer. Product acceptance criteria shall be reviewed and approved by the Contracting Officer prior to acceptance of the contract.

**5.6 Government-furnished Material.** Government-furnished material is not used in the production or fabrication of the products that we provide to customers.

**5.6.1 Program Material.** A customer may request material that has been identified for a future government or non-government application to be "set aside" until it is required to support the application. By negotiated agreement, MMC Metrology Lab, Inc. will reserve / store that material until an order is issued. In that regard all products "set aside" for a specific application shall be subjected to receiving and sampling inspections, segregated from normal stock and labeled with the associated application and customer name. This Program Material shall be stored in an environmentally controlled, secure location and used for no purpose other than intended unless specifically requested by the customer.

**5.7 Proprietary and Controlled Technical Data.** Proprietary or controlled technical data is provided by the customer / client or any agency associated with the product application when required for preparing quotations or proposals in response to customer / client solicitations. In all cases proprietary and controlled technical data shall be afforded the appropriate level of protection required by the originator of the data. If a customer / client's solicitation requires protection of technical data beyond the scope of normal and prudent business privacy practice, then the procedures provided in this policy statement shall be utilized. If sufficient levels of protection are not specifically addressed herein, then the solicitation shall be returned without bid. In this regard the Contracting Officer may generate a letter-of-intent for approval of the President to establish the necessary data security required by the customer / client and if the proposed changes are accepted by the customer / client, then such changes shall be implemented and documented as a change to this policy statement.

**5.7.1 Proprietary Commercial and Department of Defense (DoD) Export-Controlled Technical Data.** Customer / client commercial and DoD export-controlled technical data generally will be in hard copy format and will consist of technical drawings or specifications depicting product parameters and capabilities. This information shall be used for the sole purpose of preparation of a quotation or proposal to provide a product for which MMC Metrology Lab, Inc. is a distributor or representative.

**5.7.1.1 Control and Access.** Proprietary and controlled data will be identified by an appropriate warning label affixed by the customer / client or their agent denoting authorized distribution and a controlling organization. Access to this information, physical or visual, shall be limited to company employees that possess "need-to-know" credentials in order to perform their assigned tasks in the procurement process. These documents shall not be reproduced or transmitted outside the company unless specifically authorized by the customer / client. It shall be assumed that all limited distribution data is to be returned in its entirety to the originating customer / client unless specifically authorized in writing for retention or disposal. Any unauthorized release or loss shall be reported to the originating customer / client as soon as practicable. Any Freedom of Information Act (FOIA) request received shall be referred to the originating customer / client for resolution.

**5.7.1.2 Custody.** Custody of commercial proprietary information associated with a customer / client's solicitation shall be assumed by the employee responsible for preparing the quotation or proposal. If signature custody is required at time of proprietary data delivery, then signature custody shall be obtained when the data is returned. Custody of DoD export-controlled technical data shall be in accordance with procedures provided in section 5.7.2 of this policy statement.

**5.7.1.3 Storage.** Storage of commercial proprietary data shall be such that access, physical or

## 5.7 Proprietary and Controlled Technical Data. (Continued)

5.7.1.3 (Continued) visual, is limited to those employees who possess a valid need-to-know. This data when for retention shall be stored / filed with other customer specific related procurement data in the access controlled laboratory service area or "job file" archives. Storage of DoD export-controlled technical data shall be in accordance with procedures provided in section 5.7.2 of this policy statement.

5.7.1.4 *Disposal.* When disposal of commercial proprietary technical data is directed by the originating customer / client, it shall be accomplished by shredding the document to a shredded width of two inches maximum. Shredded documents maybe be disposed of by recycling or otherwise discarded. Disposal of DoD export-controlled technical data shall be in accordance with procedures provided in section 5.7.2 of this policy statement.

5.7.2. *Naval Nuclear Propulsion Information (NNPI).* Naval Nuclear Propulsion Information (NNPI) is considered DoD export-controlled technical data and is defined as all information, classified or unclassified, concerning the design, arrangement, development, manufacture, testing, operation, administration, training, maintenance and repair of the propulsion plants of naval nuclear-powered ships and prototypes, including the associated shipboard and shore-based nuclear support facilities. Handling of this information may be required when processing or procuring product in support of the ship building or ship repair industry. A client or customer's solicitation for bid or purchase contract will stipulate that access to NNPI will be associated with a specific procurement action. MMC Metrology Lab, Inc. shall maintain active registration and Defense Logistics Agency certification as a qualified supplier under the U.S./Canada Joint Certification Program to facilitate access to this export-controlled DoD technical data. Generally, this data will be in a hard copy format and will consist of technical drawings or specifications depicting product parameters and capabilities. It shall be used for the sole purpose of assisting in the preparation of a quotation or proposal by identifying the specific characteristics and capabilities of a product for which MMC Metrology Lab, Inc. is an authorized distributor or representative. All NNPI and DoD export-controlled technical data shall be safeguarded in accordance with this policy statement.

5.7.2.1 *Control and Access.* The NNPI and other DoD export-controlled technical data may be hand-delivered by the client or customer, delivered by the U.S. Postal Service or other common carrier in an unmarked enclosure, or transmitted by facsimile if deemed appropriate by the originator. Identification of NNPI will be apparent by the specific distribution statement "Warning" applied to the data. The following shall not be permitted access to NNPI without written approval of the client or customer; (1) any person or entity outside the United States, (2) any foreign national not specifically working on the procurement action, (3) any foreign organization, (4) any international organization or, (5) any foreign government. For the purpose of this policy statement the term United States means the States, the District of Columbia, Puerto Rico, American Samoa, the Virgin Islands, Guam and any areas subject to the complete sovereignty of the United States.

5.7.2.2 The NNPI shall not be transmitted outside the company, unless such transmittal complies with the detailed guidance provided as part of the originating client or customer's proposal instructions. Additionally, NNPI documents shall not be copied or otherwise reproduced unless done in conformance with the detailed guidance provided by the originating client or customer's proposal instructions. It shall be assumed that all NNPI documents are to be returned in their entirety to the originating client or customer following preparation and final

## 5.7 Proprietary and Controlled Technical Data. (Continued)

5.7.2.2 (Continued) disposition of the quotation or bid proposal unless specifically authorized for disposal or retention. If signature custody was required by the originating client or customer, signature custody receipt shall be obtained when and if the NNPI is returned. Any unauthorized release or loss of positive control of NNPI shall be reported to the originating client or customer as soon as practicable. Any Freedom of Information Act (FOIA) requests received by MMC Metrology Lab, Inc. shall be referred to the NNPI originator for resolution.

5.7.2.3 *Custody.* Primary custodian of NNPI shall be the Contract / Government Sales Representative. The Contracting Officer and the Quality Manager are designated alternate custodians and will perform as such only on an interim basis until such time as custody may be transferred to the primary custodian. Access to NNPI, visual or physical, shall be limited by the custodian to those individuals who have a specific "Need-to-Know" to perform their function in the procurement process.

5.7.2.4 *Storage.* Storage of NNPI shall be the responsibility of the custodian. Storage shall be facilitated by locked container with access limited to those individuals that possess "Need-to-Know" credentials in all procurement actions, specifically the Contracting Officer, the Quality Manager and the Purchasing Officer. A documented inventory of storage container contents shall be maintained current at all times by the custodian. This inventory document shall be located within the storage container and will reflect all NNPI access and usage transactions, its format shall be such that it will enable a NNPI document history that covers the period from receipt to final disposition. At no time shall NNPI be left unattended or otherwise be made available for access (visual or physical) to unauthorized personnel or entities.

5.7.2.5 *Disposal.* When disposal of unclassified documents containing NNPI is directed by the originating client / customer, it shall be accomplished by shredding the document to a shredded width of 2 inches maximum. Additionally, in the unlikely event that product was procured for the Naval Nuclear Propulsion Program but was not delivered for whatever reason to the client / customer, it shall be purged of all NNPI prior to disposal. Components or markings which may reveal a nuclear propulsion plant application that must be removed or obliterated from the product include: nameplate data, stock number, Special Material Identification Code (SMIC), tags, stickers or dial markings. The final disposition of product after being purged of NNPI shall be determined by the Product Representative.

