REVISIONS			
REV	**Description**	**Date**	**Appv'd**
C	Update to format, Changed Vision Statement, Update to Org. Chart. RA	11/8/03	RJA
D	Update Scope to add ISO-14001, update to "Reference" section, Update to section 4.1 RA	4/7/04	RJA
N/A	Revised to clarify multiple sections and reflect changes in practice	5/12/05	RJA
E	Major review and alignment of quality manual with revisions applicable to lower level documentation structure	5/9/08	RJA
F	Change scope to include ISO 9001:2008 and AS9100C	4/24/12	RJA

.

AUTOMATION ELECTRONICS

COMPANY POLICY

Approved By: Ray Aiani Date 4/24/12

Quality Manager

Approved By: Robert Aiani Date 4/24/12

Automation Electronics President

TITLE: Quality Systems Policy Manual

VISION STATEMENT

A.E. will be the preferred supplier and partner of choice to leaders in the industry, that depend upon wire assemblies, processed wire, harnesses, cables, wired products, and technologies.

QUALITY POLICY

We are dedicated to achieving customer satisfaction by empowering our employees to continuously improve the Quality, Cost and Delivery of our products and services. The prime objective of this quality system is to prevent nonconformance.

To improve, we must recognize the value of learning from our customers, from our competition, from our suppliers and from each other.

MANAGEMENT COMMITMENT

Our management's values are demonstrated by a history of more than 30 years of investing in the right people, reinvesting in the business, and servicing our customers with honesty and integrity. Our ownership and management commitment fosters these same values in our newer employees through training and mentoring so they will continue this tradition in the future.

Employees are required to function in their respective roles or responsibilities in a manner that is consistent with the above. Employees may expand upon the vision and policy statements as appropriate to address unique markets, customer strategies and/or key business drivers.

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1.0 SCOPE

1.1 To define the Quality System for A. E. in accordance with ISO 9001, ISO 9002, ISO 14001, AS-9000, QS-9000 and DI-9000 as applicable.

1.2 The Quality System outlined in this document provides guidelines for prevention of non-conformities in all aspects of product; design/development, production, installation and servicing and as such requires the involvement and support of all personnel directly or indirectly involved in these activities.

1.3 This Quality Systems Policy Manual is issued on a controlled or uncontrolled basis. Controlled copies are reissued when the Quality System is revised. Uncontrolled copies will be made available to Customers and Suppliers, but will not be replaced in the event of a revision change.

1.4 Changes to this manual will be documented on a change control form and require the approval of the Quality Manager prior to release and distribution.

2.0 REFERENCE

ANSI/NCSL Z540-1	Calibration Laboratories and Measuring and Test Equipment – General Requirements (Part One/Part Two)
ANSI/ISO/ASQC Q9001-2008	Quality Systems – Model for Quality Assurance in Design, Development, Production, Installation and Servicing
ISO 9001, QS-9000, ISO 14001, AS-9000 and DI-9000 Procedures	See Business Unit/Facility Matrix Procedure for identifying Flow Down Requirements
ISO 8402	Quality management and Quality Assurance
ISO 10012, PART 1	Quality Assurance Requirements for Measuring Equipment
IS EN ISO 9001: 2008	Quality Systems – Model for Quality Assurance in Design, Development, Production, Installing and Servicing
IS EN ISO 9001: 2008	Quality Systems – Model for Quality Assurance in Production, Installation and Servicing
BS EN ISO 9001 BS EN	Quality Systems Model for Quality Assurance in Design, Development, Production, Installation and Servicing Quality Systems Model for Quality Assurance in Production, Installation and Servicing.
ECP-PDM-0005	ECR/ECN System
QAP-1015	Management Review
OMP-203	SAP Order Processing
DIVN-107	New Product Introduction
DIVM-100	Environmental Affairs Policy
DCP-278	Element/Requirements to Procedure Cross Reference Matrix (Pawtucket Boulevard Facility)

3.0 DEFINITIONS

For the purposes of this Quality System, the definitions stated in ISO 8402 apply.

4.0 QUALITY SYSTEM REQUIREMENTS

4.1 Management Responsibility
(Reference: ISO 9001 Para 4.1)

4.1.1 Quality Policy
(Ref. ISO 9001 Para 4.1.1)

In addition to the aforementioned Quality Policy, A. E. considers the following objectives to be important to the approach, deployment and results of the initiatives undertaken relative to the stated policy.

a) A. E. operates its businesses in a manner intended to consistently provide quality products and superior service to its customers.

b) A. E. is committed to continuous improvement in our ability to satisfy customer needs.

c) A. E. requires that all employees be cognizant of and dedicated to the policy of customer satisfaction and continuous improvement in their respective roles or functions.

d) All Business Units have specific measurable goals and objectives that are aligned with this policy.

