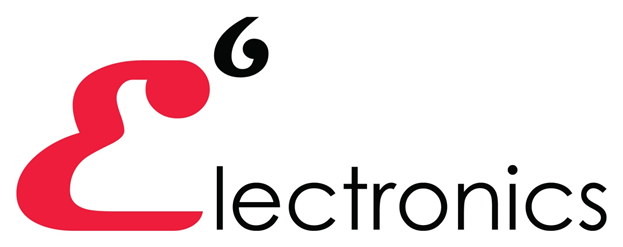
Sigma 6 Electronics



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Placentia CA 92870

ISO 9001

Quality Systems Manual

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Introduction

Sigma 6 Electronics, Inc., a manufacturer of Membrane Switches and Elastomeric Keypads, headquartered in San Diego, California. Its divisions have established a Quality Operating System, in the effort to fully satisfy the needs of its customers and to continuously improve the quality management of the company.

Sigma 6 Electronics, Inc. is dedicated to achieving the following objectives:

▪ Ensure that our customers are provided with industry-best products that meet

or exceed their requirements.

▪ Ensure that quality improvement is the responsibility of every employee.

▪ Establish continuous quality improvement as the basic principle of the Quality Operating System.

The purpose of this manual is to document the company's Quality Operating System, to instruct

and guide employees whose actions affect product quality, and to inform customers of the

controls that have been implemented to assure product quality.

Sigma 6 Electronics’ goal is to better satisfy requirements, conduct better business practices and improve overall management of the company by implementing a Quality Management System.

This system adheres to the requirements of the international standard ISO 9001 (2000). The quality management system goes through each step of the manufacturing process of Sigma 6 and improves the quality of operation.

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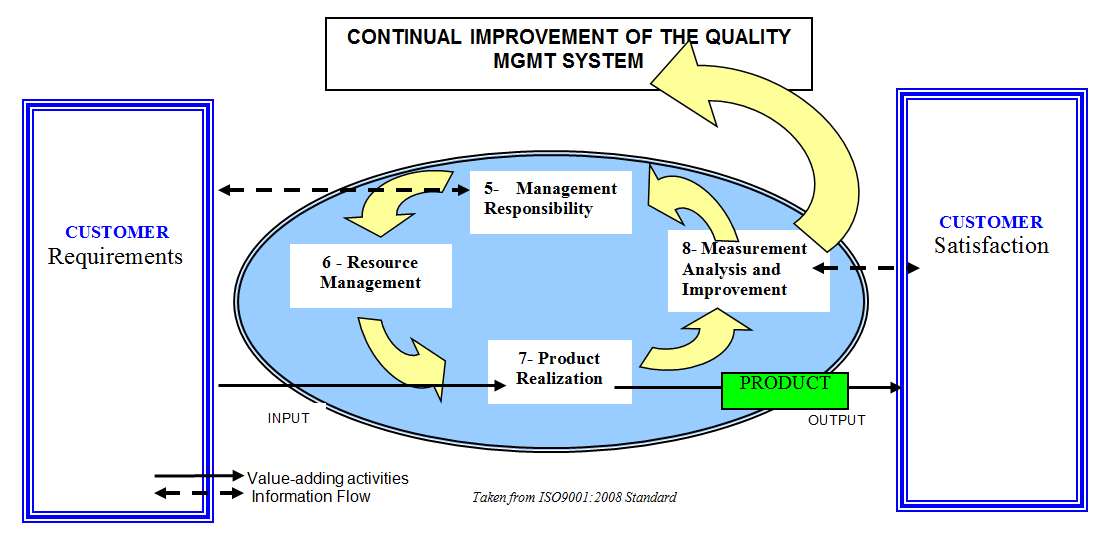
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**Section 1: Scope**

**1.1 General**

Sigma 6 Electronics, Inc. “Sigma 6” is an electronic component manufacturer focused on the research, design and manufacturing technologies around membrane switches, graphic overlays, rubber keypads and touch switches. This document outlines our current quality system.

**1.2 Application**



**Mission Statement**

Sigma 6 is a company focused on fast service, quality products and competitive pricing.We promote total customer satisfaction through company-wide continuous improvement of our products and related services. We are to maintain a company with a favorable work environment; one which is continually contributing to the satisfaction of its customers and employees.