5.8 *Nonconforming Product.* Product not conforming to specification regardless of deficiency will be labeled as such (see 5.12.3) and segregated from conforming product until the deficiency is resolved or final disposition determined. The label shall be affixed to the product or its packaging so as to be readily visible and will depict the job or order number, initials of person determining the nonconformance, reason for nonconformance and the date. A Quality Deficiency Report (QDR) shall be initiated and disposition of the nonconforming product will be handled in accordance with product-specific sections of this policy statement.

5.9 *Qualified Products.* Products included on a Military Specification - Qualified Product List (QPL) are handled the same as any other product that is provided to customers. These products are subject to the same inspection, test and / or calibration in order to assure their conformance to contract or purchase order requirements.

5.10 *Purchasing Data.* To assure required specifications and applicable quality criteria are

## 5.10 Purchasing Data. (Continued)

5.10 (Continued) supported, all applicable requirements shall be included or referenced in purchase orders for products provided to the government directly or for products that will ultimately apply to a government contract. The purchase order shall contain a complete description of the product ordered including a reference part number and any additional information considered essential by the manufacturer to enable product identification for the purposes of applying the necessary requirements for manufacturing, inspecting, testing, packaging, and allowing for required government inspection, qualification or approval. Supplemental information shall also be included when special services are required of the manufacturer to meet customer contract or purchase order specifications, including custom scales, dials, product marking and packaging. Purchase orders, contracts, contract modifications, contract amendments, and other related documents shall be filed in the Job File and made available for customer / client review.

5.11 *Receiving Inspection.* New product shall be subject to inspection upon receipt to the extent necessary to assure conformance to contract and technical requirements. The receipt inspection process shall be a two step procedure consisting of a physical / documentation inspection and a subsequent technical inspection based on the product sampling plan. The physical / documentation inspection is conducted by the purchasing department and entails; (1) a visual inspection of the shipping container(s) looking for any sign of damage, improper packaging or improper handling during shipping; and (2) a comparison of the packing slip data to that of the associated purchase order and a review of any required manufacturer certificates of conformance and / or test documentation. Shipping damage will be brought to the attention of delivery personnel and resolved utilizing procedures required by the transporting agency. Discrepancies between packing list data and purchase order requirements or other required documentation shall be immediately addressed with the manufacturer and resolved to assure customer contract or purchase order specification. Technical inspection of products will be accomplished in accordance with product-specific sections of this policy statement.

5.11.1 *Source Inspection Material.* When new product is received which is subject to customer source inspection, it shall be directed to the Quality Manager or his representative for receipt physical / documentation inspection and preparation of the Inspection Data Package based on purchase order or contract requirements.

5.11.1.1 *Inspection Data Package.* The Quality Manager or his representative shall ensure all required test and inspection reports have been received and are correct. All report pages and additional required documentation shall then be assembled into an Inspection Data Package and labeled with the customer's purchase order number; line item number and material part number. A copy of the Inspection Data Package shall be retained in the Job File and the original presented at the time of source inspection.

5.11.1.2 *Technical Inspection.* The Quality Manager or his representative shall visually inspect the product to ensure each item is consistent with purchase order or contract requirements. He shall then deliver the product to the appropriate Product Representative for technical inspection. The technical inspection shall consist of performing and documenting a Sample Inspection in accordance with the product-specific sections of this policy statement. The Sampling Plan shall be 100% of product. Additionally, a Certificate of Calibration with measured data shall be completed and entered in the Job File for each item regardless of contractual requirements.

5.12 *Sampling Plan and Inspection.* Sampling inspections shall be conducted as determined by the product sampling plan. The sampling plan is developed by each Product Representative based on historical product performance data and shall provide for valid product confidence and quality levels. Sampling plans are addressed in the product-specific sections of this policy statement.

5.12.1 *Documentation.* Upon satisfactory completion of a sampling inspection the product and its packaging will be labeled as such. This label will depict "Inspected" status (see 5.12.3) with the initials of the technician performing the inspection and the date. The completion of a sample inspection that is considered unsatisfactory shall result in; (1) the product being labeled as a "Nonconforming Product" (see 5.12.3), (2) a Quality Deficiency Report (QDR) to be initiated and (3) the entire inspection lot (100%) to be subjected to sample inspection procedures. The technical inspection of products shall be conducted in accordance with product-specific sections of this policy statement.

5.12.2 *Inspection Lot.* An inspection lot consists of all product of the same category having the same range, style, configuration and size that is received by MMC Metrology Lab, Inc. at the same time and under the same contract or order.

5.12.3 *Labels.*

NONCONFORMING  
PRODUCT LABEL

MMC METROLOGY LAB  
**NONCONFORMING  
PRODUCT**  
Reason: \_\_\_\_\_  
By: \_\_\_\_\_ Date: \_\_\_\_\_  
Job No. \_\_\_\_\_

INSPECTED  
LABEL



MMC METROLOGY LAB  
By \_\_\_\_\_ Date \_\_\_\_\_  
Job \_\_\_\_\_ ID \_\_\_\_\_  
QUALITY INSPECTED

5.13 *Order Processing Inspection.* The order processing inspection shall be conducted by the technician preparing the product for customer delivery. This inspection shall be applicable to orders being filled from stock inventory and those being filled by finished product received from the manufacturer for direct sale. This inspection shall not apply to orders for product that require calibration or for product that require value added enhancements, as the processing inspection requirements are fulfilled when accomplishing these tasks. The order processing inspection shall consist of two parts. The initial part of the inspection is a visual investigation of 100% of the product being delivered. The visual inspection shall detect any physical anomalies and verify product identification data are as required by the order, i.e. part number, model number, stock number, etc. The second part of the order processing inspection shall consist of a technical inspection that is accomplished in accordance with the product-specific Sampling Plan. The order processing inspection shall be documented as a Sample Inspection utilizing the applicable Sample Inspection Log Data Sheet.

5.14 *Mercury Contamination Inspection.* The mercury contamination inspection shall be performed when mercury-free certification is contractually required and the new product being purchased is from manufacturers that do not routinely supply mercury-free product certification.

## **5.14 Mercury Contamination Inspection. (Continued)**

5.14 (Continued) The mercury contamination inspection shall be conducted by a qualified technician and documented in accordance with MMC Metrology Lab, Process Control Procedure, MMC-202.

5.14.1 *Mercury-Free Certification.* Mercury-free hardware as defined by NAVSEAINST 5100.3D is hardware that does not contain functional mercury and is not contaminated by mercury or mercury compounds. Functional mercury is defined as mercury or mercury compounds contained in equipment that is required for the equipment to operate properly. MMC Metrology Lab, Inc. does not supply or service products that contain functional mercury. A mercury-free statement shall be included in the MMC Metrology Lab's Certificate of Compliance for products certified by the Original Equipment Manufacturer (OEM) to be mercury-free. Additionally, when contractually required, a mercury-free statement shall be included in the Certificate of Compliance for products supplied from manufacturers that normally do not certify mercury-free when such products satisfactorily meet the mercury contamination free criteria of MMC Metrology Lab, Process Control Procedure, MMC-202.

## **6.0 AMETEK - PMT Products Procedures.**

6.1 *General.* MMC Metrology Lab, Inc. distributes products manufactured by the PMT Products Division of AMETEK. The primary product line that is represented consists of pressure transducers that meet the requirements of MIL-P-24212C, MIL-D-24304B and MIL-T-24742 specifications. MMC Metrology Lab, Inc. is a factory authorized repair center, sole stocking distributor and is authorized to perform value added product enhancements.

6.2 *Procurement Data.* Product from this manufacturer is procured by manufacturer's part number and product description on an electronically transmitted (facsimile) purchase order. At the time of order a Certificate of Compliance with mercury free statement and the Mil Spec required QPL test data sheets are requested for each item.

6.3 *Receiving Procedures.* In addition to the arrival physical / documentation receipt inspection the receiving process for this product shall consist of a visual inspection of the entire lot to detect any product anomaly and a verification / comparison of product identification with associated manufacturer certificate of compliance and QPL test documentation. The accepted product shall be individually packaged along with its technical manual and mating electrical connector and subsequently labeled with the manufacturer's part number, government designation, serial number and pressure range. The product shall be calibrated if contractually required or sample inspected if required by the sampling plan and either placed in stock inventory or processed for delivery under purchase contract or order.