4.1.2 Organization
(Reference: ISO 9001 Para 4.1.2)

A. E. Organization Chart is defined by Attachment A.

Each Business Unit has established and maintains an organization chart for their respective structures.

4.0 QUALITY SYSTEM REQUIREMENTS

4.1 Management Responsibility

4.1.2 Organization

4.1.2.1 Responsibility

(Reference: ISO 9001 Para 4.1.2.1)

Each Business Unit has established and maintains documented procedures, which define responsibility, authority and the interrelation of key personnel who manage, perform and verify work-affecting quality.

All personnel have a responsibility for product quality and customer satisfaction. Personnel have the responsibility, authority and the organizational freedom for the following quality functions to include, but not limited to:

a) Initiate action to prevent the occurrences of product, process, and Quality System non-conformities.

b) Identify and report any product or service quality issues.

c) Initiate, recommend or provide solutions through designated channels.

d) Verify the implementation of corrective and preventive actions taken to resolve issues.

e) Control further processing, delivery or installation of non-conforming product until the deficiency or unsatisfactory condition bas been corrected.

NOTE: The following descriptions define specific responsibilities and delegated authority levels for key personnel identified in the organization chart.

President

President is ultimately responsible for the quality of the products designed, manufactured and supplied by A.E. and for establishing an effective quality system that insures that the company's quality policies and objectives are implemented and maintained.

4.0 QUALITY SYSTEM REQUIREMENTS

4.1 Management Responsibility (cont'd.)

4.1.2 Organization

4.1.2.1 Responsibility

The Director of Quality Assurance

The Director of Quality Assuance has the responsibility of assuring the procedures for the control of those factors affecting the quality and reliability of A. E. deliverable products are established, suitable, effective, and maintained.

Business Unit Managers

Business Unit Managers have the responsibility for the deployment of the quality policy and continued conformance with this document.

4.1.2.2 Resources

(Reference: ISO 9001 Para 4.1.2.2)

Management will identify resource requirements and provide sufficient and appropriate resources essential to implement the Quality Policy and achieve quality objectives. The resources may include:

- Human resources at all levels of expertise and qualifications
- Equipment for design and development, inspection, test, instrumentation, examination and manufacturing

The quality verification functions stated in this manual are documented in procedures which are used by qualified, trained personnel. Verification activities include inspection and testing of processes and/or product, design reviews and audits of the quality system. Audits of processes and/or product are carried out by trained personnel independent of those having direct responsibility for the work being performed.

4.0 QUALITY SYSTEM REQUIREMENTS

4.1 Management Responsibility (cont'd.)

4.1.2 Organization

4.1.2.3 Management Representatives
(Reference: ISO 9001 Para 4.1.2.3)

The Director of Quality Assuance and/or Business Unit Manager are responsible for the assignment of designated employees who will function as the Management Representative for respective Business Units, Product Groups and/or locations. These individuals have the responsibility and the authority for ensuring the requirements of ISO 9001, or 9002 as applicable, are implemented and maintained. The Management Representative periodically reports to management regarding the overall performance of the quality system and presents recommendations for system improvements. The representative may also act as liaison with external parties on quality system matters.

4.1.2.4 (AS9000) Suppliers having a quality assurance activity performed by an individual process owner (e.g., operator, buyer, planner) shall have procedures that define the specific tasks and responsibilities that are authorized and the corresponding requirements and training necessary to perform those tasks.

4.1.3 Management Review
(Reference: ISO 9001 Para 4.1.3)

4.1.3.1 The quality system and quality policy objectives are reviewed by Management at least annually to ensure its continuing suitability and effectiveness.

Records of such reviews are maintained.

4.0 QUALITY SYSTEM REQUIREMENTS

4.2 Quality System

4.2.1 General

(Reference: ISO 9001 Para 4.2.1)

This Quality Systems Policy Manual has been prepared to document and describe implementation of the requirements of the ANS1/ISO/ASQC Q9001 (and 9002 as applicable).

Quality System (Level 2) procedures provide methods by which the Quality System is deployed and effectively implemented at the Business Unit level. Each Business Unit maintains a cross-reference document, which defines the manner in which the Quality System Policies contained herein are flowed down from this document. This matrix will also contain supplemental requirements imposed by customer or industry.

This manual will be reviewed for completeness and effectiveness at least annually. The responsibility for coordinating the annual review resides with the Director of Quality Assurance. The revision history will document objective evidence of this review.

