

Quality Assurance

for SOR Nuclear-Qualified Products

8303-100 Rev. 11

Process
Control
Instruments



14685 West 105th St. • Lenexa, KS 66215 USA
913-888-2630 • 800-676-6794 (USA) • 913-888-0767 Fax



NUCLEAR
QUALITY ASSURANCE MANUAL
8303-100
FOREWARD

The QA Manual sets forth requirements to insure the quality of the Process Control Instruments manufactured by SOR®. The manual applies to nuclear safety-related work and is written to comply with the applicable elements of 10CFR50, Appendix B, ANSI N45.2 NQA-1, CSA B51 Part 1, CSA N285.0 and CSA B51 Part 1. The provisions of 10CFR Part 21 apply to the products produced under this quality program. This program has been approved by all and shall be enforced by the management of SOR.



Linda Dunlap
Chairman

Charisse Konrady
Sr. Vice President Finance & Administration

Michelle H. Bunte
Vice President, Marketing

Bert Benton
Vice President, Manufacturing

John Fortino
Vice President, Engineering

Jeff Colvet
Vice President, Sales

Janet Smith
Vice President, Human Resources

Colbert Turney
Vice President, Quality

Scott Ensz
Vice President, Information

Quality Manual No _____ Issue Date _____ Issued to _____



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REVISIONS

Note: When a revision to the QA Manual occurs, the complete manual revision level is changed. SOR does not have pages or sections of this manual that are at different revision levels.

<u>Rev. No.</u>	<u>Section</u>	<u>Description</u>	<u>Approved Date</u>
1		Release Complete Manual	12/01/83
2		EO - 978	01/27/84
3		EO - 1168	11/29/84
4		EO - 1685	01/08/86
5		EO - 1858	06/09/86
6		EO - 2036	11/05/86
7		EO - 2512	06/30/88
8		EO - 2766	05/30/89
9	Various	See Superseded Manual Rev. 9 for details	04/12/93
10	Forward	Names changed to reflect current Management	08/01/99
10	2	Added Steps 2.7 & 2.8 and Supporting Procedures	08/01/99
10	3 - 14	Added Supporting Procedures	08/01/99
10	10	Added SPC data to 10.4	08/01/99
10	15	Added Step 15.5 and Supporting Procedures, revised 15.1 to reflect current policies.	08/01/99
10	16 – 18	Added Supporting Procedures	08/01/99
11	Various	Revise complete manual	12/10/10

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ORGANIZATION

The SOR management organization is listed below, and an SOR organizational chart is shown in Appendix A.

<u>Title</u>	<u>Name</u>
Chairman Emeritus	Roy R. Dunlap
Chairman	Linda Dunlap
Vice President, Quality	Colbert O. Turney
Sr. Vice President, Finance and Administration	Charisse Konrady
Vice President, Manufacturing	Bert Benton
Vice President, Engineering	John Fortino
Vice President, Sales	Jeff Coltvvet
Vice President, Marketing	Michelle Bunte
Vice President, Human Resources	Janet Smith
Vice President, Information Systems	Scott Ensz

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1.0 ORGANIZATION

- 1.1 The VP of Quality reports directly to the President and has the authority to stop work in any area to prevent non-conforming work or components from being incorporated into the final product. The Vice President/QA has authority to identify quality problems and to initiate, recommend, provide solutions and verify implementation of solutions. Quality assurance personnel are independent from the Procurement, Manufacturing, Fabrication, Sales, and Marketing groups. Engineering personnel can represent QA if QA personnel are not available and if the Engineer signing the document did not sign the product releases and Engineering Test Reports.
- 1.2 The VP of Quality responsibilities are:
 - 1.2.1 Review the customer purchase order requirements to insure incorporation into SOR production plans and insure that the final test results meet the customer specifications.
 - 1.2.2 Supervise all phases of receiving, in-process, final and shipping inspection.
 - 1.2.3 Maintain and control the accuracy of inspection and test equipment by timely calibration with approved procedures.
 - 1.2.4 Maintain QA records and forms.
 - 1.2.5 Perform vendor quality assurance audits or surveys and corrective action follow-up where required, per approved procedure.
 - 1.2.6 Determine necessary inspection points and establish procedures required to maintain the product quality.
 - 1.2.7 Represent QA on Quality Review Board.
 - 1.2.8 Train inspectors, auditors and test personnel and maintain proficiency records of these personnel.
 - 1.2.9 Train personnel performing activities affecting the quality of products in the SOR Nuclear Program.
 - 1.2.10 Maintain Approved Personnel List to document those personnel who are qualified to perform nuclear functions.
 - 1.2.11 Monitor procedure(s) for Reporting of Defects per NRC 10CFR Part 21.
- 1.3 The QA Inspector's responsibilities are:
 - 1.3.1 Receiving Inspection.
 - 1.3.1.1 QA inspectors will perform inspections as necessary to ensure that material received meet the specified requirements.
 - 1.3.2 In-Process Inspection.
 - 1.3.2.1 QA inspectors will perform inspections as described on work order and drawing. Acceptance will be denoted by signature and date.
 - 1.3.3 Final Inspection