6.4 *Sampling Inspection.* The sampling inspection shall consist of two parts. The initial part of the inspection is a visual investigation of the product. The visual inspection shall; (1) detect any physical anomalies utilizing manufacturer drawings and applicable specifications, and (2) confirm product identification data are correct and appropriate, i.e. part number, model number, stock number, etc. as required by contract or purchase order. The second part of the sampling inspection shall consist of a technical inspection performed by accomplishing the instrument calibration procedure in accordance with the provisions of this Quality Manual. The sampling inspection shall be documented utilizing the applicable Sample Inspection Log Data Sheet.

## 6.0 AMETEK - PMT Products Procedures. (Continued)

6.5 *Sampling Plan.* The sampling inspection and test plan that has been developed for this product line which will produce an acceptable level of product confidence and quality has been determined to be 5% (1 in 20) of the inspection lot (minimum of one).

6.5.1 *Inspection Lot.* An inspection lot shall consist of all transducers having the same range, style and configuration that are received at the same time and under the same order or contract.

6.6 *Documentation.* Documentation of a sampling inspection shall be accomplished by the technician completing the applicable sections of the product Sample Inspection Log Data Sheet depicted in Enclosure (3). A separate data sheet is utilized for each MMC job number or purchase order. A successfully completed sample inspection will be indicated by an "Inspected" label affixed to the product and its packaging. An unsatisfactory sampling inspection shall be documented on a product Quality Deficiency Report (QDR) and a Nonconforming Product label shall be affixed to the product until such time as the deficiency is resolved. Documentation of a contractually required calibration shall be accomplished by completing a Certificate of Calibration in accordance with procedures contained in this Quality Manual and shall also be recorded in the Sample Inspection Log for trend analysis data collection purposes. All job related documentation shall be included in the Job File.

6.7 *Value Added Enhancement.* Value added enhancements generally consist of calibrated range adjustment and electrical connector replacement. These enhancements are provided to meet customer requirements.

6.7.1 *Final Acceptance Test.* A final acceptance test will be performed as the last step in the process of a value added enhancement. The test will consist of performing the instrument calibration procedure and will be documented as a sample inspection and a calibration if contractually required.

6.8 *Nonconforming Product.* New product not meeting specifications regardless of deficiency shall be labeled as Nonconforming Product until such time the deficiency has been resolved. A Quality Deficiency Report (QDR) shall be initiated at time of discovery and the product will be segregated from conforming product until final disposition has been determined. Deficiency resolution shall be evidenced by the satisfactory completion of the instrument calibration procedure and documented in accordance with sample inspection procedures. If deficiency resolution is beyond the scope of MMC Metrology Lab, Inc., the manufacturer's Repair Department, Customer Service Representative shall be notified and a Return Authorization obtained for factory evaluation and repair. All associated factory correspondence will be documented and filed with the QDR. All factory repairs shall be 100% sample inspected upon return receipt.

6.8.1 *Return Material Authorization.* When a complaint is received from a customer concerning new product and it is determined that the deficient product must be returned for investigation and / or resolution, a Return Material Authorization (RMA) number shall be issued. The Product Representative shall assign a number from the Ametek PMT Products RMA log that will identify the transaction so timely corrective action can be taken when the product is received.

6.8.2 *Complaint Report.* All customer complaints received after new product has been delivered regardless of deficiency shall be handled in accordance with MMC Metrology Lab, Inc Policy Statement MMC-2, Customer Complaints.

## **7.0 Ashcroft, Inc., WEKSLER Instruments Product Procedures.**

**7.1 General.** MMC Metrology Lab, Inc. distributes products manufactured by Weksler Instruments, a division of Ashcroft Incorporated. MMC Metrology Lab is the sole master distributor for the Weksler Instruments Mil-Spec / Hi-Shock product line. The primary type of products that are represented consist of pressure gages that meet MIL-G-18997E, Navy Type bi-metal thermometers that meet MIL-I-17244E, and remote indicating gas actuated thermometers that meet MIL-T-19646 specifications. Additionally, MMC Metrology Lab also distributes various Ashcroft Inc. commercial pressure and temperature related products for direct sale.

**7.2 Procurement Data.** Product from this manufacturer is procured by manufacturer's part number and product description on an electronically transmitted (facsimile) purchase order. These products are manufactured strictly in accordance with approved manufacturer's master drawings. Customer requests for deviation from master drawing specifications shall be documented on the purchase order and shall clearly describe customer specified marking, testing and other nonstandard requirements.

**7.3 Receiving Procedures.** These products are received from the manufacturer individually packaged and labeled. In addition to the arrival physical / documentation inspection the receiving process for these products shall be determined by their final destination or contractual requirements.

**7.3.1 Stock Inventory Items.** Products ordered and received for stock inventory shall be sample inspected according to the sampling plan and then placed in the stock inventory storage area.

**7.3.2 Contract Sale Items.** Products ordered and received for direct sale per contract shall be sample inspected according to the sampling plan, calibrated if contractually required and then delivered to the packaging area or the outgoing product area, if being picked-up by the customer.

**7.3.3 Customer Source Inspection Items.** Products ordered and received for a contract that requires customer source inspection prior to shipping shall be labeled as such when received from the manufacturer. The Quality Manager or his representative shall assemble the test and inspection documentation required by contract and shall label the items as Source Inspection Material, indicating the customer's purchase order number, line item and part number. All products requiring source inspection shall be sample inspected. The sample inspection technical performance verification shall be accomplished utilizing NAVSEA approved instrument calibration procedures with measured data recorded in accordance with the provisions of this Quality Manual. If contractually required and the product meets requirements, a calibration label shall be affixed to each item. If calibration is not contractually required, an inspected label (see 5.12.3) shall be affixed. Upon successful completion of the receiving inspection the Source Inspection Material shall be re-packaged and placed in the secure temporary storage area designated for this purpose pending customer inspection.

**7.3.4 Special Cleaned Items.** Bourdon tube type pressure gauges purchased under contracts that require special cleaning to the requirements of MIL-STD-767 or MIL-STD-1330 by an accredited cleaning facility shall be 100% sample inspected. If customer source inspection is required, they shall be labeled as such and offered for pre-cleaning inspection. Upon return from the cleaning facility, the receiving inspection shall include verification of cleanliness certification documentation and the proper cleanliness preservation of the product as required in the

## 7.0 Ashcroft, Inc., WEKSLER Instruments Product Procedures (continued)

7.3.4 (Continued) cleaning specification (sealed double polyethylene bags). If customer source inspection is required, the product shall then be offered for post-cleaning inspection prior to shipping.

7.4 *Sampling Inspection*. The sampling inspection for these products is a two part procedure consisting of a comprehensive visual inspection and subsequent technical performance verification.

7.4.1 *Visual Inspection*. Visual inspection of these products shall be limited to the examinations that may be performed without disassembling the instrument in such a manner that its performance, durability or appearance will be affected. Visual inspection shall ascertain that the material, finish, workmanship, construction, assembly, dimensions and product markings conform to contract specifications.

7.4.2 *Technical Performance Verification*. Technical inspection of these products shall consist of performing the NAVSEA approved instrument calibration procedure in accordance with the provisions of this Quality Manual. The inspection shall not compromise the integrity of product cleanliness or finish and shall be performed utilizing calibrated measurement and testing instruments. Technical inspection of pressure gages shall be accomplished using an approved calibration pressure medium. When oil free gaseous nitrogen is used as a pressure medium, it shall be certified 99.50 percent pure (minimum). At no time shall internal wetted surfaces of pressure gages be exposed to corrosion products, grease, preservative, oil, flux, scale, machining particles, or any other foreign material.

### 7.5 *Sampling Plan*.

7.5.1 *Inspection Lot*. An inspection lot consists of all product of the same category, i.e. pressure gage, remote thermometer or bi-metal thermometer, having the same range, style and size that are received at the same time and under the same order or contract.

7.5.2 *Visual Inspection*. The visual inspection portion of the sampling inspection is applicable to 100% of inspection lot regardless of product type.