4.2.2 Quality System Procedures

(Reference: ISO 9001 Para 4.2.2)

Each Business Unit has established and maintains documented quality procedures and records, which are consistent with the standards, and supports this Quality Systems Policy manual. Business Unit Management takes the necessary actions to assure the effective implementation of these procedures, and the availability of stated record requirements as objective evidence. (AS9000) This system must also ensure that these procedures are readily available to personnel who are responsible for compliance to requirements and to customer and/or regulatory agency representatives.

4.0 QUALITY SYSTEM REQUIREMENTS

4.2 Quality System (cont'd)

4.2.3 Quality Planning
(Reference: ISO 9001 Para 4.2.3 and other applicable standards)

The following activities are given consideration, as appropriate, in meeting the specified requirements for products and/or contracts.

a) Preparation of quality plans in accordance with the established quality system procedures.

b) The identification and acquisition of any controls, processes, inspection equipment, fixtures, total production resources and skills that may be needed to achieve the required quality.

1. (AS-9000) Shall take appropriate action where applicable for the design, manufacture and use of tooling so that variable measurement can be taken or if key characteristics are imposed.

c) The capability and compatibility of the design, production process, installation, inspections and test procedures and the applicable documentation.

d) The updating of quality control, inspection and testing techniques, including the development of new instrumentation.

e) The identification of any measurement requirement involving capability that exceeds the known state of the art, in sufficient time for the needed capability to be developed.

f) The identification of suitable verification at appropriate stages of production.

1. (AS-9000) The identification of in-process verification points when adequate verification of conformance cannot be identified.

g) The establishment of standards of acceptability for all features and requirements to include the subjective element.

h) The identification and preparation of quality records.

i) (AS-9000) The identification and selection of subcontractors capable of meeting quality requirements and appropriate flow down of requirements (See QAP-229, PUR-248).

4.0 QUALITY SYSTEM REQUIREMENTS

4.2 Quality System (cont'd)

4.2.3 Quality Planning

j) (AS-9000) The establishment of appropriate process controls and development of control plans if key characteristics have been identified (See QAP-229).

4.3 Contract Review
(Ref. ISO 9001 Para 4.3)

4.3.1 General
(Ref. ISO 9001 Para 4.3.2

Contract review is performed in accordance with OMP-203. Each Business Unit has established and maintains documented procedures for contract review and for the coordination of related activities with responsible functions.

4.3.2 Review
(Ref. ISO 9001 Para 4.3.2)

Before submission of the tender, or at the acceptance of a contract or order (statement of requirement), the tender, contract, or purchase order shall be reviewed to ensure that:

a) The requirements are adequately defined and documented and that the order requirements are agreed upon before their acceptance. Where no written statement of requirement is available for the purchase order received by verbal means, provisions will be made prior to acceptance to define and document the requirements.

b) Any differences between the contract or accepted order requirements and those in the tender are resolved.

c) The capability exists to meet the contract or accepted order requirements.

4.3.3 Amendment To Contract
(Ref. ISO 9001 Para 4.3.3)

Each Business Unit has documented processes for reviewing contract amendment to assure that the pertinent information is correctly transferred to the functions involved.

4.0 QUALITY SYSTEM REQUIREMENTS

4.3 Contract Review (cont'd)

4.3.4 Records
(Ref. ISO 9001 Para 4.3.4)

Records of contract reviews are maintained.

4.4 Design Control
(Ref. ISO 9001 Para 4.4)

4.4.1 General
(Reference: ISO 9001 Para 4.4.1)

Each Business Unit has established and maintains procedures for design control to ensure that customers' requirements for product performance are met and that quality is inherent in the design.

4.4.2 Design and Development Planning
(Reference: ISO 9001 Para 4.4.2)

Based on the type of design, the appropriate qualified persons, equipped with adequate resources, are empowered to complete the activities.

Design and development activity responsibilities are defined by Concurrent Development and Stage Gate processes used for design and development planning. Stage gate is in accordance with DIVN-107, New Product Introduction.

Various tools and techniques may be utilized to assure that designs meet the intended application requirements and are manufacturable. Examples of such tools are: concurrent engineering, failure modes and effects analysis, worse case analysis, reliability analysis, process capability studies, design of experiments, and quality functional deployment. Use of these techniques optimizes designs to eliminate the potential for failure or non-conformance.

4.4.3 Organizational and Technical Interfaces
(Reference: ISO 9001 Para 4.4.3)

Concurrent Development and/or Stage Gate processes are used to assure designs meet requirements for performance, reliability and manufacturability. These processes provide the necessary channels and interfaces for documenting, communicating and reviewing design information on a regular basis.

