



Quality Manual

Revision 1.05

Rev. July 31, 2008

Scope and Justified Exclusions of this Quality System

Renco Electronics, Inc. "Renco" designs and manufactures transformers, inductors, and coils using surface mount, through hole, chassis mount and the latest in magnetic technologies.

We do not carry out any servicing of our products or the products supplied to us by our customers. Therefore, the following clauses are not applicable to the Renco Quality System:

- § 4.5.1 Service Provision
- § 4.5.4 Customer Property

Company Policy Statement

- § **D**o it right the first time
- § **E**verybody contributes to quality
- § **E**xceed customer expectations
- § **P**ositive continuous improvement

Company Objectives

Every six months as part of the management review process Renco will measure, review and set its objectives for the future. Short and long term objectives have been defined as follows:

Short Term: A measurable objective which should be met within the next six months.

Long Term: A measurable objective which may not have a defined time line or budget, but forms part of the management's plans for the future.

Table of Contents

1. General Requirements

Policy

- 1.2.0 Documentation Requirements
 - 1.2.1 General
 - 1.2.2 Quality Manual
 - 1.2.3 Control of Documents
 - 1.2.4 Control of Quality Records

2. Management Responsibility

- 2.1.0 Management Commitment
- 2.2.0 Customer Focus
- 2.3.0 Planning
 - 2.3.1 Quality Objectives
 - 2.3.2 Quality Management System Planning
- 2.4.0 Responsibility, Authority and Communication
 - 2.4.1 Responsibility and Authority
 - 2.4.2 Management Representative
 - 2.4.3 Internal Communication
- 2.5.0 Management Review
 - 2.5.1 General
 - 2.5.2 Review Input
 - 2.5.3 Review Output

3. Resource Management

- 3.1.0 Provision of Resources
- 3.2.0 Human Resources
 - 3.2.1 General
 - 3.2.2 Competency, Awareness and Training
- 3.3.0 Infrastructure
- 3.4.0 Work Environment

4. Product Realization

- 4.1.0 Planning of Product Realization
- 4.2.0 Customer Related Processes
 - 4.2.1 Determination of Requirements Related to the Product
 - 4.2.2 Review of Requirements Related to the Product
 - 4.2.3 Customer Communication
- 4.3.0 Design and Development
 - 4.3.1 Planning
 - 4.3.2 Input
 - 4.3.3 Output

- 4.3.4 Review
- 4.3.5 Verification
- 4.3.6 Validation
- 4.3.7 Control of Design and Development Changes
- 4.4.0 Purchasing
 - 4.4.1 Process
 - 4.4.2 Information
 - 4.4.3 Verification of Purchased Product
- 4.5.0 Production and Service Provision
 - 4.5.1 Control
 - 4.5.2 Changes
 - 4.5.3 Identification and Traceability
 - 4.5.4 Customer Property
 - 4.5.5 Preservation of Product
- 4.6.0 Control of Measuring and Monitoring Devices

5. Measurement, Analysis and Improvement

- 5.1.0 General
- 5.2.0 Monitoring and Measurement
 - 5.2.1 Customer Satisfaction
 - 5.2.2 Internal Audits
 - 5.2.3 Monitoring and Measuring of Processes
 - 5.2.4 Monitoring and Measuring of Products
- 5.3.0 Control of Non-Conformity
- 5.4.0 Analysis of Data
- 5.5.0 Improvement
 - 5.5.1 Planning for Continual Improvement
 - 5.5.2 Corrective Action
 - 5.5.3 Preventive Action

Appendix I

Appendix II

1. General Requirements

To define how our quality system is documented, implemented and checked to ensure it is understandable, all referenced procedures are hyperlinked to their respective document.

1.1.1 Policy

All Processes have been identified and documented within our quality system; the sequence and interaction of our operations are described in section 6 of our Quality Manual.

The criteria and methods of operation have all been documented within the quality system with references to information as required. All our processes are measured, monitored, analyzed and continually improved upon.

1.2 Documentation Requirements

1.2.1 General

All procedures and documents that needed to meet the ISO 9001:2000 standard have been identified within this quality manual and on this internet site.