7.5.3 *Technical Performance Inspection*. The technical inspection portion of the sampling inspection is applicable dependent upon the type of product.

7.5.3.1 *Pressure Gage*. The technical inspection portion of the sampling inspection and test plan that has been developed for the pressure gage product line which will produce an acceptable level of product confidence and quality has been determined to be 5% (1 in 20) of the inspection lot (minimum of one).

7.5.3.2 *Bi-Metal Thermometer*. The technical sampling inspection and test plan that has been developed for the bi-metal thermometer product line which will produce an acceptable level of product confidence and quality has been determined to be 20% (1 in 5) of the inspection lot (minimum of one).

7.5.3.3 *Remote Indicating Thermometer*. The technical sampling inspection and test plan that has been developed for the remote indicating thermometer product line which will produce an acceptable level of product confidence and quality has been determined to be 20% (1 in 5) of

## 7.0 Ashcroft, Inc., WEKSLER Instruments Product Procedures (continued)

7.5.3.3 (Continued) the inspection lot (minimum of one).

7.5.3.4 *Miscellaneous Commercial Products.* The technical sampling inspection and test plan that has been developed for temperature and pressure related commercial products which will produce an acceptable level of product confidence and quality has been determined to be 100% of the inspection lot.

### 7.5.4 *Sampling Plan Exceptions.*

7.5.4.1 *Government Inspection Items.* When product is procured and received for a government contract purchase which specified a Special Material Identification Code (SMIC) that would invoke unique quality control or testing procedures, the sampling plan for that order or contract shall be modified to 100% of the inspection lot. Special Material Identification Codes that invoke such procedures are generally related to Navy Nuclear Reactor Plant material and include the SMIC "X3" and "X5". These SMIC products are randomly inspected / witnessed by the government Quality Assurance Representative (QAR) prior to acceptance and shipping.

7.5.4.2 *Mil-Spec Quality Conformance Inspection Items.* When product is procured and received for a government contract requiring documented Mil-Spec Quality Conformance Inspection, a sampling inspection is not required. This requirement is usually invoked by an attachment or an exhibit to a purchase contract.

7.5.4.3 *Customer Source Inspection Items.* When product is procured and received for a contract purchase that requires source inspection, the sampling plan for that order or contract shall be modified to 100% of the inspection lot. If contractually required and the product meets requirements, a calibration label shall be affixed to each item. If calibration is not contractually required, an inspected label (see 5.12.3) shall be affixed. Upon successful completion of the technical performance verification the Source Inspection Material shall be re-packaged and placed in the secure temporary storage area designated for this purpose pending customer inspection.

7.5.4.4 *Special Cleaned Items.* When bourdon tube type pressure gauges are procured and received for a contract purchase that invokes the cleaning of internal pressure boundary surfaces beyond the general applications level, the sampling plan for that order or contract shall be modified to 100% of the inspection lot. This requirement is invoked whenever hardware cleaning is required to meet the specifications of MIL-STD-767 or MIL-STD-1330.

### 7.6 *Documentation.*

7.6.1 *Sampling Inspection.* Documentation of a sampling inspection shall be accomplished by the technician completing the required sections of the applicable product line Sample Inspection Log Data Sheet depicted in Enclosure (3) of this policy statement. A separate data sheet shall be utilized for each MMC job number or purchase order reference number. Separate data sheet entries shall be used for each inspection lot comprising the order and shall indicate the origin tracking number (MMC's purchase order number associated with product purchase) for each lot. A successfully completed sampling inspection will be indicated by an "Inspected" label affixed to the product and its packaging. An unsatisfactory inspection shall be documented on a product Quality Deficiency Report (QDR) and a Nonconforming Product label shall be affixed to the

## 7.0 Ashcroft, Inc., WEKSLER Instruments Product Procedures (continued)

7.6.1 (Continued) product until such time as the deficiency is resolved. All job related documentation shall be included in the Job File.

7.6.2 *Quality Conformance Inspection (Mil-Spec)*. Documentation of Mil-Spec product Quality Conformance Inspection shall be accomplished when invoked by an attachment or exhibit to a government purchase contract, generally in the form of Contract Data Requirements List, DD form 1423 or as otherwise required by purchase order. The required Report of Test and Inspection (ROTI) and applicable test instruction sheets shall be prepared by the Quality Manager or his representative in such a format so as to depict test parameters and the results of the specified tests derived from the applicable Military Specification's Quality Conformance Inspection criteria. This test documentation is required for each contract item being delivered and shall be submitted for inspection and approval in accordance with contract requirements. All job related documentation shall be included in the Job File.

7.6.3 *Purchase Contract Calibration*. Documentation of a contractually required, new product calibration shall be in accordance with procedures contained in this Quality Manual utilizing a Certificate of Calibration. A contractually required calibration shall also be recorded in the applicable Sample Inspection Log for trend analysis data collection purposes. All job related documentation shall be included in the Job File.

7.6.4 *Delayed Calibration Certification*. Bourdon tube pressure gages procured and calibrated for government end-use may be temporarily stored in a clean, dry, vibration free environment for periods not exceeding 27 months. The time in storage shall not be considered as part of the calibration interval. The date of calibration of these gages for documentation purposes shall be considered as the date the gage is removed from storage. The due date for recalibration shall be determined based on the prevailing NAVSEA calibration interval. If the storage period exceeds 27 months, recalibration of the gage shall be required.

7.6.4.1 *Documentation*. A Certificate of Calibration shall be completed and a calibration label shall be attached to the gage without the assignment of a "Calibration Due" date. If the storage period does not exceed 27 months, determination of the "Calibration Due" date may be delayed until such time as the gage is removed from storage for installation. The date the gage is removed from storage shall be considered as the date calibrated and the approved NAVSEA calibration interval shall be applied by the customer when determining the "Calibration Due" date in accordance with NAVSEA OD-45845, Metrology Requirements List, Section 1, paragraph 25.c.

7.6.4.2 *Product Identification*. At the time of procurement a label with the following notation shall be added to the Certificate of Calibration and also placed on the gage to indicate delayed calibration certification: "This gage may be placed in storage for up to 27 months after calibration per NAVSEA OD-45845, Section 1, para 25.c. The date the gage is removed from storage is considered the "Date Calibrated" for purposes of determining "Calibration Due". Storage periods exceeding 27 months require gage recalibration."

7.6.4.3 *Label*.

This gage may be placed in storage for up to 27 months after calibration per NAVSEA OD 45845, Section 1, para 25.c. The date the gage is removed from storage is considered the "Date Calibrated" for purposes of determining "Calibration Due". Storage periods exceeding 27 months require gage recalibration.

## **7.0 Ashcroft, Inc., WEKSLER Instruments Product Procedures (continued)**

**7.6.5 Special Cleaning.** Bourdon tube pressure gauges requiring special cleaning shall be cleaned by an accredited cleaning facility utilizing a previously approved procedure. Purchase orders sub-contracting a cleaning facility shall indicate the type of gauge and the level of cleaning required. If the cleaning must be witnessed / inspected by a government QAR, a statement to that end shall be included in the order. Cleaned product shall be returned with a cleaning facility Certificate of Compliance and the sealed double polyethylene bagged items properly labeled in accordance with the applicable standard.

**7.7 Value Added Enhancement.** Value added enhancements generally consist of changing cases, dials, dial color and markings, and / or adding mounting kits to accommodate customer requirements.

**7.7.1 Final Acceptance Test.** A final acceptance test shall be performed as the last step in the process of a value added enhancement. The test shall consist of performing the instrument calibration procedure and shall be documented as a sample inspection and a calibration if contractually required.

**7.8 Nonconforming Product.** New product received that does not meet specifications regardless of deficiency shall be labeled as Nonconforming Product (see 5.12.3) until such time the deficiency has been resolved. The product will be segregated from conforming product until final disposition has been determined. Deficiency resolution shall be evidenced by the satisfactory completion of the instrument calibration procedure and documented in accordance with sample inspection procedures.