- 1.3.3.1 QA inspectors will check the completed products to insure that the specified sales order requirements have been met.
- 1.3.3.2 QA inspectors will review data sheets and final test certificate for conformance to catalog, specification and/or customer requirements.
- 1.3.4 Shipping Inspection
 - 1.3.4.1 QA inspectors will check products for correct tagging, labels and special packaging requirements as required by sales order.
 - 1.3.4.2 Special marking and instruction requirements located on the exterior of packages will be checked before products are shipped.
- 1.3.5 Gauge Control
 - 1.3.5.1 QA inspectors will maintain and periodically calibrate inspection equipment per approved procedures.
 - 1.3.5.2 QA inspectors will select inspection equipment as required by drawings and/or specifications.
- 1.3.6 Non-Destructive Testing (NDT)
 - 1.3.6.1 QA inspectors will perform NDT as required by specification, purchase order and/or customer requirements. If the QA inspectors are not qualified to perform the inspections, the inspection will be subcontracted.
- 1.4 The VP of Engineering shall insure that Engineering personnel, performing activities affecting quality of SOR Nuclear Products, will follow functions described in Section 3 "Design Control" and supplemental instructions and procedures described in Customer Purchase Order, Contract Sales Order, Assembly Work Order and Part Work Order.
- 1.5 The VP of Manufacturing shall insure that Purchasing and Inventory control personnel, performing activities affecting quality of SOR Nuclear Products, will follow functions described in Section 7 "Procurement Control", Section 8 "Material, Parts & Component I.D." and supplemental instructions and procedures described in Contract Sales Order, Assembly Work Order and Part Work Order.
- 1.6 The Manager/Pressure Products and Manager/Machine Shop performing activities affecting quality of SOR Nuclear Products, will follow functions described in Section 5 "Instructions, Procedures and Drawings", Section 8 "Material, Parts and Component I.D." and supplemental instructions and procedures described in Contract Sales Order, Assembly Work Order and Part Work Order.
- 1.7 The VP of Sales shall insure that Sales, Marketing and Order Entry personnel, performing activities affecting quality of SOR Nuclear Products, will follow functions described in Section 5 "Instructions, Procedures and Drawings" and supplemental instructions and procedures described in Customer Purchase Order, Contract Sales Order, Assembly Work Order and Part Work Order.



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Supporting Procedures – Section 1.0	
Procedure No.	Procedure Title
001-561	Standard Tenders
094-041	Management Review of SOR Quality System
8303-109	Qualifications of Inspection, Testing and Audit Personnel
8303-110	Reporting of Deviations for Defects per NRC 10CFR Part 21

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2.0 QUALITY ASSURANCE PROGRAM

- 2.1 Quality Control procedures and/or instructions are established and approved by VP of Quality.
- 2.2 QA Program shall be reviewed by Management a minimum of once a year to insure adequacy of the program and compliance with latest customer specifications.
- 2.3 VP of Quality will insure that inspectors, auditors and test personnel will receive training as required by approved procedures. Special procedures will be developed and implemented when required to meet customer specifications.
- 2.4 VP of Quality will issue QA Manual and maintain distribution records of original and revisions per approved procedures.
- 2.5 VP of Quality will maintain a list of approved personnel designated to sign off certificates of conformance and/or compliance or be authorized representative for the responsible management.
- 2.6 VP of Quality will insure that personnel performing activities affecting the quality of products in the SOR Nuclear Program will receive indoctrination and training. These training records will be documented and maintained by the VP of Quality and/or Designee.
- 2.7 QA Program documentation consists of the SOR QA (Policy) Manual. The QA Manual is supported by Procedures. The Procedures are supported by work instructions where applicable.
- 2.8 Products that do not meet SOR Quality Standards or Nuclear Code Requirements will not be released for shipment to customers per Section 15 "Nonconforming Materials, Parts or Components."