**Section 2: References**

The following documents were used as reference during the preparation of the Quality Management System:

* American National Standard ANSI/ISO/ASQ Q9000-2000, Quality Management Systems
* American National Standard ANSI/ISO/ASQ Q9001-2000, Quality Management Systems - Guidelines for Performance Improvement
* High End Seating Solutions, LLC Quality Manual and other important documents
* Micro Memory Bank, Inc. Quality Systems Manual

**Section 3: Definitions**

**3.0 Quality Management Systems Definitions (alphabetical)**

* **Audit:** Systematic, independent and documented process for obtaining audit evidence and evaluating it objectively to determine the extent to which audit criteria are fulfilled.
* **Continual Improvement:** Recurring activity to increase the ability to fulfill requirements.
* **Corrective Action:** Action taken to eliminate the cause of a detected nonconformity or other undesirable situation
* **Customer Satisfaction:** Customer’s perception of the degree to which the customer’s requirement have been fulfilled
* **Deviation:** a specific customer authorization issued prior to the manufacture of a product to allow departure from a defined design requirement for a specific number of units for a specific duration.
* **Efficiency:** Relationship between the result achieved and the resources used.
* **Material Review Board (MRB):** a board whose members are responsible for deciding the disposition of all discrepant material.
* **Nonconforming:** is any condition that violates the requirements of a specification, process, or procedure.
* **Preventative Action:** Action taken to eliminate the cause of a potential nonconformity or other undesirable potential situations.
* **Procedure:** Specific way to carry out an activity or a process.
* **Quality:** Degree to which a set of inherent characteristics fulfill requirements.
* **Quality Control:** Part of quality management focused on fulfilling quality requirements.
* **Quality Management System:** Management system to direct and control an organization with regard to quality.
* **Quality Objective:** Something sought, or aimed for, related to quality. Generally based on the organization's quality policy, and specified for relevant functions and levels in the organization.
* **Quality Policy:** Overall intention and direction of the organization related to quality as formally expressed by top management.
* **Repair:** a non-conforming product that cannot be further processed to meet a specified requirement without written approval from the customer.
* **Rework:** a non-conforming product that can be reprocessed under defined conditions to meet a specified drawing requirement.
* **Standardized work:** Giving a process specific instructions on how to carry out the task in order to ensure it is done the same way each time.
* **Waiver:** a written request sent to a customer to disposition a non-conforming product.
* **Work Instructions:** Controlled document, which provides instruction on how to perform a specific task.

**Section 4: Requirements**

**4.1 General Requirements**

Sigma 6 Electronics has established, documented and implemented a Quality Management System (QMS) in accordance with the requirements of ISO 9001:2000. The system is maintained and continually improved through the use of quality policy, quality objectives, and audit results.

**4.2 Documents Requirements**

Contract Review

GENERAL

Each division is responsible for establishing procedures for contract review and for the coordination of these activities.

REVIEW

All customer orders (also referred to as contracts) are reviewed to assess if the customer's requirements are adequately defined and are well understood, and if the company has the capacity to meet those requirements. The customer service representatives are responsible for conducting contract reviews.

RECORD

Customer service personnel file records of all orders received by customer.