1.2.2 Quality Manual

The quality manual references all procedures and will also show the sequence of operations and how they interact with each other. This manual is a controlled document and is subject to the controls outlined within section 1.2.3

1.2.3 Control of Documents

All internal and external, documents and records will be listed with their revision level.

All documents:

- § Shall be approved, reviewed and updated for adequacy prior to issue
- § The correct version of the document will be available at point of use.

- § All documents will be legible and remain legible throughout the life of the document
- § Documents will be readily identified and retrievable, this will include obsolete documents which may be kept for reference purposes and will be suitably marked.

Procedures Reference: QSP-DOC-03 Document and Data Control

1.2.3 Control of Quality Records

All quality records generated as a result of maintaining this quality system shall be kept as evidence of the effectiveness and compliance of the system. All records will be identified, and their retention time recorded on the "Records List". All records will be kept stored in a suitable environment so that they can be protected, retrieved and eventually disposed. This information will be recorded also on the "Record List".

Procedures Reference: QSP-DOC-04 Quality Records

2. Management Responsibility

2.1 Management Commitment

The management at Renco has communicated the importance of this quality system. Meeting customer, regulatory and legal requirements and will continue to do so to all employees. Some of the ways in which this is achieved are detailed below:

- § Regular reviews of our quality policies and objectives
- § Conducting management reviews
- § Ensuring that adequate time, space, equipment, training, and other resources are provided for.

2.2 Customer Focus

Management has the responsibility of ensuring that the customer's needs are always identified and provided for. We do this at the top level within our management review process by discussing concerns and special needs of our customers. This is then filtered down into the sales order process as specific customers need and will be identified within the customer's order.

2.3 Planning

2.3.1 Quality Objectives

Objectives for the company have been established to ensure that our quality policy is met. These objectives are measurable, realistic and continually monitored as part of our management review process. Objectives have also been set as part of the product and quality specifications for each product that we build.

2.3.2 Quality Management System Planning

Changes occur every business day which can affect our quality system and products; it is management's responsibility to plan for these changes. All changes will be reviewed and planned for in advance and in a controlled manner. These changes will also form part of our management review process. Some types of change can include, but not limited to:

- § Specifications

- § New customers
- § New equipment
- § Changes in procedure
- § Regulations
- § Employees

2.4 Responsibility, Authority and Communication

2.4.1 Responsibility and Authority

All of the persons at Renco have their responsibilities defined within the procedures that we have set forth and has been assigned with the authority to carry out those responsibilities. Each procedure within our quality system clearly shows how each function of our operation interfaces with each other. This is achieved through flowcharting of our processes.

2.4.2 Management Representative

The Quality Assurance Manager has been appointed as the Management Representative. His responsibilities will include:

- § Ensuring that the Quality Management System is maintained
- § Reporting to the President on the performance of the Quality Management System and areas for improvement
- § Promoting awareness of quality and customer requirements to all personnel
- § Liaison with the registrar

2.4.3 Internal Communication

Communication between all personnel takes place on a regular basis in the form of informal meetings, management reviews and the company intranet site. The management representative will also be responsible for checking the understanding of the Quality Management System and that it is communicated.

2.5 Management Review

2.5.1 General

To measure the continued suitability and effectiveness of our quality system it will be reviewed by management on a twice yearly schedule against a prior set agenda. Minutes from this meeting will be kept

(see 1.2.4) and any actions resulting from this will be carried out in accordance with sections 5.5.2 & 5.5.3.

2.5.2 Review Input

Inputs have been identified as part of our set agenda for the Management Review. These inputs include:

- § Internal and external audit results
- § Corrective and preventive actions
- § Non-Conforming products and processes
- § Customer feedback
- § Follow-up actions from previous meetings
- § Changes that need to be reviewed and planned for
- § Recommendations for improvement

2.5.3 Review Output

The output from the Management Review will be recorded in the form of minutes and a list of action items. The list of action items will show:

- § Any areas of system/process improvements
- § Researching of new processes and equipment to meet customer requirements
- § Resource needs
- § Objectives and policy changes

Procedures Reference: QSP-MR-01 Management Review

3. Resource Management

3.1 Provision of Resources

Resources will be provided by Renco to ensure that all processes are implemented and that any customer concerns are dealt with in a timely manner.