Supporting Procedures – Section 2.0	
Procedure No.	Procedure Title
094-041	Management Review of SOR Quality System
8303-109	Qualifications of Inspection, Testing and Audit Personnel
8520-896	Distribution of SOR Quality Assurance Manual
8303-117	Approved Personnel List



3.0 DESIGN CONTROL

- 3.1 The Engineering Department is responsible for the original design of and subsequent modifications to products which are manufactured and sold by SOR. This responsibility covers all product designs (special and standard) with adherence to applicable industry codes, standards, and regulations as well as product reliability, safety, and suitability for applications.
- 3.2 The Engineering Department establishes design specifications and project plans for performing design activities such that design outputs are verified at scheduled milestones. These plans assign qualified personnel to major design tasks and identify the necessary resources to adequately accomplish the development activity. Both internal (manufacturing, purchasing, etc.) and external (consultants, special services, etc.) organizational and technical interfaces are to be delineated to allow for regular reviews and feedback on project direction and status.
- 3.3 Design inputs are documented and in turn reviewed by the Engineering Department for adequacy and feasibility. Design input requirements for new products and modification to existing products that affect the original specifications are controlled by a documented approval process.
- 3.4 Functional specifications, agency requirements, performance criteria, and identified safety requirements are translated into design documents and product (design output). All design documents and activities relevant to the final design are authenticated and retained.
- 3.5 Design output is monitored by design reviews and verified by competent personnel to ensure that design requirements are met. Final design is reviewed to verify that design specifications are met and, at a minimum, is approved by assigned personnel from Quality Assurance and Engineering.
- 3.6 Design modifications or changes are identified, documented, reviewed, and approved. In carrying out design control, the Engineering Department ensures that during the design cycle and throughout the product life, the product meets company standards, customer standards, and any applicable regulatory standards.
- 3.7 It is the responsibility of Manufacturing Engineering, Purchasing, Quality Assurance, Sales, and Marketing to provide supporting procedures that ensure that all design revisions are correctly implemented. SOR's design control system extends to the customer and supplier. Inside Sales is accountable for "closing the loop" with the customer, and Purchasing is accountable for "closing the loop" with the supplier.

Supporting Procedures – Section 3.0	
Procedure No.	Procedure Title
001-511	Design Data Log
095-001	Documentation Control
095-022	Engineering Change Order
095-037	Design Control
094-045	ECO Processing Quality Assurance



4.0 PROCUREMENT DOCUMENT CONTROL

- 4.1 VP of Quality will review purchase documents to ensure quality assurance requirements are included. A copy of the required drawing is furnished with the purchase order, which provides the technical requirements. These drawings have been formally reviewed and approved by Engineering. The review shall include verification that customer purchase order requirements are specified on SOR purchase order. Statement may be added to purchase order for applicable specific regulations. Purchase order is to be re-checked after completion of all processing i.e. typing, to ensure required QA information has been included. Revisions to purchase orders will be reviewed in the same manner as original issue.
- 4.2 VP of Quality will review subcontractor QA program, to verify that the subcontractor can meet requirements of procurement documents. The results of review and acceptance of QA program shall be documented and the records will be maintained by QA. Acceptance of the subcontractor's QA program shall be by VP of Quality.

Supporting Procedures – Section 4.0	
Procedure No.	Procedure Title
002-035	Purchase Order Preparation
002-029	Approved Vendors List

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5.0 INSTRUCTIONS, PROCEDURES, AND DRAWINGS

- 5.1 Instructions, procedures and drawings shall include inspection requirements. These requirements must reflect the customer specifications and Purchase Order (P.O.) requirements. Parts drawings shall include inspection requirements in the form of tolerances, material description and special notes.
- 5.2 The instructions, procedures and drawings must include acceptance criteria to insure compliance with customer quality requirements.
- 5.3 All instructions, procedures and drawings must be reviewed, checked and approved per approved procedures.
- 5.4 Catalogs, General Instructions and Technical Bulletins must be reviewed, checked and approved per procedures.