Tier 1: Quality Manual and QOPs

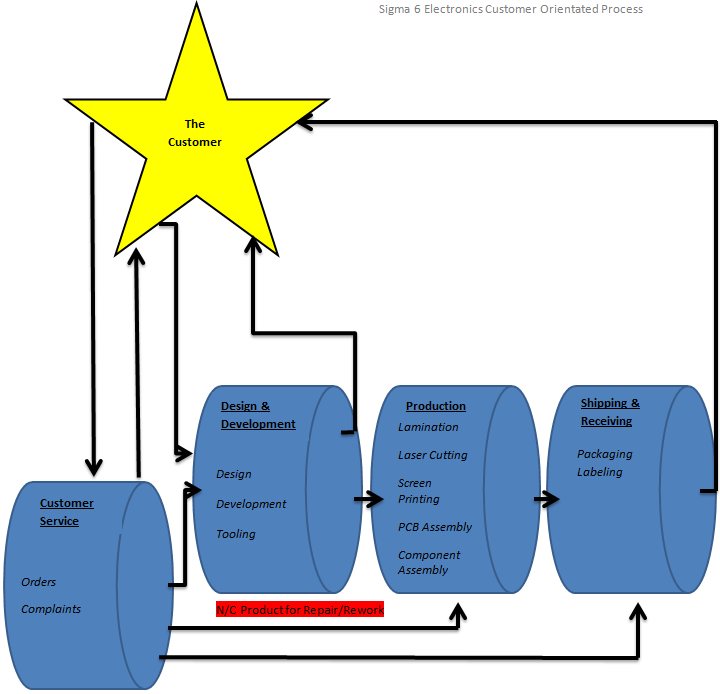
Tier 2: Work Instructions

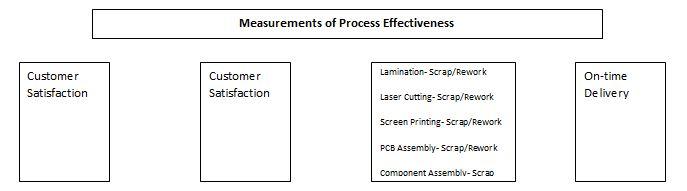
Tier 3: Forms/QMS Records

**4.2.3 Control of Documents**

* Approving documents for adequacy prior to issue
* Reviewing and updating as necessary and re-approving documents
* Ensuring that changes and current revision status of documents are identified
* Ensuring that relevant versions of applicable documents are available at point of use
* Ensuring that documents remain legible and readily identifiable
* Preventing the unintended use of obsolete documents and to apply suitable identification to them if they are retained for any purpose
* Keeping customer files confidential and organized so only the correct people are using according to ITAR provisions.

**4.2.4 Control of Records**





**Section 5: Management Responsibility**

**5.1 Management Commitment**

Management has been actively involved in implementing the quality management system. The growth of the QMS relies on the vision and strategic direction of the management commitment.

**5.2 Customer Focus**

Sigma Six Electronics strives to identify current and future customer needs to meet customer requirements and to exceed customer expectations.

**5.3 Quality Policy**

It is the policy of Sigma 6 Electronics, Inc. to supply quality products and services that conform to all established requirements and the expectations of our customers. We are further committed to a company-wide program for Continuous Quality Improvement.

This policy has been approved by the President/CEO, the Chairman, the Management Staff, and the President of each division of Sigma 6 Electronics, Inc. The policy has been incorporated into the Quality Operating System, and is understood, implemented, and maintained at all levels in the organization through internal training classes, audits, and management support.

**5.4 Planning**

Quality objectives are used to establish what efforts must be done in order to achieve the quality policy. Specific quality plans shall be made through supplier performance, release of product, and customer feedback.

**5.5 Responsibility, Authority, and Communication**

**5.5.1 Responsibility and Authority**

Job descriptions define the responsibilities and authorities of each of the positions. Job descriptions and the organizational chart are reviewed and approved by top management for adequacy. These documents are available throughout the organization to help employees understand responsibilities and authorities.

**5.5.2 Management Representative**

The Quality Engineer serves as the management representative which has the following responsibility and authority:

* Ensure that processes needed for the quality management system are established and applied.
* Report to top management on the performance of the quality management system, and note needed improvements.
* Promote awareness of customer requirements throughout the organization.
* Act as director with external parties such as customers or auditors on matters relating to the QMS.

**5.5.3 Internal Communication**

Processes are established for communication within the organization. Department and management meetings shall be held on a regular basis including management review to ensure effectiveness of the QMS.

**5.6 Management Review**

**5.6.1 General**

Management review meetings should be held annually to assess the continuing QMS suitability, adequacy and effectiveness. This is also address opportunities for improvement and needed changes.

**5.6.2 Review Input**

Input topics of discussion

* Results of audits
* Customer feedback
* Process performance and product conformity
* Company level quality data
* Status of preventive and corrective action
* Follow up actions from previous management reviews
* Recommendations for improvement

**5.6.3 Review Output**

Output topics of discussion

* Improvement of the effectiveness of the quality management system and its processes
* Improvement of product related to customer requirements
* Resource needs

Responsibilities for required actions are assigned to members of the management review team. Due dates are recorded.

**Section 6: Resource Management**

**6.1 Provision of Resources**

Sigma Six Electronics has implemented a Quality Management System that complies with the ISO 9001 2000 standard. This implementation was achieved with management commitment and with sufficient resources for the implementation. Management determines and provides necessary resources to effectively maintain and continually improve the effectiveness of the quality management system and to enhance customer satisfaction by meeting customer requirements.