3.2 Human Resources

3.2.1 General

All personnel at Renco will be trained, educated, or have experience to ensure that they can fulfill their responsibilities.

3.2.2 Competency, Awareness and Training

We develop our most important resource: people, through training and reviews of their progress, needs and effectiveness of the training. Training will be carried out against needs which have been identified and this training will be recorded in accordance with section 1.2.4. Also any tasks which are identified as requiring specific skills, training, education or qualifications will be provided for.

Training will also be provided for the use, understanding and awareness of the quality system and the standards used at Renco.

Procedures Reference: QSP-TR-01 Training

3.3 Infrastructure

Renco's facilities are maintained and clean. There is adequate workspace and equipment to perform all processes within the quality system. This includes control of the inspection and calibration areas and the production areas.

3.4 Work Environment

The work environment is air-conditioned and each person is provided with a workspace and associated equipment and furniture to be able to perform their tasks. The work environment is controlled for temperature, humidity, lighting, and cleanliness.

4. Product Realization

4.1 Planning of Product Realization

To plan, control, approve, monitor and set standards so as to prevent problems which may arise during order processing, design, production, inspection, testing and shipping.

These processes will be scheduled, planned and carried out under controlled conditions and will include:

- § Work instructions (where applicable)
- § Suitable working environment and reference to any applicable standards
- § Scheduling inspection and acceptance criteria
- § Keeping records to support conformity of the processes
- § Any key characteristics identified by the customer as requiring inspections to measure variables will be provided for
- § Any processes that require sub-contractors will be identified in the "production package"
- § The development of process controls and plans for key characteristics are required by the customer

The integration of material, processes and services which support the product will be identified in the "contract/order".

4.2 Customer Related Processes

4.2.1 Determination of Requirements Related to the Product

As part of our RFQ/Order process Renco will determine what requirements are needed to fulfill the customers needs. These requirements will include:

- § Delivery times
- § Specifications required
- § Regulatory and legal requirements are identified such as traceability clauses
- § Inspection method selection
- § Sequence of operations

Any requirements to review a tender will be handled the same way as any other contract review.

4.2.2 Review of Requirements Related to the Product

To ensure that our customer's products are on time, traceable and to the quality they expect from Renco; all orders quotations and enquires will be reviewed by Renco to ensure that:

- § Customer's requirements are unambiguous, clearly defined and documented.
- § Changes to requirements are resolved with the customer, documented and communicated to all persons affected by the change.
- § We can meet customer requirements and mandated specifications.
- § Any risks associated with new techniques, new items not manufactured before or short lead times are evaluated.
- § The records produced will be kept in accordance with section 1.2.4.

4.2.3 Customer Communication

Communication between Renco and its customers is to ensure that any updates, amendments, additions, ETC., are handled effectively. This will include also any customer complaints, customer feedback and product requirements.

Any contractual amendments are also subject to contract review.

Procedures References: QSP-SAL-01 Request for Quote
QSP-SAL-02 Sample Requests
QSP-SAL-03 Receipt of an Order

4.3 Design and Development

4.3.1 Planning

The design of a product is the result of thorough and careful consideration of the customer's requirements, the potential use of the product, the potential product life cycle and the manufacturability of the product.

Timely project plans are prepared, where appropriate, by engineering that identify the responsibility, budgets, staffing and schedules for each design and development activity. The plans are updated and

communicated to the appropriate individuals as each design evolves. The plan describes or references the following activities:

- Review of product specifications for accuracy and completeness
- Identification of the various design and development stages
- Outline and timing of design reviews
- Determine the verification and validation appropriate to each design and development stage
- Organizational and technical interfaces between different groups (internal and external) are identified and the necessary information documented, transmitted, and reviewed
- Determine project roles and responsibilities
- Plan and schedule regulatory testing as required

4.3.2 Design and Development Input

Design input requirements relating to the product requirements are identified, documented and reviewed for adequacy. Requirements are complete, unambiguous and not in conflict with each other. Records of design input requirements are maintained as per section 1.2.2. Design inputs consider, but are not limited to:

- Requirements established by the customer
- Functional and performance requirements
- Design constraints
- Requirements for certification / agency approvals
- Performance characteristics such as environmental and usage conditions, including any reliability requirements
- Industry standards, safety and regulatory requirements
- Packaging and marking
- Quality / product assurance inspection activities
- Verification and validation testing requirements
- Application requirements
- Manufacturing and procurement requirements
- Analysis of similar product (previous similar design) and process designs, work operations, deviations, quality records, RMA reports, and customer complaints to detect and eliminate potential causes of non-conforming products
- Manufacturability of design
- Establish targets for product quality, life, reliability, durability, maintainability, timing and cost

4.3.3 Design and Development Output

The design outputs are documented in a form that enables the verification against the design and development inputs. Design outputs include, but are not limited to:

- Meeting the design input requirements including customer specific requirements
- Provide appropriate information required for manufacturing of the product
- Reference or contain product acceptance criteria
- Conform to documented industry, safety and regulatory requirements where appropriate:
 - Identify the characteristics of the product that are essential to the safe and proper use and handling of the product
 - Identify appropriate manufacturing testing requirements
 - Provide a method for recording manufacturing test results

4.3.4 Design and Development Review

A formal design review process is conducted as necessary to ensure that the design and development process is performed in accordance with the planned arrangements as outlined in section 4.3.1.

The design review process includes, but is not limited to the following:

- Design review activities are held at suitable stages to assess progress during the development cycle
- Design review activities and resulting actions are recorded and maintained per section 1.2.4
- Design review activities include verification that the design output meets the design input requirements and meet the planned arrangements as outlined in section 4.3.1
- Identification of problems are highlighted and proposed resolutions determined
- Participants in such reviews include representatives of functions concerned with the design and development stage or stages being reviewed
- Quick-turn engineering prototype development is subject to design and development review

4.3.5 Design and Development Verification

This is confirmation, through the provision of objective evidence of the following:

- Comparison of designed product to the product input requirements as defined by 4.3.2
- Evaluation of product against similar designs or against competitors products as appropriate:
 - Testing to ensure compliance with product input requirements as defined by 4.3.2. These tests consider electrical and environmental stresses at least as severe as the design objectives.
 - Full review of documentation with respect to product input requirements and to any verification test results prior to issue.

4.3.6 Design and Development Validation

There is confirmation, through the provision of objective evidence of the following:

- The requirements for a specific intended use or application, where known, have been fulfilled
- Validation is completed, where practicable, prior to the delivery or implementation of the product
- Maintain records of the results of validation or other necessary actions per section 1.2.4
- Engineering prototypes are subject to the validation per planned arrangements 4.3.1
- Validation of manufacturing process

4.3.7 Control of Design and Development Changes

- All design changes are identified, documented, reviewed and approved by authorized personnel before implementation
- Records of changes during the development process are maintained
- Engineering and Quality Assurance are responsible for monitoring and ensuring that the changes do not adversely affect product quality, performance, or reliability
- Review of the changes include evaluation of the effect of the changes on the components and product already delivered

- Customers are notified of design changes affecting the form, fit, or function of a product. In addition and where contracted or mandated by contract, customer approval of design changes is obtained

Procedures Reference: QSP-ENG-01 Prototype Engineering

4.4 Purchasing

4.4.1 Purchasing Process

To ensure that Renco receives supplied products and services to our specified and implied needs, a list of approved suppliers will be maintained and will also show the scope of each supplier/sub-contractors approval. This list will be prepared on results obtained from one of the following sources:

- CARs
- Questionnaires
- Audits or approval to ISO 9001, etc.

Our purchases will also take into account physical condition of material/service cost, availability and traceability. The purchasing system and the selection of suppliers will be reviewed to ensure its continued suitability and follow up action taken on vendor problems. (see 2.6 & 5.3)

Any sub-contractors used and the quality of the work that they provide will be the responsibility of Renco. All suppliers and sub-contractors will be evaluated to ensure:

- They use customer approved sources for any special processes
- Any that fail to meet out requirements are disapproved as required by the Quality Manager
- Suppliers/sub-contractor performance is monitored, maintained and recorded. These reviews will be used to determine the controls required in place for each supplier/sub-contractor

