

TEST HOUSE QUALITY PROGRAM (U)

CHANGE HISTORY

<u>ISSUE</u>	<u>DESCRIPTION OF CHANGE</u>	<u>CUSTODIAN</u>	<u>DATE</u>
E	UPDATED SECTION IV.J PARAS. 2-3 AND DELETED LAST PARAGRAPH	S. L. HALTER	1/26/2004
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I. PURPOSE

This specification defines the minimum requirements of the Test House Quality Program for Suppliers of inspection and/or testing services for Honeywell, Federal Manufacturing and Technologies (FM&T).

INCORPORATION INSTRUCTIONS:

Revision "H" is effective on 1/1/2017.

II. DEFINITIONS

The list of definitions of terms relating to this specification is included in Appendix A. The list of documents referred to is included in Appendix B.

III. BUYER'S QUALITY OVERSIGHT

A. AUDITS, SURVEYS AND INSPECTIONS

The Buyer and/or its customer, National Nuclear Security Administration (NNSA), reserve the right to perform quality system audits, quality assurance surveys and verification inspections at Supplier locations to evaluate the degree of compliance with this specification and the purchase order. This includes access to Sub-Tier Suppliers' facility, instructions, procedures, specifications and records as deemed necessary to conduct such audits, surveys and inspections. The results shall not relieve the Supplier of the responsibility to supply conforming product to the Buyer.

Disapproval of the Supplier's quality program or major portions thereof may be cause for withholding Buyer acceptance of product until cause(s), specific corrective action(s) and preventive corrective action(s) are submitted to and approved by the Buyer. If significant conditions adverse to Quality are identified, these conditions must be resolved prior to continuing work. When requested, the Supplier shall arrange permission for the Buyer and/or the NNSA to perform any audits, surveys and inspections at its Subcontractors.

Note: FM&T will coordinate visits and establish dates for visits that are mutually satisfactory to all parties.

B. RESIDENT REPRESENTATIVES

The Buyer and/or NNSA may station resident quality representative(s) at the Supplier's facility during the term of the purchase order as outlined in the Purchase Order and as mutually agreed by all parties. The Supplier shall provide all reasonable facilities and assistance for the safety and convenience of the representatives of the Buyer and/or NNSA in the performance of their duties.

C. SUPPLIER'S PROPRIETARY RIGHTS

In cases where the Supplier or the Supplier's Subcontractor(s) reserve certain proprietary rights of controlled documents, hardware, processes, records, etc., the Supplier shall submit a written list of such items to the Buyer with their quote. The Supplier or Supplier's Subcontractor(s) will provide their best effort to fulfill the requirements of the audit without divulging any Supplier related proprietary information.

IV. REQUIREMENTS OF THE TEST HOUSE QUALITY PROGRAM

A. GENERAL

This specification requires the Supplier to establish, document, maintain and operate a quality program to assure compliance with all Buyer part preconditioning, inspection and testing service requirements. The Supplier's quality program shall demonstrate recognition of the Buyer's requirements in order to assure conformance of all preconditioning, inspection and testing services to Buyer requirements as stated in the purchase order and supporting documents.

B. MANAGEMENT RESPONSIBILITY

The Supplier's management shall emphasize the quality of the processes in their preconditioning, inspection and testing services and encourage continuous improvement. They shall have a documented quality policy with defined objectives and an organizational structure with explicitly defined and assigned responsibilities. Appropriate resources shall be provided for implementation and achievement of quality objectives. The Supplier shall have established processes that emphasizes preventive actions to avoid occurrence of problems and also supports corrective actions that respond to and correct any failures that occur. The Supplier shall collect metrics to evaluate the continuing effectiveness of their Quality Management System.

C. QUALITY SYSTEM

The Supplier's quality program shall demonstrate recognition of the Buyer's requirements in order to assure conformance of product requirements. The Supplier shall furnish a copy of their quality manual prior to being evaluated by the Buyer.

D. CONTRACT REVIEW

The Supplier shall have a written procedure(s) for reviewing Buyer Purchase Order Requirements, including PO changes/modifications, ensuring they are understood, communicated to appropriate organizations within the business and with sub-tier suppliers, where appropriate. Additionally, the Supplier shall provide clear and definitive technical instructions and data for execution of work and verification of conformance. The Supplier shall insure accurate information with respect to product preconditioning parameters, inspection and test tolerances and attributes. The Supplier shall follow inspection and sampling procedures as outlined by the Buyer requirements and/or the product specifications.