4.0 QUALITY SYSTEM REQUIREMENTS

4.4 Design Control (cont'd)

4.4.4 Design Input
(Reference: ISO 9001 Para 4.4.4)

Design input requirements are clearly defined by the customer and/or A.E. prior to initiation of the design planning process.

Design input requirements, to include applicable statutory and regulatory requirements are identified, documented, and their selection reviewed for adequacy. Incomplete, ambiguous, or conflicting requirements are resolved with those responsible for imposing these requirements. Company disciplines involved in customer contract and contract review activities will provide available information as design input data.

4.4.5 Design Output
(Reference: ISO 9001 Para 4.4.5)

Designs meet all of the design input requirements. The design output is displayed in terms of the acceptance criteria/requirements including regulatory and safety requirements, when applicable.

Design output results are documented and reviewed prior to release.

4.4.6 Design Review
(Reference ISO 9001 Para 4.4.6)

Formal design review activity is conducted at specified intervals as required by documented procedures and customer requirements.

The results of these multi-functional reviews is recorded and maintained.

4.4.7 Design Verification
(Reference: ISO 9001 Para 4.4.7)

Designs are verified through periodic design reviews, alternative calculations, models, tests or demonstrations that effect the requirements. Methods used to verify design output might include calculations, analysis, simulations or similarity to other designs. Design verification measures, such as test data, shall be recorded to verify the design output meets the design input requirements.

4.0 QUALITY SYSTEM REQUIREMENTS

4.4 Design Control (cont'd)

4.4.8 Design Validation
(Reference: ISO 9001 Para 4.4.8)

Design validation ensures product conforms to user or customer needs and requirements. The validation will follow successful design verification and may include criteria such as in use operating conditions, qualification and performance.

4.4.9 Design Changes
(Reference: ISO 9001 Para 4.4.9)

Design changes and modifications are documented and approved by responsible personnel to assure that new or existing designs can be manufactured and verified.

4.4.9.1 (AS9000) Design Change Approval: The supplier's design control system shall provide to customer and/or regulatory agency approval of changes, when required.

4.5 Document and Data Control

4.5.1 General
(Ref. ISO 9001 Para 4.5.1)

Each Business Unit has established and maintains procedures for document and data control to the extent applicable for internal and external documents. Such documents and data include hard copy and electronic media types.

4.5.2 Document and Data Approval and Issue
(Ref. ISO 9001 Para 4.5.2)

Documents and data are reviewed for adequacy by responsible functions and approved prior to issue or release and availability to users. Document and data control procedures positively control the release, availability, and revision status through use of such methods as controlled copies, master lists, and change control forms to preclude the use of invalid and/or obsolete documents.

All obsolete documentation, which is retained in accordance with internal or external requirements, will be suitably identified and controlled to preclude unauthorized or inadvertent use.

4.0 QUALITY SYSTEM REQUIREMENTS

4.5 Document and Data Control (cont'd.)

4.5.3 Document and Data Changes
(Ref. ISO 9001 Para 4.5.3)

Changes to documents are reviewed for adequacy by responsible personnel and approved prior to release and availability to users. Unless specifically designated otherwise, the same person that performed the original review and approval will perform this activity. Changes may be documented on a change control form, which documents or refers to reason for change, states affectivity of the change, and disposition of material or product affected by the change. Alternate means for change control will be defined by designated Business Unit procedures.

4.5.3.1 (AS9000) Document Change Incorporation: The supplier shall establish a process to ensure the timely review, distribution, implementation and maintenance of all authorized and released drawings, standards, specifications, planning and changes. The supplier shall maintain a record of change effectivity and, when required, shall coordinate these effectivities with the customer.

4.6 Purchasing
(Ref. ISO 9001 Para 4.6)

4.6.1 General
(Ref. ISO 9001 Para 4.6.1)

Each Business Unit has established and maintains procedures for Purchasing to ensure that purchased product and services conform to specified requirements.

NOTE: (AS9000) This requirement also applies to product obtained from customer-designated sources.

5.0 QUALITY SYSTEM REQUIREMENTS

4.6 Purchasing (cont'd.)

4.6.2 Evaluation of Subcontractors
(Ref. ISO 9001 Para 4.6.2)

Subcontractors are evaluated, selected and retained on the basis of their ability to meet requirements.

The selection process for potential and existing subcontractors and the type and extent of control exercised over them are dependent upon the type of product and, where appropriate, on records of the subcontractors previously demonstrated capability and performance.

Records of acceptable subcontractors are established and maintained.