**7.8.1 Quality Deficiency Report.** A Quality Deficiency Report (QDR) shall be initiated at the time of discrepancy discovery. If deficiency resolution is beyond the scope of MMC Metrology Lab, Inc., the manufacturer's Repair Department, Customer Service Representative shall be notified and a Return Authorization obtained for factory evaluation and repair. All associated factory correspondence shall be documented and filed with the QDR. All factory repairs shall be 100% sample inspected upon return receipt.

**7.8.2 Return Material Authorization.** When a complaint is received from a customer concerning new product and it is determined that the deficient product must be returned for investigation and / or resolution, a Return Material Authorization (RMA) number shall be issued. The Product Representative shall assign a number from the Weksler Instruments RMA log that will identify the transaction so timely corrective action can be taken when the product is received.

**7.8.3 Complaint Report.** All customer complaints received after new product has been delivered, regardless of deficiency, shall be handled in accordance with MMC Metrology Lab, Inc Policy Statement MMC-2, Customer Complaints.

## **8.0 Electrical Indicating Instrument Procedures.**

**8.1 General.** MMC Metrology Lab, Inc. distributes electrical indicating products, including those manufactured by Jewell Instruments, LLC; A & M Instruments, a division of Jewell Instruments, and Yokogawa Corporation of America. The most common product lines that are represented consist of ruggedized panel meters, aircraft type instruments and switchboard meters and instruments for military and commercial applications. The stocking of product from these

## 8.0 Electrical Indicating Instrument Procedures. (Continued)

8.1 (Continued) manufacturers is generally limited to modification (MOD) meters and their associated major subassemblies that when combined will produce a value added indicating device meeting customer contract specification or purchase order requirements. These MOD meters and subassemblies are used in a variety of instruments and when stocked in this form permit customized product with reasonable delivery. MMC Metrology Lab, Inc. is the exclusive value added and distribution center for A & M Instruments' products, and additionally functions as a value added product distribution center for Yokogawa and Jewell electrical indicating products.

8.2 *Procurement Data.* Products from represented manufacturers are procured by manufacturer's part number and product description utilizing an electronically transmitted (facsimile) purchase order. Modification (MOD) meter and subassembly part numbers are derived solely from the manufacturer's Bill of Material (BOM) for the various instruments supported.

8.3 *Receiving Procedures.* Products received from represented manufacturers when in finished form are individually packaged and labeled. After the arrival physical / documentation inspection the finished form product shall be sample inspected in accordance with the sampling plan or calibrated if contractually required. The products shall then be repackaged, appropriately labeled and delivered to the packing area for shipping purposes or to the outgoing product area for customer pick-up.

8.3.1 *Value Added Product.* Material procured for value added product shall be inspected at arrival similar to all other products however, there is no sample inspection conducted. Material procured for value added product shall be stored by manufacturer part number or assembly description in the product assembly area and shall be subjected to testing during process control and final acceptance of the value added product.

8.4 *Sampling Inspection.* The sampling inspection for these products shall consist of performing a visual inspection to detect any product anomaly and then accomplishing the instrument calibration procedure in accordance with this Quality Manual. The sampling inspection shall apply as a receipt inspection for new product received as finished form instruments and as a value added product sample inspection for customized product being provided under contract or purchase order.

8.5 *Sampling Plan.* The sampling inspection and test plan that has been developed for finished form electrical indicating instruments and value added products which will produce an acceptable level of product confidence and quality has been determined to be 5% (1 in 20) of the inspection lot (minimum of one).

8.5.1 *Inspection Lot.* An inspection lot shall consist of; (1) all finished form product of the same range, style and size that is received at the same time and under the same contract or purchase order, or (2) all value added product of the same range, style and size that was prepared at the same time under the same contract or purchase order.

8.6 *Process Controls.* Processes involved in producing value added electrical indicating products are derived solely from manufacturer procedures and Bills of Material (BOM). A customer's purchase order or contract specifies a manufacturer part number or other unique

## 8.0 Electrical Indicating Instrument Procedures. (Continued)

8.6 (Continued) number that identifies a specific product. This product shall then be assembled utilizing the following process; (1) ensure conformance to manufacturer specification or other contractually required specification, (2) calibrated if contractually required, (3) individually packaged and labeled, and (4) prepared for shipment or customer pick-up.

8.6.1 *Product Specification and Bill of Material.* Technical data required to support enhancement of a manufacturer's MOD meter to meet customer requirements is obtained directly from the manufacturer. The manufacturer Bills of Material are maintained for each product supported and are the responsibility of the Product Representative. General technical specifications are published in the manufacturer catalogs. More specific technical characteristics and specifications are included in the Bill of Material as are any unique material requirements, supplemental instructions or applications.

8.6.2 *Test and Inspections Criteria.* Test and inspection of value added product shall be determined by specific product characteristics including type, size, function, range and frequency. Test and inspection methods and parameters tested are generally those employed as industry standard, but may also be methods and parameters specified by contract, drawing or Military Specification. Individual test and inspection procedures are derived from the manufacturer technical specifications or may be those included as a specification conformance test invoked by contract. All test and inspections shall be performed by qualified inspectors. As a minimum, a manufacturer's final acceptance test or the instrument calibration procedure shall be performed prior to product delivery.

8.7 *Documentation.* Documentation of a sampling inspection shall be accomplished by the technician completing the required sections of the applicable product Sample Inspection Log Data Sheet as depicted in Enclosure (3) to this policy statement. A separate data sheet shall be utilized for each MMC job number or purchase order. A satisfactorily completed sampling inspection shall be indicated by an "Inspected" label affixed to the product and its packaging. An unsatisfactory inspection shall be documented on a product Quality Deficiency Report (QDR) and a Nonconforming Product label shall be affixed to the product until such time as the deficiency is resolved. Documentation of a contractually required calibration shall be in accordance with procedures contained in this Quality Manual utilizing a Certificate of Calibration. A contractually required calibration shall also be recorded in the Sample Inspection Log for trend analysis data collection purposes. All job related documentation shall be included in the Job File.

8.8 *Nonconforming Product.* New finished form product not meeting specifications regardless of deficiency shall be labeled as Nonconforming Product until such time the deficiency has been resolved. A Quality Deficiency Report (QDR) shall be initiated at time of discovery and the product will be segregated from conforming product until final disposition has been determined. Deficiency resolution shall be evidenced by the satisfactory completion of the instrument calibration procedure and documented in accordance with sample inspection procedures. If deficiency resolution is beyond the scope of MMC Metrology Lab, Inc., the manufacturer's Repair Department, Customer Service Representative shall be notified and a Return Authorization obtained for factory evaluation and repair. All associated factory correspondence shall be documented and filed with the QDR. All factory repairs shall be 100% sample inspected upon return receipt.

## **8.0 Electrical Indicating Instrument Procedures. (Continued)**

8.8.1 *Return Material Authorization.* When a complaint is received from a customer concerning new product and it is determined that the deficient product must be returned for investigation and / or resolution, a Return Material Authorization (RMA) number shall be issued. The Product Representative shall assign a number from the Electrical Instruments RMA log that will identify the transaction so timely corrective action can be taken when the product is received.

8.8.2 *Complaint Report.* All customer complaints received after new product has been delivered, regardless of deficiency, shall be handled in accordance with MMC Metrology Lab, Inc Policy Statement MMC-2, Customer Complaints.

## **9.0 Over the Counter Product Procedures.**

9.1 *General.* MMC Metrology Lab, Inc. distributes various electrical, electronic and mechanical measurement products for several different manufactures. These products are intended for direct re-sale and stocking quantities are minimal and based on customer short-fused requirements.

9.2 *Procurement Data.* Product in this category is procured by manufacturer model, catalog, or part number and product description on an electronically transmitted (facsimile) purchase order. These items are generally commercially available and modifications or changes to product specifications are not possible.

9.3 *Receiving Procedures.* In addition to the arrival physical / documentation inspection the receiving process for these products consists of performing the sampling inspection.

9.4 *Sample Inspection.* The sampling inspection shall consist of two parts. The initial part of the inspection is a visual investigation of the product. The visual inspection shall detect any physical anomalies and verify product identification data are correct and appropriate, i.e. part number, model number, stock number, etc. The second part of the sampling inspection shall consist of a technical inspection performed by accomplishing the instrument calibration procedure in accordance with the provisions of this Quality Manual. The sampling inspection shall be documented utilizing the applicable Sample Inspection Log Data Sheet.