E. DOCUMENT AND DATA CONTROL

The Supplier shall have a written procedure that provides for adequate control of Buyer drawings, specifications and engineering change orders indicated by the most current Purchase Product Definition in the purchase order. The Supplier shall have an established process for ensuring that invalid and/or obsolete documents are promptly removed from all points of use or otherwise assured against unintended use. All documentation shall be legible, dated (including revision dates), clean, readily identifiable and maintained in an orderly manner. Documentation may be either hard copy or computer stored. The following are examples of the types of documents requiring control:

Drawings	Specifications
Blueprints	Inspection Instructions
Test Procedures	Work Instructions
Operation Sheets	Quality Manual
Operational Procedures	Quality Assurance Procedure

1. Change Control

The Supplier shall have written procedures for configuration management and change control, which control the approval, release and distribution of drawings, procedures and specifications.

2. Software Control

The Supplier shall have an established process for developing, controlling and validating software used in preconditioning, processing or testing material and collecting data to the Buyer requirements. This process shall include controls of any software that:

- a. Controls Processes or Equipment such as Preconditioning.
- b. Controls Test or Inspection Equipment, Including Acceptance Limits.
- c. Controls Calibration of Standards and Measurement and Test Equipment.
- d. Provides Analysis Capability to Determine Product Acceptability.

F. PURCHASING

The Supplier shall have a written procedure(s) that address controls related to purchases. The Supplier shall evaluate, select and control Subcontractors to assure that purchased material, product and services conform to specified requirements. The Subcontractor's capabilities and calibration processes shall be assessed and a list of qualified Subcontractors maintained.

The Supplier shall initially and then, annually verify the validity of Subcontractor certifications, test data and inspection data related to specified requirements. Verification shall be performed by testing, by inspection, or by audit by the Supplier of the Subcontractor's testing program. Each Subcontractor shall be required to provide written certification of test and inspection data that demonstrates conformance of the material, product, or service received. The Supplier shall review this data for conformance to specified requirements. Non-conformance to requirements may warrant corrective action from the Subcontractor and follow-up by the Supplier.

G. PRODUCT IDENTIFICATION AND TRACEABILITY

The Supplier shall have a written procedures that assures products being preconditioned, tested or inspected are properly identified, maintained and controlled throughout the facility. Proper identification shall include direct marking of the product, indirect marking of the product or marking of the storage location. Marking shall be clear, unambiguous and have no detrimental effect on the product function, appearance or life.

Product or material having a specified, limited calendar or operating life or cycles shall be identified and controlled to preclude the use of items whose shelf life or operating life has expired.

H. PROCESS CONTROL

The Supplier shall have a written procedure(s) related to preconditioning, inspection and testing operations to the extent necessary to perform the task. These instructions shall describe the criteria for determining satisfactory work completion, conformity to specification and standards of good workmanship. Persons responsible for processing changes shall be clearly designated. Changes to production tooling or equipment, materials, or processes should be documented. Where certain auxiliary materials and utilities such as water, compressed air, electric power and processing chemicals could affect the quality, they shall be verified periodically. Where environment, such as temperature, humidity and cleanliness, could affect quality, appropriate limits shall be specified, controlled and verified.

The Buyer shall verify adequacy of the Supplier's processing including periodic re-evaluation of qualification units as it applies to material being processed. The Buyer shall review and approve the Supplier's process/inspection instructions/travelers to verify they meet specification requirements. This does not relieve the Supplier of the responsibility for accuracy.

I. INSPECTION AND TESTING

The Supplier's preconditioning, inspections and tests shall be performed in accordance with written procedures. The Supplier shall as a minimum follow preconditioning, inspection and sampling procedures as specified in the Buyer requirements. The supplier shall maintain records of preconditioning, inspection and test results traceable to each lot or group of parts processed.