4.4.2 Purchasing Information

All purchase documentation used will clearly describe the material/service ordered including where applicable:

- Quantities, condition, traceability, part numbers, type or other precise identification
- Inspection requirements which will be reported on a certificate of conformity where required. Also any standards/codes which may be referenced
- Any quality system standard to be applied to the product
- Any design, test, examination, inspection or customer acceptance requirement and it's related instructions
- The right of access by Renco and out customers and regulatory authorities to all facilities involved in the order and also access to all applicable records
- Any requirements for test specimens
- Any requirements to notify Renco of any anomalies, changes in definition or approval for the process being used
- Any requirements which require to be followed down to sub-tier suppliers will be identified on the Purchase Order
- All purchase documents will be reviewed for adequacy prior to issue

Procedures Reference: QSP-PUR-01 Purchasing

4.4.3 Verification of Purchased Products

All products received at Renco will be verified in accordance with inspection procedures and may also include:

- Records to support the quality of the product from the supplier (e.g.: C of C, test reports, SPC charts, etc.)
- Inspection or auditing the supplier
- Inspection of the product upon receipt
- Asking the supplier/sub-contractor to complete inspection and certification, however if this is the case then this will be defined within the purchase documents

If verification of the tests is to take place by the customer at Renco facilities or Renco chooses to verify the tests at the supplier's facilities, then this will be arranged and documented on the Renco customer's contract documents.

4.5 Production and Service Provision

4.5.1 Control of Production and Service Provision

The production and design operations at Renco are controlled to ensure that the following requirements are met:

- Technical data is available to verify the parts being manufactured
- Procedures have been documented for all processes where required.
- Measuring instruments and test equipment are used as required to verify product
- Monitoring of manufacturing processes
- Key characteristics identified by the design are monitored (These will be recorded in the "Final Inspection Sheets" and "First Article Sheets"
- Any utilities which can affect the quality of the product are controlled
- All jobs are completed using the job package documentation attached to the "Traveler". This may include drawings and inspection plans as required

If a "work instruction" has to be revised to alter the manufacturing process then these changes will be made by Engineering and submitted to Document Control and if required, be identified back to the customer. The change and its impact shall also be reviewed by the VP of Operations and the Quality Manager to ensure no adverse impact.

4.5.3 Identification and Traceability

Renco will identify all parts during all stages of receipt, manufacturing, inspection, packaging and shipping for traceability and its inspection status of PASS, FAIL or ON-HOLD. All materials purchased will be traceable back to their source of supply if required by the customer. For example, by using a C of C.

All goods received into Renco will be identified as to their inspection status by using accompanying paperwork. This is done at each stage of the "Traveler". The responsibility for identifying the inspection status will be recorded with an inspector's stamp or signature and date.

If the customer requires by contract, regulatory or other established requirement that the materials be traceable then Renco shall provide the following as applicable:

- Identification of parts throughout the life of the product with permanent stamps
- Any batch traceability requirements, including scrap will be traceable back to the material lot number

The inspection records shall also identify who is responsible and authorized to verify, certify and release the products. This will be indicated by an authorized signature assigned to a stamp which is controlled internally.

4.5.4 Customer Property

This clause of the standard is not applicable as no materials are supplied by our customers either for incorporation into the product or used in assistance of manufacture of the product.

4.5.5 Preservation of Product

To prevent materials from being damaged and to control our inventory for maintaining an efficient cycle time in manufacturing, Renco will:

- Handle materials to prevent damage and deterioration anomalies
- Materials will be controlled from receipt into storage and dispatch
- Any raw materials which are kept for any amount of time will be checked for shelf life and damage as required
- All orders will be packaged in accordance with procedures and customer requirements to prevent damage and to preserve the integrity of the original item

Our procedures will ensure that all goods are protected against damage and loss during shipping and receipt to customer. Records of shipments will be maintained in accordance with section 1.2.4. Also any documents which are required to accompany the shipments will be present, correct and protected from damage, loss and deterioration.

4.6 Control of Measuring and Monitoring Devices

All measuring and test equipment which could affect the quality of the finished products will be calibrated in-house or by an external sub-contractor in accordance with ISO 100012.