9.5 *Sampling Plan.* The sampling inspection and test plan for this category of products is 100%. All commercial products received for direct re-sale that does not specifically require calibration under contract shall be sample inspected.

9.6 *Documentation.* Documentation of a contractually required calibration shall be accomplished by the technician completing a Certificate of Calibration in accordance with procedures contained in this Quality Manual. Documentation of a satisfactorily completed sampling inspection shall be indicated by an "Inspected" label affixed to the product packaging and the completion of applicable Sample Inspection Log Data Sheet. An unsatisfactory sample inspection shall be documented on a Quality Deficiency Report (QDR) and a Nonconforming Product label shall be affixed to the product until such time as final disposition is determined.

9.7 *Nonconforming Product.* New product not meeting specifications regardless of deficiency shall be labeled as Nonconforming Product until such time the deficiency has been resolved. A

## 9.0 Over the Counter Product Procedures. (Continued)

9.7 (Continued) Quality Deficiency Report (QDR) shall be initiated at time of discovery and the product will be segregated from conforming product until final disposition has been determined. Deficiency resolution shall be evidenced by the satisfactory completion of the instrument calibration procedure and documented in accordance with sample inspection procedures. If deficiency resolution is beyond the scope of MMC Metrology Lab, Inc. or will invalidate product warranty, the manufacturer's Repair Department, Customer Service Representative shall be notified and a Return Authorization obtained for factory evaluation and repair. All associated factory correspondence will be documented and filed with the QDR. All factory repair service will be 100% sample inspected upon return receipt.

9.7.1 *Return Material Authorization.* When a complaint is received from a customer concerning new product and it is determined that the deficient product must be returned for investigation and or resolution, a Return Material Authorization (RMA) number shall be issued. The Product Representative for Ametek-M&CT products shall be responsible for products in this category, and as such shall assign a number from the Ametek M&CT products RMA log that will identify the transaction so timely corrective action can be taken when the product is received.

9.7.2 *Complaint Report.* All customer complaints received after new product has been delivered regardless of deficiency shall be handled in accordance with MMC Metrology Lab, Inc Policy Statement MMC-2, Customer Complaints.

MMC Metrology Lab, Inc.  
4989 Cleveland Street  
Virginia Beach, VA 23462

## QUALITY DEFICIENCY REPORT

Deficiency Report No. \_\_\_\_\_

Date Reported \_\_\_\_\_

### PRODUCT IDENTIFICATION

Nomenclature :

Ref / Job No :

Manufacturer :

Customer :

Part No :

Date Received :

Range :

### DEFICIENCY

### CONDITION FOUND / PROBABLE CAUSE

### CORRECTIVE ACTION / DISPOSITION

### PREVENTATIVE ACTION

RAN (            )

Notes:

Inspector: \_\_\_\_\_  
Date: \_\_\_\_\_

Product Representative: \_\_\_\_\_  
Date: \_\_\_\_\_

Enclosure (1)

**MMC Metrology Lab, Inc.**  
**4989 Cleveland Street**  
**Virginia Beach, VA 23462**

**AUTHORIZED PRODUCT QUALITY INSPECTORS**

INSPECTOR	QUALIFIED / AUTHORIZED				AUTHORIZING SIGNATORY	
	AMETEK PRODUCTS	WEKSLER PRODUCTS	ELECTRICAL PRODUCTS	MERCURY TESTING	SIGNATURE	INITIALS
BEYER, Victor H.		YES				
BLAUVELT, David F.			YES			
COHEN, Justin L.		YES				
DAVIS, Jack L.	YES	YES	YES		Inactive - 24 JUL 2009	
HOUSE, Donison L.			YES			
KAZARIAN, Robert A.			YES		Inactive - 01 AUG 2009	
KELLY, William K		YES		YES		
KLATT, David R.			YES		Inactive - 01 JAN 2008	
O'DONNELL, Daniel T.	YES	YES	YES			
PIETRANTONIO, Michael R.	YES	YES	YES			
REIMOLD, Charles E.		YES		YES		
UNDERWOOD, Gary M., Jr.		YES		YES		
WHITLEY, Derrell L.		YES	YES			

Enclosure (2)

<b>Figure</b>	<b>Nomenclature</b>	<b>Inspection Procedure</b>
3-1	Pressure Transducer	LPE131
3-2	Pressure Gage	NA17-20MP-03, 06, 16, 36
3-3	Bi-Metal Thermometer	NA17-20ST-02, 60, 61
3-4	Remote Thermometer	NA17-20ST-93, 60, 61
3-5	Voltage / Current Meter (AC/DC)	NA17-20AQ-147
3-6	Expanded Scale Voltmeter	NA17-20AE-135
3-7	Frequency Meter	NA17-20AF-19
3-8	Voltage / Ammeter (AC/DC) - Center Zero	NA17-20AQ-147
3-9	Voltage / Current Meter (AC/DC) - Multi-Range	NA17-20AQ-147
3-10	Watt / Varmeter	NA17-20AQ-168
3-11	Watt / Varmeter - Center Zero	NA17-20AQ-168
3-12	Voltage / Current Meter (AC/DC) - Multi - Range / Center Zero	NA17-20AQ-147
3-13	Temperature Meter (RTD Type)	NA17-20ST-75
3-14	Power Factor Meter - Center Zero	NA17-20AQ-168, TM
3-15	Expanded Scale Voltmeter - Dual Range	NA17-20AE-135
3-16	Synchroscope - 60 Hz and 400 Hz	NA17-20AQ-168
3-17	Commercial Pressure / Temperature Products - Switches	MFG INSTRUCTIONS

Enclosure (3)

MMC Metrology Lab, Inc.

### DATA SHEET

AMETEK PMT PRODUCTS

REF / JOB NO:

### SAMPLE INSPECTION LOG - Pressure Transducer

#### Reference Inspection Procedure: LPE131

Lot	Sample	Cal Range	Pressure Unit				Diaphragm		VISUAL		LIMIT (±.16mA)	0% Ck		25% Ck		50% Ck		75% Ck		100% Ck		OVERALL		DATE (mm/dd/yy)	Inspector initials	
			PSIG	PSIA	PSID	cmpd	Monel	CRES	pass	fail		pass	fail	pass	fail	pass	fail	pass	fail	pass	fail	SAT	UNSAT			
1											(±.16mA)															
2											(±.16mA)															
3											(±.16mA)															
4											(±.16mA)															
5											(±.16mA)															
6											(±.16mA)															
7											(±.16mA)															
8											(±.16mA)															
9											(±.16mA)															
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17											(±.16mA)															
18											(±.16mA)															
19											(±.16mA)															
20											(±.16mA)															

Any failed check point is the basis of an overall UNSAT evaluation and requires the technical inspection of entire lot. Notify the Product Representative for all UNSAT evaluations.

**MMC9 Encl (3) Figure 3-1  
ENCLOSURE (3)  
(Not to Scale)**

MMC Metrology Lab, Inc.

### DATA SHEET

WEKSLER INSTRUMENTS

REF / JOB NO:

### SAMPLE INSPECTION LOG - Pressure Gauge

Reference Inspection Procedure: NAVAIR 17-20MP- 03, 06, 16 or 36

Lot	Sample	ORIGIN	Gage Size			RANGE	Connection Location			Connection Type			VISUAL Insp		Limit of Error	INC Press		DEC Press		OVERALL		DATE	Inspector
Size	Size	Tracking No.	3½"	4½"	8½"		back	BTM	5 o'clk	O-ring	flrless	¼NPT	pass	fail	(± unit)	pass	fail	pass	fail	SAT	UNSAT	(mm/dd/yy)	initials

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Any failed check point is the basis of an overall UNSAT evaluation and requires the technical inspection of entire lot. Notify the Product Representative for all UNSAT evaluations.

**MMC9 Encl (3) Figure 3-2  
ENCLOSURE (3)  
(Not to Scale)**

MMC Metrology Lab, Inc.