Supporting Procedures – Section 5.0	
Procedure No.	Procedure Title
001-512	Issuing New Forms – Mktg. Dept.
095-001	Documentation Control
095-037	Design Control



6.0 DOCUMENT CONTROL

6.1 Quality-related documents require a "closed-loop" procedure to control their handling.

- a. There is a single responsible function for issuance of each document, as well as any changes to the specific issuance. Each occurrence of an issue or a change is approved by the appropriate manager.
- b. There are procedures that route and control the intra- and interdepartmental flow of documents.
- c. The result of the routing of each occurrence is fed back to the issuing function to ensure the response to the document issuance is accurate.

6.2 Responsibility for document control lies with the department that issues the document. It is each department manager's responsibility to assure that all quality-related documents issued by his/her department meet the following procedural guidelines, by establishing:

- a. How documents are approved.
- b. Who (position, title) approves documents.
- c. Where documents are located so that they are available to employees needing access to them.
- d. How obsolete documents are identified and recorded.
- e. How changes to documents are identified and recorded.
- f. How many changes are allowed before a revision is issued.
- g. A "loop system," or route, that newly issued documents travel for approvals and issues, making sure that both new issues and changes to issue follow the same route.
- h. That the department document procedure requires the document title be added or subtracted, as needed, to the Master List of Quality Documents.

Supporting Procedures – Section 6.0	
Procedure No.	Procedure Title
001-512	Issuing New Forms – Mktg. Dept.
095-001	Documentation Control
094-129	Procedure For Controlling Quality Records



7.0 CONTROL OF PURCHASED MATERIAL, EQUIPMENT AND SERVICES

- 7.1 Vendors are approved either by historical quality performance data, or source survey, audit, verification of material or parts by inspection or review of test reports.
- 7.2 Check lists approved by QA shall be used for audits or surveys of vendors. These check lists shall be originated and approved by the QA Manager.
- 7.3 QA will maintain an approved vendor list. This list will be updated on at least a quarterly basis.
- 7.4 QA will maintain a file check lists used to approve vendors, related purchase orders, rework and scrap records.
- 7.5 Re-evaluation will occur on or before due dates specified on approved vendor list.
- 7.6 Purchased materials, parts and equipment shall be inspected for compliance with procurement documents.
- 7.7 Certified Material test reports shall be reviewed and approved by authorized QA personnel.
- 7.8 Raw Materials and components that are procured as commercial grade items are dedicated per SOR 8520-017.
- 7.9 Incoming material, parts and components are inspected for conformance to P.O., drawing, specification or work order, i.e. color codes, inspection identifying marks, tags/labels and material certification. Additional testing may be performed as required to identify material.
- 7.10 Nonconformance Report (NCR) Form will be issued when incoming materials do not meet requirements.

Supporting Procedures – Section 7.0	
Procedure No.	Procedure Title
002-029	Approved Vendors List
094-036	Incoming Inspection Procedure
094-043	Nonconformance Report (NCR)
094-060	Vendor Audit/ Commercial Grade Survey Procedure
8303-112	Vendor Audit Procedure & Checklist
8520-017	CGI Procedure



8.0 IDENTIFICATION & CONTROL OF MATERIAL, PART & COMPONENTS

- 8.1 Permanent marking and/or tagging will be used where described on P.O., drawings, specifications or work orders to provide traceability.
- 8.2 Nonconformance Report (NCR) Form will be issued when incoming materials do not meet requirements.
- 8.3 Work Order Traveler, work order or P.O., complete with date, order number, part number, description, quantity and routing, must be approved by inspection before movement of accepted material to designated stock or assembly area.
- 8.4 Approved material, parts and components shall not be removed from designated stock area, for fabrication or assembly, without work order, Work Order Traveler or sales order. The identification of these parts shall be maintained throughout entire manufacturing, assembly, testing and final calibration process.
- 8.5 Metal for certain switch parts as specified by the VP of Engineering will be assigned a heat code identification from the heat code log. This code will be stamped on the ends of the bars and on castings. Heat code traceability is maintained as follows: the heat code is transferred to individual pieces as they are removed from the main heat coded bar, during the manufacturing process, if part size or configuration allows or the individual pieces are placed in a container marked with heat code.