**6.2 Human Resources**

**6.2.1 General**

Job descriptions are prepared that identify the qualifications required for each position that affects product quality.

**6.2.2 Competence, Awareness and Training**

**6.3 Infrastructure**

Sigma 6 Electronics provides and maintains an infrastructure needed to achieve conformity to product requirements. This includes building space, maintenance of production equipment, access to required utilities, and information systems. As new infrastructure requirements arise, they will be documented in quality plans. Existing infrastructure is maintained to ensure product conformity. Maintenance requirements are documented in preventive maintenance logs.

**6.4 Work Environment**

In order to achieve product conformance, a suitable work environment must be provided and maintained. Requirements are determined during quality planning and documented in the quality plan. The work environment is managed for continuing suitability. Data from the quality system is evaluated to determine if the work environment is sufficient for achieving product conformance, or if preventive or corrective action related to the work environment is required.

**Section 7: Product Realization**

**7.1 Planning of Product Realization**

Quality planning is required before new products or processes are implemented. During this planning, management or assigned personnel identify the quality objectives and requirements for the product. They must also identify the processes, documentation and resources required, as well as verification, validation, monitoring, inspection and test requirements. This planning provides for documented quality plans, processes, procedures and design outputs.

**7.2 Customer Related Processes**

**7.2.1 Determination of requirements related to the product**

The sales department determines customer requirements before acceptance of an order. The sales department works with the customer to establish specific requirements for the product, delivery, and any possible post-delivery activities.

**7.2.2 Review of Requirements Related to the Product**

The Sales Development Coordinator or Production Manager reviews the order received from the customer to ensure:

* Sigma 6 Electronics has the capacity to meet the specified customer requirements
* The customer requirements have been adequately defined
* Any requirements not stated but are necessary for the product have been defined
* All differences are resolved prior to approval.

This review is documented on the Contract Review PO Checklist. Verbal orders are confirmed with the customer before being accepted, usually by repeating the order to the customer. Changes to contract/orders are received and reviewed. Any changes that were due to a change in customer requirements will be communicated to the appropriate areas of Sigma 6 Electronics.

**7.2.3 Customer communication**

Sigma 6 Electronics determines and implements effective arrangements for communicating with the customer regarding product information, inquiries, contracts or order taking (including amendments), and customer feedback, including complaints.

**7.3 Design and Development**

Sigma 6 Electronics does not have design and development. All products follow customer orders for development.

**7.4 Purchasing**

GENERAL

The Purchasing department of each division is responsible for the purchase of products and services, used to manufacture, package, or deliver product, which conform to all specifications. The Q.A. department will support the purchasing function with the analysis of products and suppliers as required.

EVALUATION OF SUPPLIERS

Suppliers are evaluated and selected on the basis of their ability to meet the company’s requirements, which includes appropriate quality system requirements. The type and extent of control exercised by the company is dependent upon the type of product or service, its impact on the quality of the finished product, and the history of the supplier’s performance. The company only purchases key components from qualified suppliers; non-critical parts and materials can be purchased from suppliers who deliver their standard catalog products.

PURCHASING DATA

Purchasing documents are prepared and maintained by the Purchasing Department. Purchasing documents clearly and completely describe ordered products. They include precise identification of the product and where applicable, any relevant specifications or drawings, verification or evidence of compliance. The Purchasing department reviews and approves all purchase orders for adequacy of specified requirements before release.

**7.4.1 Purchasing process**

Critical suppliers are required to comply with Sigma 6 Electronic’s ISO requirements. Critical suppliers are identified on the Approved Supplier List and are defined as suppliers of materials that are critical to the quality and function of Sigma 6 Electronic’s products. These critical suppliers have been successfully qualified based on past performance, and are in good standing. Qualification may consist of an on-site audit, supplier survey, review of QMS certifications ISO 9001, or evaluation of samples, workmanship or history with Sigma 6. The performance of suppliers is evaluated on an on-going basis through incoming inspection results, production measurables, and customer complaints. Suppliers showing inadequate performance are requested to implement corrective actions.