J. CONTROL OF INSPECTION, MEASURING AND TEST EQUIPMENT

The Seller and/or Product Manufacturer shall comply with the Buyer's PQR 2698, Calibration Control Specification. Specifically, the requirement for Measurement Standards and M&TE used in support of Buyer related work must be calibrated using Standards traceable to NIST. The Seller or subcontractor that calibrate the Seller's and/or Product Manufacturer's equipment shall maintain a calibration program that is consistent with one of the following requirements:

1. The Buyer's PQR 2700, General Requirements for Calibration (CCL) & Testing (CTL) Laboratories
2. ANSI/ISO/IEC17025, General Requirements for the Competence of Testing and Calibration Laboratories
3. ANSI/NCSL Z540, Requirements for the Calibration of Measuring and Test Equipment

When measurement standards or M&TE are either removed from service, removed from periodic calibration, or placed in storage, and they have been used since their last calibration, a final calibration (cross-check/loop closure) must be performed. Seller shall provide the Buyer written justification for not performing this function. If an out-of-tolerance (OOT) condition is found during recalibration, the OOT condition must be evaluated for its effect upon product quality. Seller shall notify Buyer, in writing, of any OOT condition that could have had an adverse effect upon the quality of a product provided.

K. INSPECTION AND TEST STATUS

The Supplier shall maintain an established process for identifying the inspection status of all material and products by direct marking or indirect labeling. Indirect labeling may be on a routing tag, work documents, travelers or similar paperwork that accompanies the product. Product designated for destructive testing or special evaluation shall be properly identified and controlled to preclude inadvertent use or shipment. The inspection status of material and products shall be readily visible.

L. CONTROL OF NONCONFORMING MATERIAL

The Supplier shall have a written procedure(s) for the handling of nonconforming material assuring positive identification and prompt and continued segregation of such material from other material being processed or stored. Nonconforming material shall remain identified as such and be segregated until proper disposition is made. Nonconforming material shall not be used or shipped unless written authorization is obtained from the Buyer.

M. CORRECTIVE AND PREVENTIVE ACTION

The Supplier shall have a written procedure(s) that assures prompt action is taken to correct problems when nonconforming conditions are identified. These procedures shall include the Supplier's responses to Buyer requests for corrective action and for corrective action for internal non-conformances and Subcontractor non-conformances. Corrective action responses to the Buyer shall include:

1. The root cause of the non-conformance.
2. The specific action taken to correct the non-conformance.
3. The action taken to prevent recurrence of the non-conformance.
4. The effective date of any changes made to implement the corrective action

N. HANDLING, STORAGE, PACKAGING, PRESERVATION AND DELIVERY

The Supplier shall have an established process covering handling, storage, packaging, preservation and delivery of product. Product shall be handled and packaged as necessary to protect the items from loss, moisture, dirty conditions, electrostatic discharge (ESD), possible damage or substitution during processing and shipment. The Supplier shall prepare

and submit a signed certificate of conformance and test data as required by the purchase order with each shipment of product and/or services to the Buyer. Product certification shall be supported by quality evidence.

O. CONTROL OF QUALITY RECORDS

The Supplier shall have an established process to maintain records of all inspections, tests and evaluations performed. The following are examples of the types of quality records requiring control:

Inspection Reports	Test Data
Qualification Reports	Validation Reports
Audit Reports	Material Review Reports
Calibration Data	Quality Cost Reports

Unless specified otherwise, quality records shall be retained and made available for review by the Buyer and/or NNSA for a period of three (3) years from the completion of lot testing. These records shall be stored and maintained to protect them against damage, deterioration or loss.

P. INTERNAL QUALITY AUDITS

The Supplier shall establish and maintain an internal quality audit program to independently evaluate the adequacy of and to verify compliance with the quality program. Personnel carrying out the audits shall be independent of the areas or activities being audited. Audits, corrective actions and implementations shall be documented.

Q. TRAINING

The Seller shall establish a written procedure to document personnel training. Personnel training needs shall be re-evaluated at intervals not to exceed 3 years. Personnel training shall be documented and records retained for a minimum of 3 years.

R. EXPORT CONTROL REQUIREMENTS

Suppliers operating under this Program are subject to Export Controls in accordance with the Arms Export Control Act, or the Export Administration Act of 1979 or the Atomic Energy Act of 1954. As such,

1. The supplier shall have a written procedure that prohibit the access of foreign persons to ECI/OUO articles/information.
2. The supplier shall have a written procedure for the destruction of ECI/OUO articles/information including documents, electronic media and materials when no longer needed/usable. Destruction shall make said articles unrecognizable and subsequently disposed using normal waste processing.

3. ECI/OUO articles shall not be made available to foreign persons through any means. ECI/OUO articles shall be stored and transmitted using secure methods.

Reference the Terms & Conditions for further detail on specific requirements.