Supporting Procedures – Section 8.0	
Procedure No.	Procedure Title
Form 1097	Heat Code Log
002-035	Purchase Order Preparation
094-036	Incoming Inspection Procedure
094-043	Nonconformance Report (NCR)
8520-059	Procedure for Processing Nuclear Orders



9.0 CONTROL OF SPECIAL PROCESSES

- 9.1 Instructions or procedures for special manufacturing processes will be issued and approved by the VP of Quality as required by customer requirements. Instructions or procedures must include complete description of equipment required, special conditions, methods and personnel qualifications.
- 9.2 Personnel performing special process work will be trained and qualified per procedure issued and approved by VP of Quality. Procedures for qualification of personnel shall meet intent of ANSI N45.2.6.
- 9.3 Personnel performing quality inspection, verification or NDT will be approved by VP of Quality.
- 9.4 If the QA personnel are not qualified to perform the necessary inspections, verification or NDT the duties will be subcontracted.

Supporting Procedures – Section 9.0	
Procedure No.	Procedure Title
8303-104	Soldering Procedure
8520-594	Pressure Sensor Welding Procedure for Nuclear
8303-117	Approved Personnel List



10.0 INSPECTIONS

- 10.1 The VP of Quality shall establish and implement procedures to qualify inspection personnel. Only approved, qualified personnel are permitted to perform inspections.
- 10.2 Inspections are to be performed by other than those who performed the activity being inspected.
- 10.3 Inspection procedures shall be approved and issued by the VP of Quality. These procedures are released by the document control system.
- 10.4 Unless otherwise noted, "inspect" shall be defined as sample the received lot, per sampling plan procedure and check all dimensions. If parts are from an approved supplier that submits SPC data, then inspection can be reduced from 100% per 094-036.
- 10.5 Mandatory inspection or hold points as required by customer or VP of Quality shall be incorporated in sales, assembly or part fabrication work order.
- 10.6 Parts and/or materials are inspected when received against purchase order, specification, work order or drawings.
- 10.7 Some commercial parts and/or materials may be upgraded for nuclear usage by re-inspection per work order.
- 10.8 In-process inspections are performed at various intervals to detect nonconformance. Records of inspection are attached to work order.
- 10.9 Nonconforming material identified during receipt inspections will be documented on Nonconformance Report (NCR) Form. The material will be segregated and the NCR Form will accompany the nonconforming material.
- 10.10 When parts and/or materials have passed inspection or been released from NCR hold, sign and date purchase order, Work Order Traveler or work order and record inspection results in log book.
- 10.11 The accepted parts and/or materials are routed to Nuclear Stores per Work Order Traveler, purchase order or work order. They come under control per Nuclear QA Program 8303-100 when placed in Nuclear Stores.
- 10.12 Final calibration, test data sheets and certificate of conformance are reviewed for conformance to sales order requirements.

Supporting Procedures – Section 10.0	
Procedure No.	Procedure Title
001-561	Standard Tenders
094-036	Incoming Inspection Procedure
094-042	In-Process Inspection Procedure
094-043	Nonconformance Report (NCR)
8303-109	Qualifications of Inspection, Testing and Audit Personnel
8520-059	Procedure for Processing Nuclear Orders
8520-017	CGI Procedure



11.0 TEST CONTROL

- 11.1 The VP of Engineering shall develop written test procedures to meet customer requirements. Engineering Order or Document Control procedures shall be used to control issue or revision of test procedures as applicable.
- 11.2 Only Inspection or test personnel approved by the VP of Quality will be permitted to perform approved tests.
- 11.3 Written test results shall be evaluated and approved by VP of Engineering and VP of Quality to insure conformance with customer's requirements. The manufacturing routing shall specify check points during tests and final approval before shipping.

Supporting Procedures – Section 11.0	
Procedure No.	Procedure Title
095-037	Design Control
8303-109	Qualifications of Inspection, Testing and Audit Personnel
8520-059	Procedure for Processing Nuclear Orders



12.0 CONTROL OF MEASURING & TEST EQUIPMENT

- 12.1 Procedure for control of measuring and test equipment shall list location, custodian, manufacturer's serial number and SOR equipment numbers.
- 12.2 Procedure shall indicate primary standard, calibration period, and log of calibration for all equipment.
- 12.3 Test equipment shall be marked to indicate calibration status.
- 12.4 Calibration log will list equipment status, including removal from service for nonconformance, damaged or obsolete condition. The log shall be maintained by VP of Quality, and controlled by approved procedure.
- 12.5 Primary standards shall be traceable to National Institute of Standards and Testing (NIST) (formerly NBS).
- 12.6 Software that is used to design products, manufacture products and/or test products must have measures established and implemented to control software quality. This requirement applies to software purchased from an outside vendor or software developed in-house. Procedures shall be established to assure the life cycle activities proceed in a traceable, planned and orderly manner.
- 12.7 Where calibration suppliers are used, SOR will perform a triennial auditor survey, will witness the calibration of the equipment or will follow SOR procedure for accepting commercial grade supplies with A2LA, NAVLAP, etc. certifications.