NOTE: (AS9000) Definition of the extent of control should include a system for disapproval if necessary. Ensure that both the supplier and all subcontractors use customer-approved special process sources, as required by contract.

4.6.3 Purchasing Data
(Ref. ISO 9001 Para 4.6.3)

Purchasing documents describe the product or service ordered and, where applicable, include:

a. The type, class, style, grade or other precise information;

b. The title, number, and other positive identification applicable to the issue of specifications, drawings, process requirements, inspection and test instructions. When applicable, the data includes requirements for approval or qualification of product, process, equipment or personnel;

c. The identification of the quality system standard to be applied to the product.

Purchasing data is reviewed for completeness prior to release to the subcontractor.

4.0 QUALITY SYSTEM REQUIREMENTS

4.6 Purchasing (cont'd)

4.6.4 Verification of Purchased Product
(Ref. ISO 9001 Para 4.6.4, 4.6.4.1, 4.6.4.2)

NOTE: (AS9000) verification methods for purchased product may include receiving/source verification, delegation of verification to the subcontractor, or subcontractor certification.

Upon receipt of purchased products, incoming verification is performed. When applicable, source inspections at the subcontractor's facility are performed.

Ship to stock programs for qualified suppliers are established and maintained at the Business Unit level to focus inspection activities in value added areas.

As required, customers may perform verification at subcontractor locations. This verification shall not be used by A. E. as evidence of effective control of quality by the subcontractor. Such verification also does not absolve A. E. of the responsibility to provide conforming products or services, nor shall it preclude subsequent rejection by the customer.

(AS9000) Right of Entry: The supplier shall include provisions in subcontracts to allow the supplier, customer and regulatory agencies right of entry to any place necessary to determine and verify the quality of contracted work, records and material.

Delegation of Supplier Verification to Subcontractors: Where the supplier proposes to delegate product verification to a subcontractor, the supplier shall define the requirements for the delegation and maintain a list of the delegations.

Requirements Flowdown: The supplier shall flow down quality system requirements to subcontractors to the extent necessary to ensure that characteristics not verifiable upon receipt are adequately controlled by the subcontractor. Key characteristics requirements shall be flowed down if the supplier subcontracts the key characteristics process.

4.0 QUALITY SYSTEM REQUIREMENTS

4.7 Control of Customer-Supplied Product
(Ref. ISO 9001 Para 4.8)

Each Business Unit has established and maintains procedures for the control of customer-supplied product or materials, where applicable. These controls include verification, storage and maintenance of such product or materials.
Records of any customer-supplied product/materials that is lost, damaged or otherwise unsuitable for use are maintained and reported to the customer.

4.8 Product Identification and Traceability
(Ref. ISO 9001 Para 4.8)

Each Business Unit has established and maintains procedures for product identification from receipt of material and during all stages of production and delivery. Material traceability is maintained through unique identification of products or batches as an element of Quality Assurance.

When unique traceability is specified as a contract requirement, or deemed appropriate by the Business Unit to assure design/process control, individual product or batches will be assigned a unique identification scheme.
Records of product identification and traceability required by customers are maintained.

4.9 Process Control
(Ref. ISO 9001 Para 4.9)

Each Business Unit has established and maintains procedures, which will ensure that the production process operates in a planned and systematic manner under controlled conditions.

The controlled conditions may include:

a. The use of flow cards, route sheets, travelers, or paperless systems which will outline the process flow, including product testing and inspection stages.

b. The use of product-specific drawings and documented work instructions.

c. The use of test instructions, which outline the mechanical and electrical tests to be performed and the acceptance criteria.

d. The use of calibration control of measurement and test equipment used in the assessment of processes and products.

4.0 QUALITY SYSTEM REQUIREMENTS

4.9 Process Control (cont'd)

e. The use of acceptance criteria for workmanship in written standards, samples or illustrations.

(1) (AS9000) Monitoring and control of key characteristics when required by purchase order/contract.

f. The training/certification of employees in the skills leading to qualification which may be necessary for process control or to perform special processes.

g. The suitability of work environments for product, equipment and employees.

h. The establishment of preventative maintenance programs to ensure continuous equipment process capability.

i. The identification of and requirements for qualification of process operations, which cannot be fully verified by subsequent inspection and testing.

Records of qualified (special) processes and/or equipment requiring certification of employees are maintained.

j. (AS9000) Accountability for all product during manufacture (e.g., part quantities, split orders, nonconformities);

k. (AS9000) Evidence that all manufacturing and inspection operations have been completed as planned, or as otherwise documented and authorized;

l. (AS9000) Provisions for the prevention, detection and removal of foreign objects.