Renco will also ensure that:

- Personnel will select appropriate equipment for the measurement to be made
- All of this equipment and standards will be identified and calibrated
- Records of details of equipment, identification number, location, checking frequency and method, tolerances and what to do when equipment is out of specification
- Our equipment will be in a known state of calibration
- Records of calibration will be maintained per section 1.2.4
- Our procedures will explain what to do with previous results when equipment is found out of calibration
- All calibrations will be conducted in a suitable environment where necessary, temperature, cleanliness, etc.
- Our equipment will be handled, cleaned, maintained and stored accordingly.
- Adjustments to equipment will be controlled

A list of all equipment shall be maintained within the computer system. Any calibration result that indicates that product may be non conforming will require that the Quality Control investigate the inspection/test and determine if it needs to be repeated.

Gauges are recorded in the computer and will be recalled by the Quality Manager within a month of the due date.

All responsibilities have been defined within the procedures for the control of the above referenced tools.

Procedures Reference: QSP-QA-03 Calibration

5. Measurement, Analysis and Improvement

5.1 General

All materials will be checked as they are received, during production, inspection, testing and prior to shipping to assure conformity to the purchase order. Statistical techniques have been identified to monitor these activities as part of the sampling plan.

Any procedures identified shall include:

- Identification of authorized persons
- Limits of authorization
- Training and qualification requirements

Inspection documentation shall be maintained as evidence of product and process conformance, these records shall show:

- Acceptance and rejection criteria or reference to them
- The sequence of operations
- Actual results
- Any unique inspection equipment if used
- Any sub-contracted inspection activities

5.2 Monitoring and Measurement

5.2.1 Customer Satisfaction

The Customer Survey will be used to monitor customer feedback for positive and negative information. This information will be reviewed as part of the Management Review and corrective action system to implement continuous improvement.

Procedures Reference: QSP-QA-01 Corrective & Preventive Actions

5.2.2 Internal Audits

To verify the effectiveness of our quality system and implement any improvements, Renco has documented procedures to ensure:

- Audits will be carried out against procedures and a schedule
- The schedule has also been set based on importance of areas to be audited

- Follow up action and the results of these audits will be documented and reported
- Records will be maintained of the audits in accordance with section 1.2.4
- All auditors have been trained and will be selected independent of the area to be audited
- Audits will assess compliance to Renco procedures and also to the ISO 9001:2000 standard

5.2.3 Monitoring and Measuring of Processes

All processes at Renco will be measured and monitored to ensure that they are suitable at ensuring the customer requirements are being met. This will be achieved through the internal audit program and the inspection process.

5.2.4 Monitoring and Measurement of Product

All materials received, in production, inspected/tested, stored, packaged and shipped from Renco will be inspected to procedures and a record of the results will be kept. Products will not be processed in the system until all inspections have been completed unless the customer approves otherwise.

If certificates of conformance/analysis are supplied for raw materials and are to be used by Renco as acceptance of the parts, materials or service then these certificates are to be inspected to the specifications required by the purchase order and kept in accordance with section 1.2.4.

The inspection records shall also show actual results when required by contract or specification and also qualification of the test method used.

5.3 Control of Non-Conformity

To detect non-conformance's and prevent them from being sent to the customer, Renco has documented and implemented a system procedure to:

- Identify non-conforming materials
- Segregated where possible, etc. and the problem documented
- Review the problem to determine what to do with the goods
- When this has been decided the persons concerned will be notified

Goods which are non-conforming will be reviewed, categorized and documented and action taken. If a customer needs to return items for re-work/replacement then a CAR number will be issued and tracked for disposition.

- The non-conformance is identified and documented
- The cause of the non-conformance is investigated and documented
- An action will be taken as appropriate to prevent the recurrence of the problem
- This action will also be documented
- Follow-up on the effectiveness of the action taken will be complete as part of the next internal audit, unless it can be closed out earlier.

If a supplier is required to take corrective action then this will be documented using a CAR and flowed down to them for action to be taken.