Supporting Procedures – Section 12.0	
Procedure No.	Procedure Title
002-143	Manufacturing Software Control
095-052	Software Control
094-155	Control of Software Quality
094-163	Qualification of Commercial Grade Suppliers for Calibration
7418-100	Calibration Procedure For Measuring And Test Equipment



13.0 HANDLING, STORAGE AND SHIPPING

- 13.1 Approved materials are located in a controlled designated stock area. These materials are identified by tags, color codes and/or identifying marks.
- 13.2 Approved material will not be removed from controlled designated stock area without Work Order Traveler, work order or sales order. Material identification will be maintained throughout the entire manufacturing, assembly and testing process to provide traceability.
- 13.3 Approved material will be protected from damage and deterioration per supplier, vendor or customer requirements.
- 13.4 Approved material will be packaged, marked and shipped per customer requirements and/or SOR specifications.
- 13.5 Approved material will not be processed, stored or shipped without required sales order, Work Order Traveler, work order or shipping paper accompanying the material.

Supporting Procedures – Section 13.0	
Procedure No.	Procedure Title
002-035	Purchase Order Preparation
8303-101	Packaging, Shipping and Documentation for Level B Packaging
8520-059	Procedure for Processing Nuclear Orders



14.0 INSPECTION, TEST & OPERATING STATUS

- 14.1 Inspection status of raw materials, vendor parts and/or assemblies, SOR manufactured parts and/or assemblies are recorded on Work Order Traveler, work order or purchase order and inspection log.
- 14.2 Final inspection testing status of switch assemblies is recorded on final test certificate accompanying product and/or sales order.
- 14.3 Nonconformance Report (NCR) Form will be issued as required for nonconformance to design drawing, customer specification and/or purchase order.
- 14.4 VP of Quality will maintain a list of approved personnel designated to approve final test certificate.

Supporting Procedures – Section 14.0	
Procedure No.	Procedure Title
094-036	Incoming Inspection Procedure
094-042	In-Process Inspection Procedure
094-043	Nonconformance Report (NCR)
8303-117	Approved Personnel List
8520-059	Procedure for Processing Nuclear Orders



15.0 NONCONFORMING MATERIALS, PARTS OR COMPONENTS

- 15.1 Material and/or parts that do not conform to design drawings, specifications and/or purchase orders are documented per SOR 094-043 Nonconformance Report (NCR). Nonconforming material and/or parts are identified, segregated, and held from production and disposition per SOR 094-043 NCR procedure.
- 15.2 The VP of Quality notifies management in affected organization when NCR is received by copy of NCR.
- 15.3 Disposition is recorded on the Nonconformance Form. Materials, parts and components are routed to areas per disposition recorded on Nonconformance Form. Designated scrap materials area is isolated from special hold area, stocking area and production area.
- 15.4 If disposition requires additional inspection or inspection after repair/rework, the additional inspection is recorded in the lower sign off area of the NCR form.
- 15.5 Products that do not conform to the Nuclear Code(s) specified on the sales order will not be released for shipment. Any SOR Employee can stop nonconforming products by completing an NCR per SOR 094-043. The product will not be released for further processing until the NCR authorizes release.
- 15.6 Nonconformance Reports that apply to nuclear parts are reviewed for a potential NCR 10CFR Part 21 reportable condition.
- 15.7 Customer complaints are recorded and reviewed by the Quality Review Board (QRB). The review will include consideration for potential NCR 10CFR Part 21 reportable conditions.
- 15.8 The RMA process evaluates any material that is returned. The evaluation results will be reviewed and consideration will be given to determine if a NCR 10CFR Part 21 report should be issued.