**7.4.2 Purchasing information**

The Purchase Orders to critical suppliers clearly and completely describe requirements for ordered products. Purchase Orders may include requirements for approval of product, procedure, processes, and equipment, and/or requirements for qualification of personnel and quality management.

The Purchase Orders are reviewed and approved prior to release to ensure the information is adequate and correct. Purchase Orders are retained in accordance with the Control of Quality Records procedure included in the Quality Manual.

**7.4.3 Verification of purchased product**

Purchased products are verified upon receipt to ensure purchased products meet specified requirements. The receiving person performs a cursory review against the purchase order to verify supplier, part number, and general condition of the package. If receiving inspection is required specific work instructions will be initiated.

Purchased items may be inspected and accepted based on any of the following: Conformance to the purchase order, Certification of Analysis, Certificate of Compliance, or Receiving Inspection Work Instructions. Records of verification are maintained.

**7.5 Production and Service Provision**

**7.5.1 Control of Production and Service Provision**

Production operations are conducted with the use of drawings, work instructions, suitable equipment, and monitoring and measurement devices. The appropriate Department Lead works with the staff to schedule production based on customer orders. The work priorities are determined based on the production schedules.

**7.5.2 Validation of processes for production**

Processes are validated where the output cannot be verified by subsequent monitoring or measurement. Process validation requirements are determined as part of the Design and Development Process, and include, as applicable, criteria for review and approval of the process, approval of equipment and qualification of personnel, specific methods and procedures, record requirements, and re-validation requirements.

**7.5.3 Identification and Traceability**

Product is appropriately identified throughout product realization. All materials and parts intended for incorporation into Sigma 6 Electronics products are readily identified by their configuration, location in the process, item number or singleness of type in inventory. When unique identification of the product is required, it will be established and records maintained. When product is monitored, measured or inspected the product status is clear based on location in the process or identification or segregation.

**7.5.4 Customer property**

Sigma 6 Electronics takes care protecting the customers property, as well as their intellectual property and personal data. Customer tooling & products shall follow special controls as may be defined in the contract. If so requested by the customer, the customer-supplied tooling and products may be segregated and labeled to identify them as the customer's property. Any occurrence of loss, damage, deterioration, or unsuitability of customer-supplied products shall be reported back to the customer.

**7.5.5 Preservation of Product**

All raw material, components, products, and packaging materials are handled in an appropriate manner to prevent damage or deterioration and to maintain conformity to requirements. Storage areas should always be kept clean and neat. Components, labels, packaging materials, and finished products are stored and handled in a manner to prevent damage, loss, or deterioration. Outgoing shipments are packaged to prevent damage.

**7.6 Control of monitoring and measuring devices**

Includes:

- Measurements identification and selection of equipment

- Calibration

- Nonconforming equipment

**Section 8: Measurement, Analysis and Improvement**

**8.1 General**

Sigma 6 Electronics plans and implements measurement, analysis and improvement processes to demonstrate product conformity, insure the conformity of the QMS and continually improve effectiveness of the QMS. This is accomplished through the use of:

• Quality Objectives

• Product and process control data

• Internal Audits

• Management Review

• Customer Feedback / Satisfaction

• Supplier Performance

• Analysis of Product Failures

Conformity of the QMS is monitored and maintained using the internal audit system and management reviews.

**8.2 Monitoring and Measurement**

**8.2.1 Customer Satisfaction**

Sigma 6 Electronics monitors customer feedback and satisfaction as measurements of the QMS performance, Customer complaints are tracked and reviewed. Customer feedback provides early warning of quality problems, and the information is fed to the corrective and preventative action is taken to correct the problem or complaint.

**8.2.2 Internal Audit**

Internal audits are planned and conducted at least once per year. Audit frequency may increase and focus may change taking into consideration the status and importance of the processes and areas to be audited and the results of previous audits. The purpose of the audits is to determine whether the QMS conforms to the established QMS requirements. Audits evaluate whether the system is effective and maintained.

Internal auditors are objective, impartial, and cannot audit their own work. All auditors must complete ISO 9001:2008 training, and may be Sigma 6 Electronics employees or outside contractors.

During the process-based audits, auditors evaluate whether the process outputs meet internal and/or external customer needs. During all audits, auditors seek objective evidence demonstrating whether the QMS requirements are being met. If something does not follow requirements, preventative and corrective action is carried out and documented.