5.5.3 Preventive Action

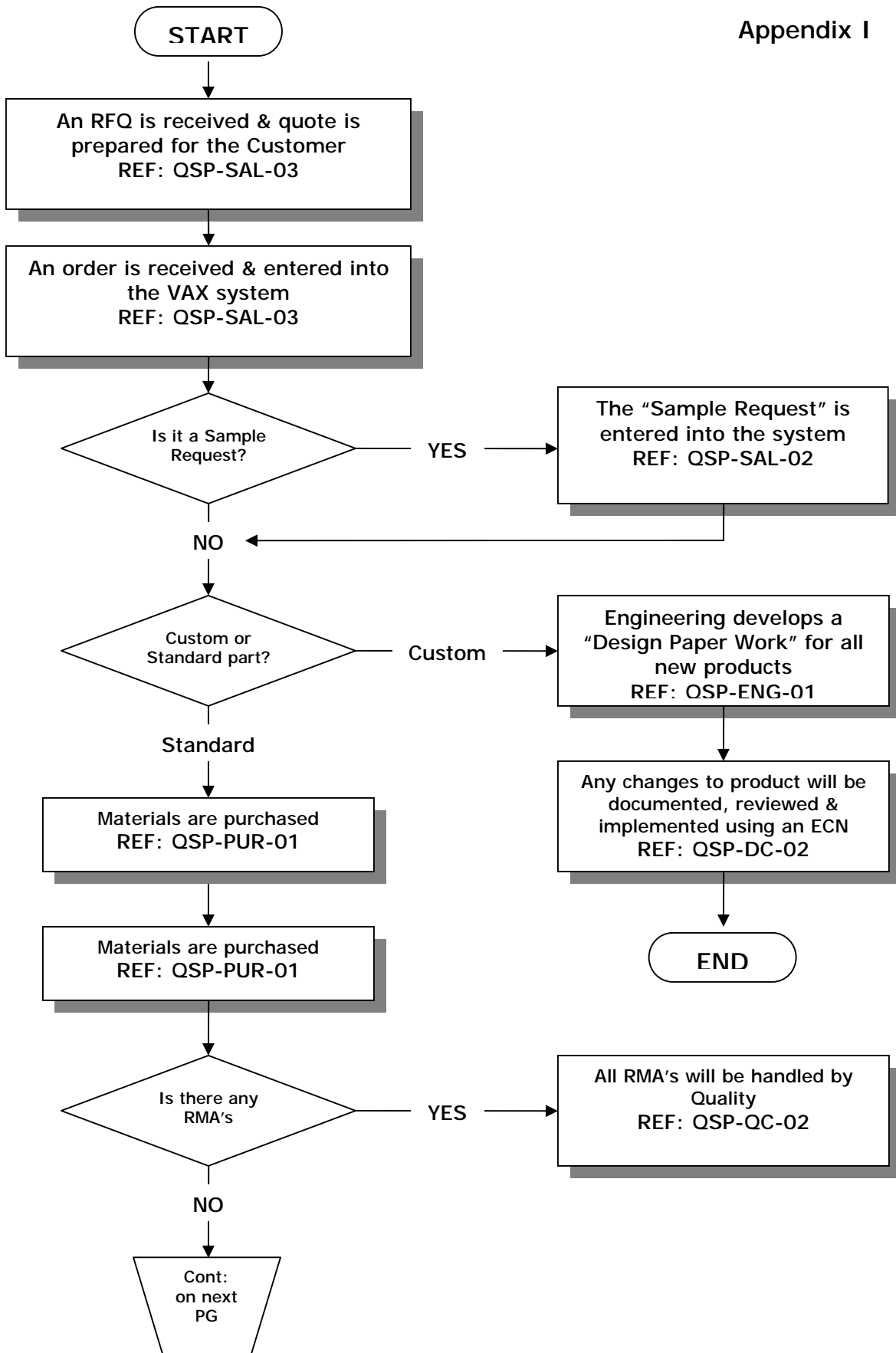
Renco will identify areas of potential improvement and actions to be taken to prevent non-conformance. This will be done as part of our internal audit and management review process.

This process will include:

- Identifying areas of potential non-conformance and documenting them into the corrective action system
- Taking action appropriate to prevent the non-conformance
- Recording the results of the action and reviewing the effectiveness of the action taken

Procedures Reference: QSP-QA-01 Corrective and Preventive Actions





Appendix I