Supporting Procedures – Section 15.0	
Procedure No.	Procedure Title
001-568	Returned Products-QA
001-570	Customer Complaints-SLS
094-043	Nonconformance Report (NCR)
8303-110	Reporting of Deviations for Defects per NRC 10CFR Part 21



16.0 CORRECTIVE ACTION

- 16.1 When inspection of materials, parts and components reveals conditions that are adverse to quality or possible nonconformance to design drawing, customer specifications, and/or purchase order, management in affected area and VP of Quality are notified immediately. These items will be identified and placed in a designated hold area.
- 16.2 The NCR Form, with documented reasons for hold and disposition, shall be reviewed by QRB to determine if corrective action or preventative action is warranted.
- 16.3 The corrective action shall be recorded on the Corrective Action Report Form 621. Preventive action shall be recorded on the preventive Action Report, Form 621.
- 16.4 Request for Engineering Order (EO) to implement the corrective action shall be issued, when applicable.
- 16.5 EO discussion, evaluation and disposition meetings are held as required, to meet customer delivery requirements or other special requirements.
- 16.6 Corrective action reports that apply to nuclear parts and products are reviewed for potential 10CRF21 reportable conditions.

Supporting Procedures – Section 16.0	
Procedure No.	Procedure Title
095-022	Engineering Change Order
094-152	Corrective Action Report Procedure
094-138	Preventive Action
8301-117	Quality Review Board
8303-110	Reporting of Deviations for Defects per NRC 10CFR Part 21



17.0 QUALITY ASSURANCE RECORDS

17.1 QA records are maintained for the following:

- a. Inspection Log (Receiving and In-Process)
- b. In-Process (Work Order Traveler)
- c. Calibration (Measuring and Test Equipment)
- d. Material Source (Plant Parts and Assembly Work Orders)
- e. Training (Inspection, Audit or Survey)
- f. Qualification (Inspection, Audit or Survey)
- g. Test Data (Specific Sales Order)
- h. Final Calibration (Specific Sales Order)
- i. Internal Audits
- j. Certificate of Conformance

Following additional records when required by Customer:

- k. Shipping Inspection (Special markings, etc.)

Following additional records when required by SOR:

- l. Certified Material Test Report
- m. Vendor Audits or Survey
- n. Sales Orders

Additional records as agreed upon by customer and SOR as described on customer purchase order.

- 17.2 QA records for SOR nuclear safety-related products are limited to "non-permanent" category. These records will be maintained by SOR for a minimum of ten (10) years at which time SOR will notify customers before disposal of QA records.
- 17.3 QA records considered by the customer to be in the "lifetime" category are the customer's responsibility to maintain.
- 17.4 SOR will maintain QA records during processing of sales order. These records will be filed in facility designed to comply with 1 hour at 350°F fire rating, or duplicate records will be kept off premises.
- 17.5 Retention of personnel type records, including training and qualification, will be per Company policy, i.e. normally for period of employment, plus a minimum of ten (10) years at which time SOR will notify customers before disposal of records.

Supporting Procedures – Section 17.0	
Procedure No.	Procedure Title
094-129	Procedure for Controlling Quality Records
8520-059	Procedure for Processing Nuclear Orders