### DATA SHEET

WEKSLER INSTRUMENTS

REF / JOB NO:

### SAMPLE INSPECTION LOG - Bi-Metal Thermometer Reference Inspection Procedure: NAVAIR 17-20ST-02, 60, 61

Lot	Sample	ORIGIN	RANGE	STEM	MOUNTING	Min/Max	VISUAL	LIMIT	Lower 1/2 Ck	Center 1/2 Ck	Upper 1/2 Ck	OVERALL	DATE	Inspector
Size	Size	Tracking No.	(°F)	2" 4"	back Btm	Yes No	pass fail	(± °F)	pass fail	pass fail	pass fail	SAT UNSAT	(mm/dd/yy)	initials

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- 2
- 3
- 4
- 5
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- 12
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- 16
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Any failed check point is the basis of an overall UNSAT evaluation and requires the technical inspection of entire lot. Notify the Product Representative for all UNSAT evaluations.

**MMC9 Encl (3) Figure 3-3  
ENCLOSURE (3)  
(Not to Scale)**

MMC Metrology Lab, Inc.

### DATA SHEET

WEKSLER INSTRUMENTS

REF / JOB NO:

### SAMPLE INSPECTION LOG - Remote Thermometer Reference Inspection Procedure: NAVAIR 17-20ST-93, 60, 61

Lot	Sample	ORIGIN	Dial Size			RANGE	Capillary	Bulb	Mounting	VISUAL	LIMIT	Lower 1/2 Ck		Center 1/2 Ck		Upper 1/2 Ck		OVERALL		DATE	Inspector		
Size	Size	Tracking No.	3 1/2"	4 1/2"	8 1/2"	(°F)	(feet)	(Code)	U	F	pass	fail	(± unit)	pass	fail	pass	fail	pass	fail	SAT	UNSAT	(mm/dd/yy)	initials

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Any failed check point is the basis of an overall UNSAT evaluation and requires the technical inspection of entire lot. Notify the Product Representative for all UNSAT evaluations.

**MMC9 Encl (3) Figure 3-4  
ENCLOSURE (3)  
(Not to Scale)**

### DATA SHEET

## SAMPLE INSPECTION LOG - Voltage/Current Meter (AC/DC)

REF / JOB NO:

Reference Inspection Procedure: NAVAIR 17-20AQ-147

Lot	Sample	Model / Part Number	MFG	RANGE	SCALE	VISUAL	Limit of Error	½ FS Ck		FS Ck		OVERALL	DATE	Inspector
Size	Size	(manufacturer's)		(Span)	(Min/Max)	pass fail	±(range unit)	pass	fail	pass	fail	SAT UNSAT	(mm/dd/yyyy)	initials

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Any failed check point is the basis of an overall UNSAT evaluation and requires the technical inspection of entire lot. Notify the Product Representative for all UNSAT evaluations.

**MMC9 Encl (3) Figure 3-5**  
**ENCLOSURE (3)**  
**(Not to Scale)**

# DATA SHEET

## SAMPLE INSPECTION LOG - Expanded Scale Voltmeter

REF / JOB NO:

Reference Inspection Procedure: NAVAIR 17-20AE-135

Lot Size	Sample Size	Model / Part Number (manufacturer's)	MFG	RANGE (Span)	SCALE (Min/Max)	VISUAL		Limit of Error		Left ES		Center		Right ES		OVERALL		DATE (mm/dd/yy)	Inspector initials
						pass	fail	± (range unit)	pass	fail	pass	fail	pass	fail	SAT	UNSAT			

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Any failed check point is the basis of an overall UNSAT evaluation and requires the technical inspection of entire lot. Notify the Product Representative for all UNSAT evaluations.

**MMC9 Encl (3) Figure 3-6**  
**ENCLOSURE (3)**  
**(Not to Scale)**

### DATA SHEET

## SAMPLE INSPECTION LOG - Frequency Meter

Reference Inspection Procedure: NAVAIR 17-20AF-19

REF / JOB NO:

Lot	Sample	Model / Part Number	MFG	RANGE	SCALE	VISUAL		Limit of Error	Left ES		Center	Right ES		OVERALL		DATE	Inspector	
Size	Size	(manufacturer's)		(Span)	(Min/Max)	pass	fail	± (range unit)	pass	fail	pass	fail	pass	fail	SAT	UNSAT	(mm/dd/yy)	initials

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Any failed check point is the basis of an overall UNSAT evaluation and requires the technical inspection of entire lot. Notify the Product Representative for all UNSAT evaluations.

**MMC9 Encl (3) Figure 3-7**  
**ENCLOSURE (3)**  
**(Not to Scale)**

# DATA SHEET

## SAMPLE INSPECTION LOG - V/A Meter (AC/DC) - Center Zero

REF / JOB NO:

Reference Inspection Procedure: NAVAIR 17-20AQ-147

Lot	Sample	Model / Part Number	MFG	RANGE	SCALE	VISUAL	Limit of Error	Left ES	Center	Right ES	OVERALL	DATE	Inspector
Size	Size	(manufacturer's)		(Span)	(Min/Max)	pass fail	± (range unit)	pass fail	pass fail	pass fail	SAT UNSAT	(mm/dd/yy)	initials

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Any failed check point is the basis of an overall UNSAT evaluation and requires the technical inspection of entire lot. Notify the Product Representative for all UNSAT evaluations.

**MMC9 Encl (3) Figure 3-8**  
**ENCLOSURE (3)**  
**(Not to Scale)**

**DATA SHEET**

**SAMPLE INSPECTION LOG - Voltage/Current Meter (AC/DC)  
Multi - Range**

REF / JOB NO:

Reference Inspection Procedure: NAVAIR 17-20AQ-147

Lot	Sample	Model / Part Number (manufacturer's)	MFG	RANGE (Span)	SCALE (Min/Max)	VISUAL		Limit of Error		½ FS Ck		FS Ck		OVERALL		DATE (mm/dd/yy)	Inspector initials
						pass	fail	± (range unit)	pass	fail	pass	fail	SAT	UNSAT			
1	XX	XX	2 <sup>nd</sup> Range →	XX										XX	XX	XX	XX
	XX	XX	3 <sup>rd</sup> Range →	XX										XX	XX	XX	XX
2	XX	XX	2 <sup>nd</sup> Range →	XX										XX	XX	XX	XX
	XX	XX	3 <sup>rd</sup> Range →	XX										XX	XX	XX	XX
3	XX	XX	2 <sup>nd</sup> Range →	XX										XX	XX	XX	XX
	XX	XX	3 <sup>rd</sup> Range →	XX										XX	XX	XX	XX
4	XX	XX	2 <sup>nd</sup> Range →	XX										XX	XX	XX	XX
	XX	XX	3 <sup>rd</sup> Range →	XX										XX	XX	XX	XX
5	XX	XX	2 <sup>nd</sup> Range →	XX										XX	XX	XX	XX
	XX	XX	3 <sup>rd</sup> Range →	XX										XX	XX	XX	XX
6	XX	XX	2 <sup>nd</sup> Range →	XX										XX	XX	XX	XX
	XX	XX	3 <sup>rd</sup> Range →	XX										XX	XX	XX	XX

Any failed check point is the basis of an overall UNSAT evaluation and requires the technical inspection of entire lot. Notify the Product Representative for all UNSAT evaluations.

**MMC9 Encl (3) Figure 3-9  
ENCLOSURE (3)  
(Not to Scale)**

# SAMPLE INSPECTION LOG - Watt / Varmeter

Reference Inspection Procedure: NAVAIR 17-20AQ-168

REF / JOB NO:

Lot Size	Sample Size	Model / Part Number (manufacturer's)	MFG	RANGE (Span)	SCALE (Min/Max)	VISUAL		Limit of Error	½ FS Ck		¾ FS Ck		FS Ck		OVERALL		DATE	Inspector	
						pass	fail	±(range unit)	pass	fail	pass	fail	pass	fail	SAT	UNSAT	(mm/dd/yy)	initials	
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Any failed check point is the basis of an overall UNSAT evaluation and requires the technical inspection of entire lot. Notify the Product Representative for all UNSAT evaluations.