4.9.1 (AS9000) Process Specification Requirements. When special processes requiring customer approval are required by drawing, specification, or purchase order, the supplier shall obtain qualification prior to processing or subcontract the process to a customer-approved source.

4.9.2 (AS9000) Tooling: The supplier's system shall maintain and control production tooling to ensure that the product meets design requirements.

4.0 QUALITY SYSTEM REQUIREMENTS

4.10 Inspection and Testing
(Ref. ISO 9001 Para 4.10)

4.10.1 General
(Ref. ISO 9001 Para 4.10.1)

Each Business Unit has established and maintains procedures necessary for the performance of inspection and testing activities and recording of results of these activities.

4.10.1.1 (AS9000) Subcontracting Inspection Activities: When the supplier proposes to subcontract inspection activities, the supplier shall control the subcontracted activity consistent with the requirements of Section 4.6.

4.10.2 Receiving Inspection and Testing
(Ref. ISO 9001 Paras. 4.10.2.1, 4.10.2.2, 4.10.2.3)

4.10.2.1 Purchased materials are not used or processed until they have been verified to be conforming to requirements

4.10.2.2 Incoming Inspection may not be required on all material. For suppliers meeting defined certification requirements, received product or materials may be routed directly to stock or manufacturing.

4.10.2.3 When purchased material is released prior to verification for urgent production purposes, positive identification and traceability are maintained for control.

4.10.2.4 (AS9000) When certification test reports are used as a means of product acceptance, procedures shall document the types and frequencies of analyses to validate certifications.

Records of urgent material traceability are maintained.

4.0 QUALITY SYSTEM REQUIREMENTS

4.10 Inspection and Testing (cont'd)

4.10.3 In-process Inspection and Testing
(Ref. ISO 9001 Para 4.10.3)

Inspections and/or tests are performed at appropriate intervals or stages (as identified by such documents as shop travelers, instruction sheets and flow cards used in the manufacturing process) to verify conformance to established criteria.

All products must have required inspections or tests completed, recorded and verified prior to dispatch to next operations, or as controlled by urgent release procedure.

4.10.4 Final Inspection and Test
(Ref. ISO 9001 Para 4.10.4)

Final inspection and testing activities are performed in accordance with the quality plan and/or documentation to verify that the product conforms to the requirements and that relevant in-process operations have been successfully performed and documented. No product will be delivered until the final inspection and test requirement has been satisfactorily completed, recorded and verified.

4.10.5 Inspection and Test Records
(Ref. ISO 9001 Para 4.20.5)

Applicable documents such as shop travelers, instruction sheets, flow cards and related test/inspection data, either hard copy or electronic, are maintained as objective evidence that product has complied with the defined criteria for acceptance. Product, which fails to comply with the criteria, will be rejected in accordance with the respective procedures for control of non-conforming product documented by the Business Unit.

Records identifying the inspection/test authority responsible for the verification and release of products will be maintained.

4.10.5.1 (AS9000) First Production Article: The supplier's system shall provide a process, as appropriate, for the inspection, verification and documentation of the first production article.

4.0 QUALITY SYSTEM REQUIREMENTS

4.11 Control of Inspection, Measuring and Test Equipment
(Ref. ISO 9001 Paras 4.11, 4.11.1, 4.11.2)

Each Business Unit has established and maintains procedures defining the process to control, calibrate and maintain inspection, measuring and test equipment, including test software used to demonstrate conformance, in accordance with ISO 10012-1 and/or ANSI-Z540-1, as follows:

a. Identifies the measurements to be made, the accuracy required and selects the appropriate equipment;

b. Identifies, calibrates and adjusts inspection measuring and test equipment that can impact products quality at prescribed intervals against certified standards having a direct relationship to recognized standards.

c. Documents and maintains calibration procedures including details of equipment type, identification number, location, frequency of checks, check method, acceptance criteria and action to be taken when necessary;

d. Identifies inspection, measuring and test equipment with a label indicating calibration status;

Records are maintained of calibration results for inspection, measuring and test equipment.

e. Assesses and documents the validity of previous inspection and test results when inspection, measuring and test equipment is found to be out of calibration;

f. Ensures that the environmental conditions and the handling preservation, and storage of inspection, measuring and test equipment is sufficient to maintain accuracy and fitness for use;

g. Test fixtures and test software are checked prior to release and when specified by procedure. This check ensures that they are capable of verifying the acceptability of product prior to use.