**8.2.3 Monitoring and Measurement of Processes and Analysis**

Sigma 6 Electronics does not have a design and development process which this section is aimed to target.

**8.2.4 Monitoring and measurement of product and analysis**

Monitoring and measuring product characteristics to verify that final product requirements have been met. This is carried out at appropriate stages of the manufacturing process.

**8.3 Control of Nonconforming Product**

Includes:  
 - Supplier Nonconformities

- Assembly/Final Inspection

- Customer Returns - All Departments, All Products

GENERAL

All nonconforming products are identified, segregated, and prevented from being used or shipped until disposition. Each division is responsible for outlining procedures for identification, documentation, and segregation of nonconforming product.

IDENTIFICATION AND SEGREGATION

The process of and responsibility for identifying and segregating nonconforming product depends on what stage the product is identified. Operators and inspectors in receiving inspection, production, and final inspection are responsible for segregating nonconforming product from the production flow and notifying the department(s) concerned. Identification is accomplished through the use of special markings, labels, tags or dedicated containers.

REVIEW, DOCUMENTATION, AND DISPOSITION AUTHORITY

All nonconforming products will be documented on receiving inspection files, material discrepancy notices, in-process inspection reports, production routers, or final inspection forms. Production personnel have authority to make the disposition decision for obvious cases of rework and scrap in all operations. Nonconforming product can be reworked to meet the specified requirements, scrapped, or accept with or without repair by concession (Use as is). All reworked product is re-inspected in accordance with all applicable procedures. Customer acceptance by concession of any nonconforming condition must be documented, including the actual condition.

**8.4 Analysis of Data**

Data about Customer Feedback / Satisfaction, Customer Complaints, Internal Audits, Product Conformity, trends of Process Performance, and Supplier Performance are analyzed to determine suitability of the Quality Management System and where continual improvement of the Quality Management System can be made. Analysis of the data is performed and any corrective or preventive actions, allocation of resources, or training should be implemented.

**8.5 Improvement**

**8.5.1 Continual improvement**

Sigma 6 Electronics identifies and implements any changes necessary to continually improve suitability and effectiveness of the QMS through the use of the quality policy, quality objectives, audit results, analysis of data, corrective and preventive actions, and management reviews. These changes are documented and tracked through the use of the

Corrective and Preventive Action Request (CAPA) form.

**8.5.2 Corrective action**

The effective use of the corrective system is crucial to the success of Sigma 6’ Quality Operating System. Corrective actions are initiated on a level corresponding to the risks encountered. Follow-ups are performed to ensure that corrective actions, including procedural changes, have been implemented and are effective.

The purpose of corrective actions is to prevent recurrence of a nonconformance or eliminate potential causes of a nonconformance. Data from production, quality, supporting operations and customer feedback are continually analyzed to detect and eliminate sources of problems. Each division is responsible for initiation of Supplier CAR's. Corrective actions may be initiated in the following cases:

▪Identification of a major nonconformity

▪Accumulation of minor nonconformities of similar character

▪Recurring problem with a process

▪A noncompliance observed during an internal, customer, or third party audit

▪Field reported problems

▪Customer complaints

▪ Nonconforming products delivered by suppliers

▪Identification of any other condition that does not comply with the documented

Quality Operating System

All CAR's will be followed up by the initiating party to determine if the corrective action that has been implemented is effective.

**8.5.3 Preventive action**

Sigma 6 Electronics investigates potential nonconformities and takes action to eliminate their cause to prevent their occurrence. This is done by using the CAPA process Sigma 6 Electronic’s Continual Improvement Initiatives, Sigma 6 Electronic’s Project Management System, and Six Sigma methodologies.

The preventive action process includes:

• Determining potential nonconformities and their causes

• Evaluating the need for action to prevent occurrence of nonconformities

• Determining and implementing action needed

• Reviewing records of actions taken (within Non-Compliance 7-Steps, Continual Improvement Records)

After implementation of CAPA, the Director of Quality verifies or validates that the proposed actions were taken and were effective at correcting the problem and preventing re-occurrence without any adverse effects

QUALITY SYSTEM MANUAL

APPROVAL SIGN OFF SHEET

DOC. CONTROLLER APPROVAL/ DATE

Scott Houseman

Account Holder

MM/DD/YY

Isaac Fernandez

MM/DD/YY