**MMC9 Encl (3) Figure 3-10  
ENCLOSURE (3)  
(Not to Scale)**

Lot	Sample	Model / Part Number	MFG	RANGE	SCALE	VISUAL	Limit of Error	Left ES	Center	Right ES	OVERALL	DATE	Inspector
Size	Size	(manufacturer's)		(Span)	(Min/Max)	pass fail	±(range unit)	pass fail	pass fail	pass fail	SAT UNSAT	(mm/dd/yy)	initials

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Any failed check point is the basis of an overall UNSAT evaluation and requires the technical inspection of entire lot. Notify the Product Representative for all UNSAT evaluations.

**MMC9 Encl (3) Figure 3-11  
ENCLOSURE (3)  
(Not to Scale)**

MMC Metrology Lab, Inc.

**DATA SHEET**  
**SAMPLE INSPECTION LOG - Voltage/Current Meter (AC/DC)**  
**Multi - Range (Center Zero)**  
Reference Inspection Procedure: NAVAIR 17-20AQ-147

A&M INSTRUMENTS

REF / JOB NO:

Lot	Sample Size	Model / Part Number (manufacturer's)	MFG	RANGE (Span)	SCALE (Min/Max)	VISUAL		Limit of Error ± (range unit)		Left ES		Center		Right ES		OVERALL		DATE (mm/dd/yy)	Inspector initials
						pass	fail	pass	fail	pass	fail	pass	fail	SAT	UNSAT				
1	XX	XX	2 <sup>nd</sup> Range →	XX												XX	XX	XX	XX
	XX	XX	3 <sup>rd</sup> Range →	XX												XX	XX	XX	XX
2	XX	XX	2 <sup>nd</sup> Range →	XX												XX	XX	XX	XX
	XX	XX	3 <sup>rd</sup> Range →	XX												XX	XX	XX	XX
3	XX	XX	2 <sup>nd</sup> Range →	XX												XX	XX	XX	XX
	XX	XX	3 <sup>rd</sup> Range →	XX												XX	XX	XX	XX
4	XX	XX	2 <sup>nd</sup> Range →	XX												XX	XX	XX	XX
	XX	XX	3 <sup>rd</sup> Range →	XX												XX	XX	XX	XX
5	XX	XX	2 <sup>nd</sup> Range →	XX												XX	XX	XX	XX
	XX	XX	3 <sup>rd</sup> Range →	XX												XX	XX	XX	XX
6	XX	XX	2 <sup>nd</sup> Range →	XX												XX	XX	XX	XX
	XX	XX	3 <sup>rd</sup> Range →	XX												XX	XX	XX	XX

Any failed check point is the basis of an overall UNSAT evaluation and requires the technical inspection of entire lot. Notify the Product Representative for all UNSAT evaluations.

**MMC9 Encl (3) Figure 3-12  
ENCLOSURE (3)  
(Not to Scale)**

MMC Metrology Lab, Inc.

**DATA SHEET**

A&M INSTRUMENTS

**SAMPLE INSPECTION LOG - Temperature Meter (RTD Type)**

REF / JOB NO:

Reference Inspection Procedure: NAVAIR 17-20ST-75

Lot	Sample	Model / Part Number	MFG	RANGE	SCALE	VISUAL	Limit of Error	½ FS Ck	¾ FS Ck	FS Ck	OVERALL	DATE	Inspector
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	Size	Size	(manufacturer's)	(Span)	(Min/Max)	pass	fail	±(range unit)	pass	fail	pass	fail	pass	fail	SAT	UNSAT	(mm/dd/yy)	initials
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Any failed check point is the basis of an overall UNSAT evaluation and requires the technical inspection of entire lot. Notify the Product Representative for all UNSAT evaluations.

**MMC9 Encl (3) Figure 3-13  
ENCLOSURE (3)  
(Not to Scale)**

MMC Metrology Lab, Inc.

**DATA SHEET**

A&M INSTRUMENTS

**SAMPLE INSPECTION LOG - Power Factor Meter - Center Zero**

**REF / JOB NO:**                      **Reference Inspection Procedure: NAVAIR 17-20AQ-168 or Mfg Manual**

Lot	Sample	Model / Part Number	MFG	RANGE	SCALE	VISUAL	Limit of Error	Left ES	Center	Right ES	OVERALL	DATE	Inspector			
Size	Size	(manufacturer's)		(Span)	(Min/Max)	pass	fail	± (range unit)	pass	fail	pass	fail	SAT	UNSAT	(mm/dd/yy)	initials

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Any failed check point is the basis of an overall UNSAT evaluation and requires the technical inspection of entire lot. Notify the Product Representative for all UNSAT evaluations.

**MMC9 Encl (3) Figure 3-14  
ENCLOSURE (3)  
(Not to Scale)**

MMC Metrology Lab, Inc.

**DATA SHEET**

A&M INSTRUMENTS

**SAMPLE INSPECTION LOG - Expanded Scale Voltmeter (Dual Range)**

REF / JOB NO:

Reference Inspection Procedure: NAVAIR 17-20AE-135

Lot	Sample	Model / Part Number	MFG	RANGE	SCALE	VISUAL	Limit of Error	Left ES	Center	Right ES	OVERALL	DATE	Inspector
Size	Size	(manufacturer's)		(Span)	(Min/Max)	pass fail	± (range unit)	pass fail	pass fail	pass fail	SAT UNSAT	(mm/dd/yy)	initials

1	XX	XX	2 <sup>nd</sup> Range →	XX					XX	XX	XX	XX
2	XX	XX	2 <sup>nd</sup> Range →	XX					XX	XX	XX	XX
3	XX	XX	2 <sup>nd</sup> Range →	XX					XX	XX	XX	XX
4	XX	XX	2 <sup>nd</sup> Range →	XX					XX	XX	XX	XX
5	XX	XX	2 <sup>nd</sup> Range →	XX					XX	XX	XX	XX
6	XX	XX	2 <sup>nd</sup> Range →	XX					XX	XX	XX	XX
7	XX	XX	2 <sup>nd</sup> Range →	XX					XX	XX	XX	XX
8	XX	XX	2 <sup>nd</sup> Range →	XX					XX	XX	XX	XX
9	XX	XX	2 <sup>nd</sup> Range →	XX					XX	XX	XX	XX
10	XX	XX	2 <sup>nd</sup> Range →	XX					XX	XX	XX	XX

Any failed check point is the basis of an overall UNSAT evaluation and requires the technical inspection of entire lot. Notify the Product Representative for all UNSAT evaluations.

**MMC9 Encl (3) Figure 3-15  
ENCLOSURE (3)  
(Not to Scale)**

MMC Metrology Lab, Inc.

**DATA SHEET**

A&M INSTRUMENTS

**SAMPLE INSPECTION LOG - Synchroscope - 60 Hz and 400 HZ**

REF / JOB NO:

Reference Inspection Procedure: NAVAIR 17-20AQ-168 or Mfg Manual

Lot Size	Sample Size	Model / Part Number (manufacturer's)	MFG	Frequency (60 / 400 Hz)	Voltage (Nominal)	VISUAL		Limit of Error (12 o'clock )	12 o'clock		OVERALL		DATE (mm/dd/yy)	Inspector initials
						pass	fail		pass	fail	SAT	UNSAT		

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Any failed check point is the basis of an overall UNSAT evaluation and requires the technical inspection of entire lot. Notify the Product Representative for all UNSAT evaluations.

**MMC9 Encl (3) Figure 3-16  
ENCLOSURE (3)  
(Not to Scale)**

MMC Metrology Lab, Inc.

**DATA SHEET**

Ashcroft Inc. Products

**SAMPLE INSPECTION LOG - Pressure / Temperature Switches**

REF / JOB NO:

Reference Inspection Procedure: Manufacturer Instructions

Lot Size	Sample Size	ORIGIN Tracking No.	Gage Size 3/2" 4/2" 8/2"	RANGE	Connection Location back BTM	Connection Type 5 o'clk O-ring flrless 1/2NPT	VISUAL Insp pass fail	Limit of Error (± unit)	INC Press pass fail	DEC Press pass fail	OVERALL SAT UNSAT	DATE (mm/dd/yy)	Inspector initials
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Any failed check point is the basis of an overall UNSAT evaluation. Notify the Product Representative for all UNSAT evaluations.

**MMC9 Encl (3) Figure 3-17**