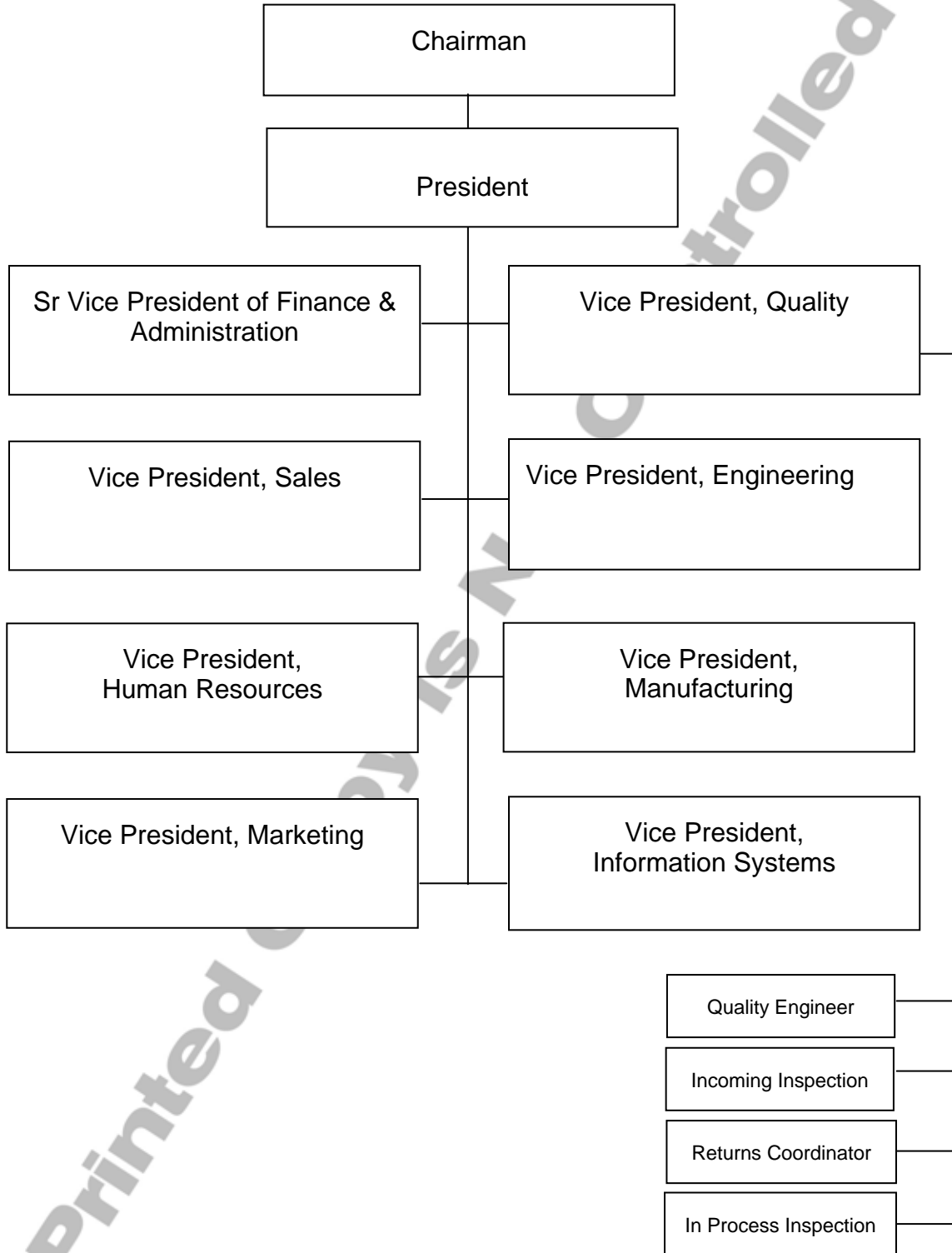
18.0 AUDITS

- 18.1 QA will perform evaluations and periodic audits or surveys of vendors using approved check lists.
- 18.2 QA will perform periodic internal audits for compliance to QA program using approved check list.
- 18.3 QA will maintain record of all vendor and internal surveys or audits.
- 18.4 Procedures for internal audits shall be followed with final results submitted for management review. Management shall review QA program and internal audits a minimum of once a year. Corrective action will be taken on conditions adverse to quality.
- 18.5 QA will perform quarterly status report of deficient areas until corrective action is accomplished.
- 18.6 Audit procedures to be established and implemented using ANSI N45.2.12 for guidance.
- 18.7 Procedure for qualification of audit personnel, to be established and implemented using NQA-1 Appendix 2A-3.1 for guidance.

Supporting Procedures – Section 18.0	
Procedure No.	Procedure Title
7701-128	Internal Audit Work Instructions
8303-112	Vendor QA Audit Procedure and Checklist
8303-117	Approved Personnel List



Appendix A Organization Chart





Differential Pressure Switches



Vacuum Switches



Pressure Switches

Temperature Switches



Temperature
Pressure
Controlled



Process Instrumentation

We Deliver Quality On Time

SOR Inc.
14685 West 105th Street
Lenexa, Kansas 66215

Phone 913-888-2630
Toll Free 800-676-6794
Fax 913-888-0767

sorinc.com

SOR Europe, Ltd.
Farren Court
Cowfold
West Sussex RH13 8BP
United Kingdom

Phone +44 (0) 1403 864000
Fax +44 (0) 1403 864040

SOR - China
Room 903, No. 10 Building
Wan Da Plaza
No. 93 Jian Guo Road
Chao Yang District
Beijing, China 100022

Phone +86 (10) 5820 8767
Fax +86 (10) 58 20 8770