Records of the test fixture and test software checks are maintained.

h. Safeguards the inspection, measuring and test equipment from adjustments which would invalidate the calibration;

4.0 QUALITY SYSTEM REQUIREMENTS

4.11 Control of Inspection, Measuring and Test Equipment (cont'd)

4.11.1 (AS9000) Definition: Inspection, measuring and test equipment includes all types of devices used by any supplier or subcontractor personnel to verify materials, products, processes, or other inspection, measuring and test equipment. This includes tooling used as media of inspection, test hardware, test software, automated test equipment (ATE), and plotters used to produce inspection media. Also included is personally owned equipment used for product or process acceptance.

NOTE: (AS9000) The process shall consider the recall of inspection equipment as appropriate.

4.12 Inspection and Test Status
(Ref. ISO 9001 Para 4.12)

Each Business Unit has established and maintains procedures to record the inspection and test status of product throughout production, installation and servicing. The intent is to ensure that only product that has passed the required inspections and tests is dispatched, used or installed, unless release is authorized by concession.

4.12.1 (AS9000) Acceptance Authority Media: When acceptance authority media are used (e.g., stamps, electronic passwords), the supplier's system shall establish and document controls for the media.

4.13 Control of Non-conforming Product
(Ref. ISO 9001 Para 4.13)

4.13.1 General
(Ref. ISO 9001 Para 4.13.1)

Each Business Unit has established and maintains procedures to ensure that product that does not conform to specified requirements, is prevented from unintended use or installation. These procedures provide for the identification, documentation, evaluation, segregation (when practical), disposition of product and for notification to the functions concerned.

4.0 QUALITY SYSTEM REQUIREMENTS

4.13 Control of Non-conforming Product (cont'd)

4.13.1 General

NOTES: (AS9000)

1. Parties requiring notification of nonconforming product may include internal organizations, customers, distributors and government agencies.

2. The term "nonconforming product" includes nonconforming product returned from a customer.

4.13.2 Review and Disposition of Non-conforming Product
(Ref. ISO 9001 Para 4.13.2)

Non-conforming product/material is reviewed by the responsible Business Unit Material Review members and may be dispositioned as follows:

* Rework
* Scrap/Salvage
* Use As Is (with concession)
* Return to Supplier
* Accept (no defect)
* Re-grade
* Repair (with concession)

Material Review dispositions include appropriate instructions regarding re-inspection or retesting of product to verify conformance.

Records of customer concession approvals for repair or use as is dispositions are maintained.

4.13.2.1 (AS9000) Material Review Authority: Notwithstanding the requirements of 4.13.2, the supplier shall not use dispositions of use-as-is or repair, unless specifically authorized by the customer, if (1) the product is produced to customer design, or (2) the nonconformity results in a departure from the contract requirements.

4.13.2.2 (AS9000) Regarding Material: Product dispositioned for re-grade requires a change in product identification to preclude the product's original use. Adequate test reports and certifications shall reflect the re-grading.

4.0 QUALITY SYSTEM REQUIREMENTS

4.13 Control of Non-conforming Product (cont'd)

4.13.2 Review and Disposition of Non-conforming Product

4.13.2.3 (AS9000) Scrap Material: Product dispositioned for scrap shall be conspicuously and permanently marked until physically rendered unsuitable for use in completed products.

4.13.2.4 (AS9000) Notification: The supplier's system shall provide for timely reporting of nonconformance's that may affect product already delivered.

4.14 Corrective and Preventive Action
(Ref. ISO 9001 Para 4.14)

4.14.1 General
(Ref. ISO 9001 Para 4.14.1)

Each Business Unit has established and maintains procedures for implementing corrective and preventive action. Actions taken will be consistent with the magnitude of the problem and associated risks.

4.14.2 Corrective Action
(Ref: ISO 9001 Para 4.14.2)

Corrective action procedures address the following considerations:

a. Effective handling of customer complaints and reports of product nonconformity's.

b. Determination of the root cause of product, process, and Quality System nonconformity's and recording the results of the investigation.

c. Assessing the appropriateness of corrective action needed which will eliminate the root cause.

d. Implementing appropriate controls such that effectiveness of corrective actions can be determined.

Records are maintained of corrective action investigations and results.

4.0 QUALITY SYSTEM REQUIREMENTS

4.14 Corrective and Preventive Action (cont'd)

4.14.3 Preventive Action
(Ref. ISO 9001 Para 4.14.3)

Preventive action procedures address the following considerations:

a. Analyzing appropriate information and available data such as quality records, customer complaint, using tools such as trend analysis to detect, plan and eliminate potential causes of non-conforming product.

b. Initiating preventive actions to deal with the problems at the level corresponding to the risks encountered.

c Identifying and installing the necessary controls by which preventive action effectiveness can be determined.

d. Documentation of actions taken will be an integral part of the management review process.