V. APPENDICES

A. DEFINITIONS

Administrative Change: A change to Supplier preconditioning, inspection or testing work instructions which is not defined as significant.

Buyer: Honeywell, Federal Manufacturing & Technologies (FM&T).

Buyer Requirements: The Purchase Product Definition specifies the drawings which set forth the product requirements imposed upon and agreed to by the Supplier and which are incorporated in the purchase order. This product definition is amended jointly by mutual agreement by the Buyer and Supplier upon drawing changes (ACO or FCO).

Calibration Program Approval: Approval granted to the Supplier and/or its Subcontractor that its calibration program meets the requirements of the Buyer's PQR-2767 Designated Calibration Source (DCS) Calibration Program Specification and of the Buyer's PQR-2698 Calibration Control Specification. Calibration program approval requirements are listed in the purchase order.

Certification of Conformance: A signed document stating that the supplied services meet specified Buyer requirements. The Supplier shall use a Buyer supplied E-1609 or E-1609A Certificate of Conformance as specified in the purchase order or a Buyer approved alternate

Export Controlled Information (ECI) – Documents contain technical data whose export is restricted by the Arms Export Control Act, or the Export Administration Act of 1979 or the Atomic Energy Act of 1954. Violations of these export laws are subject to severe criminal penalties.

Electro Static Discharge (ESD): A spark normally jumps to equilibrate unequal static charges on two charged bodies that come in contact. Such discharge can damage static sensitive devices.

Engineering Change Order (ECO): A document prepared by the Buyer's technical personnel used to modify Buyer's drawings and specifications. An engineering change may be issued as an Advance Change Order (ACO) or as a Final Change Order (FCO) concurrently with the drawing change. Incorporation of engineering change orders shall be in accordance with the provisions of the purchase order.

Inspection: An independent assessment by a person or persons not directly responsible for the work being evaluated to critically examine the features of an object, or to exercise it to

determine its operating characteristics in order to certify conformance to product drawing requirements. This includes visual inspection and performance testing.

M&TE Evaluation: Validation by the Buyer of the capability of the Supplier's and/or Subcontractor's measurement and test equipment (M&TE) to adequately make the measurements required per the Buyer's specification. These tests shall serve as independent verification of the component suppliers' capability to meet specification requirements.

Official Use Only – Document may be exempt from public release under the freedom of information act.

Preconditioning: Subjecting a part/device to a set of operating and/or environmental conditions designed to screen out items susceptible to infant mortality, e.g. powered burn-in at elevated temperature for electronic devices.

Qualification Testing: Validation of the Supplier's ability to obtain repeatable and verifiable results when performing acceptance tests to the Buyer's requirements

Quality Evidence: Recorded information which indicates the extent of conformance of items or characteristics to specified requirements within an identified measurement uncertainty. This information may be based on physical inspections, process controls, physical, chemical and electrical tests, non-destructive tests or any combination of these. The preferred form of data is on electronic medium or data that can be transferred to the Buyer Electronically. This information includes:

Quantitative Data: Values (variables data) that result from determining the magnitude of a characteristic with respect to a standard of scale (such as values obtained by dimensional measurement, chemical analysis, tensile testing, or electrical testing). This is the preferred form of data for all Buyer required Supplier tests.

Qualitative Data: Determined status of a characteristic (attributes data) with respect to only two possible conditions (such as present or absent, go or no-go, pass or fail).

Significant Change: A change from an existing specific location, change in testing environment, change in equipment, change in testing sequence, or change in Subcontractors which could affect results in verifying conformance to Buyer requirements.

Subcontractor: The term used herein to designate an individual or organization supplying services (preconditioning, inspection, testing, calibration) to the Supplier.

Supplier: The term used herein to designate the individual(s) or organization that has entered into a purchase order with the Buyer to provide services (preconditioning, inspection, testing, calibration) to Honeywell FM&T.

Testing: To perform a critical evaluation or examination of raw or commercial materials to determine their physical properties, such as chemistry, grain size, tensile strength, hardness, etc.

Testing Facility: A facility performing physical, chemical, pressure, electrical, plating, environmental or other tests to determine conformance of materials or products to Buyer requirements.

VI. LIST OF REFERENCED DOCUMENTS

E-1609/A: Certificate of Conformance
Purchase Product Definition

PQR-2698: Calibration Control Specification

PQR-2767: Designated Calibration Source (DCS) Calibration Program Specification

PQR-2700: Calibration Laboratory Operating Requirements