4.15 Handling, Storage, Packaging, Preservation and Delivery
(Ref. ISO 9001 Para 4.15)

4.15.1 General
(Ref. ISO 9001 Para 4.15.1)

Each Business Unit has established and maintains procedures for the handling, storage, packaging, preservation and delivery of product.

4.15.2 Handling
(Ref. ISO 9001 Para 4.15.2)

Material is handled in accordance with appropriate instructions required to prevent damage or deterioration.

4.15.3 Storage
(Ref. ISO 9001 Para 4.15.3)

Storage areas are established to prevent damage or deterioration to material. A documented procedure for the controlled movement of product to and from stock is controlled and maintained.

Scheduled audit activity assesses the condition of product in stock for damage or deterioration.

4.0 QUALITY SYSTEM REQUIREMENTS

4.15 Handling, Storage, Packaging, Preservation and Delivery (cont'd)

4.15.4 Packaging
(Ref. ISO 9001 Para 4.15.4)

Products are packaged so as to retain quality. The marking and labeling of packaged product is legible and conforms to customer requirements.

4.15.5 Preservation
(Ref. ISO 9001 Para 4.15.5)

Methods for preservation and requirements for segregation of product under A. E. control are documented.

4.15.6 Delivery
(Ref. ISO 9001 Para 4.15.6)

Arrangements are made for the protection of the quality of product after final inspection and test. Where contractually specified, this protection shall be extended to include delivery to destination.

4.16 Control of Quality Records
(Ref. ISO 9001 Para 4.16)

Each Business Unit has established and maintains procedures for the identification, collection, indexing, accessing, filing, storage, maintenance and disposition of quality records. Quality records are maintained to demonstrate that the required quality has been achieved and that the quality system is operating effectively.

Quality records are maintained for a minimum of ten (10) years, or longer where contractually required. Records are legible and readily retrievable. Disposal of records will be controlled and documented.

Quality records are of the media type specified by the appropriate procedure.

4.16.1 (AS9000) Record Availability: Records shall be readily available for review by the customer or regulatory agencies.

4.0 QUALITY SYSTEM REQUIREMENTS

4.17 Internal Quality Audits
(Ref. ISO 9001 Para 4.17)

Each Business Unit has established and maintains a comprehensive internal quality-auditing plan to verify the effectiveness of the Quality System. The audits also verify compliance to the documented instructions associated with quality activities. The audits are performed in accordance with documented procedures by personnel independent of the activity being audited.

The frequency and performance of specific audits is based on the status and importance of the activity to be audited. The results of the audits are brought to the attention of the personnel having responsibility for the area audited. Business Unit management is responsible for facilitating timely corrective action in response to any audit deficiencies. Corrective action effectiveness is evaluated through follow-up audit activity. The audit results are recorded and reported to management for review.

Records of the audits, results and follow up activities are maintained.

4.18 Training
(Ref. ISO 9001 Para 4.18)

Each Business Unit has established and maintains training needs identification process, through the use of documented procedures, for personnel performing activities affecting quality. Management evaluates, identifies, and provides for employee training.

Personnel are qualified to perform specific assigned tasks based on appropriate education, training, and/or experience.

Records of training are maintained.

4.19 Servicing
(Ref. ISO 9001 Para 4.19)

Specific procedure(s) will be documented by the affected Business Unit to comply with contractual requirements.

4.19.1 (AS9000) When appropriate, the supplier shall maintain a system for receiving and acting on service information consistent with contractual and/or regulatory requirements.

4.0 QUALITY SYSTEM REQUIREMENTS

4.20 Statistical Techniques
(Ref. ISO 9001 Para 4.20, 4.20.1, 4.20.2)

Each Business Unit has established and maintains procedures for the use of sampling plans and techniques, which are statistically valid.

Statistical techniques are used to verify the acceptability of process capability and product characteristics. The method for identifying the need to employ statistical techniques and how to implement and control the application are documented.

(AS9000) Sampling Inspection: When the supplier uses sampling inspection as a means of product acceptance, the plan shall be statistically valid and appropriate for use. The plan shall preclude the acceptance of known defectives in the lot.

4.21 Cost of Nonconformance

When appropriate, quality cost of non-conformance data will be collected and used by Business Unit Management to identify and implement cost reduction and continuous improvement initiatives.

4.22 Government Inspection at Supplier Facilities

A. E. purchasing documents will impose Government source inspection when required by contract. In such instances, the required statement will be incorporated into the purchasing documentation.

ATTACHMENT A

A. E. Organization