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Olean/Wellsville Quality Management System Manual		Document ID:	004-120-521
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1. OBJECTIVE

The management system described within this manual establishes the Dresser-Rand Olean/Wellsville Operations quality policy.

2. SCOPE

The Quality System encompasses the Design, Manufacture, Testing, In-house Repair and Servicing of Dresser-Rand Axial and Centrifugal Compressors, Gas Expanders, Gas and Steam Turbines, and Associated Package Systems and In-house technical support of Dresser-Rand units. Also, the manufacture, in-house repair and on-site servicing of GE Design Navy Steam Turbines. The manual as written addresses the requirements of ISO 9001:2008 except for the exclusions shown, with justification, in the table below and the applicable requirements of MIL-Q-9858A; 10CFR50, Appendix B; ANSI/ASME N45.2 and ANSI/ASME NQA-1:

EXCLUSION TABLE	
EXCLUSION	JUSTIFICATION
Post Delivery Activities and on site servicing of Dresser-Rand designed Units only (7.5.1.F)	Performed by D-R Houston, TX
Design of GE Design Navy Steam Turbines (7.2)	The design responsibility was not part of the acquisition of the GE Navy turbine line.
D-R Gimpel Value Design	Performed by D-R Gimpel Houston, TX

The manual also serves to direct the user from the policy statements to the procedures implementing the policy.

3. APPLICABLE DOCUMENTS

3.1 Internal

All procedures and other procedures referenced within the pages of this document.
All work instructions that directly or indirectly have impact on product or process.
All forms used in conjunction within this policy and the procedures and work instructions described in both of the above.

3.2 External

10CFR50 Appendix B
ANSI/ISO/ASQ Q9001-2008
ANSI/ASME NQA-1, ANSI/ASME N45.2
ASTM E29
MIL-Q-9858A

4. TERMINOLOGY

4.1 Quality Policy - The Company's requirements on issues affecting quality. The Policies contain the overall intentions and direction of an organization related to quality as formally expressed by top management (Executive Staff).

4.2 Quality Manual (Level 1) - A document stating the Quality policy and describing the Quality management system of an organization.

4.3 Quality Procedure (Level 2) - A specified way to perform an activity. The directions for implementing a Quality Policy. Procedures reflect the principles and practices defined in the Quality Manual. Procedures detail the practices used to perform an activity, and who has the responsibility. A procedure describes what is to be done when, where, why, and by whom. These do not describe the "How to" (Work Instructions) to perform an activity.

4.4 Work Instruction (Level 3) - The generic name for detailed descriptions of work to be done (How to) in the design, manufacture and inspection of acceptable product. Work instructions are also used for related tasks such as calibrations, inspections, pollution prevention, and preventive maintenance.

4.5 Records (Level 4) - The document contains the output from a procedure or work instruction. These may include files, technical standards, drawings, lab analysis, and specifications. The forms or charts are referenced in the work instructions and inspection and test procedures.

4.6 Process² - A set of interrelated or interacting activities that transforms inputs into outputs.

Note 1 - Inputs to a process are generally outputs of other processes.

Note 2 - Processes in an organization are generally planned and carried out under controlled conditions to add value.

Note 3 - A process where the conformity of the resulting product cannot be readily or economically verified is frequently referred to as a “special process”.

4.7 Policy¹ - A plan or course of action designed to influence and determine decisions and actions. A course of action, guiding principle, or procedure considered being expedient, prudent, or advantageous.

4.8 Procedure¹ - A way of performing or effecting something. A course of action. A set of established forms or methods for carrying on the affairs of a business.

4.9 Specification¹ - A detailed and exact statement of particulars, for something to be built, installed or manufactured.

4.10 Standard¹ - An accepted measure of comparison for quantitative or qualitative value: criterion.

4.11 Controlled Document - A document that is utilized in the definition of requirements, design, development, manufacturing, inspection or test of the product or service. Controlled Documents are 1) assigned an ID number, 2) show a revision level and date, 3) reviewed to assure they are accurate, 4) approved when changed, and 5) formally processed, issued, and distributed.

4.12 Uncontrolled Document - A document that has no effect on the definition of requirements, design, development, manufacturing, inspection or test of the product or service. Many of these documents are used when gathering data as information that is incorporated into controlled documents.

¹ Webster's II New College Dictionary

² Q9000-2000 Quality Management Systems – Fundamentals and vocabulary

5. QUALITY MANAGEMENT SYSTEM

5.1 General Requirements - This Quality management system has been created, is being maintained, is implemented and will be continually improved to achieve compliance with ISO 9001-2008 and the assurance of conformity to client and applicable statutory and regulatory requirements.

5.1.1 The order and interaction of specific (department, machine, product, activities, or service) Quality management system processes can be found on Model Bills, route sheets or procedures associated with them. The criteria and methods for control of processes are found in internal procedures, inspection instructions and work instructions. The resources and information necessary for the operation and monitoring of these processes is found within available controlled documents. Upon the completion of measurement and monitoring of the processes, appropriate action is taken to assure intentions are achieved and opportunities for improvement are acted on.

5.1.2 Where outsourcing is performed, controls shall be identified within the Quality management system documentation.

5.1.3 Management of these processes is accomplished in accordance with the requirements of established procedures.

5.2 Documentation Requirements

5.2.1 General Documentation Requirements - While considering the size of our organization, the complexity and interaction of the processes in our Quality management system and the current workforce, the following documents in our Quality management system consist of:

- a. The documents referred to in this Quality manual.
- b. Documented procedures and records as required by ISO9001-2008.
- c. Any documents required to effectively control the processes needed to deliver our products and services.
- d. Control of Documents (Appendix 1)
- e. Control of Records (Appendix 1)

5.2.2 Control of Documents - All documentation within Dresser-Rand's Quality system is controlled by procedures (referenced in Appendix 1).

5.2.3 Procedural Interface – Department /Team Procedures or Manuals form a part of the overall Quality Management System. All personnel to ensure compliance with ANSI/ASQ Q9001, and the Sarbanes-Oxley Act use these procedures. Other components of this system are procedures, specifications and standards on the DRNet and in paper manuals. Controlled copies of the documents identified above shall be readily available to all personnel performing an activity and may be in book form or electronic via the DRNet. Personnel to assure compliance with all requirements shall use applicable procedures.

5.2.4 Control of Quality Records - The requirements for Quality records are found within Quality Records procedure (Appendix 1). Specific Dresser-Rand Quality records have been identified and their requirements shown either in a matrix referenced within that procedure or referenced in other individual procedures. All data supporting the achievement of Quality requirements and effectiveness of the Quality system are included as Quality records. The procedures identify the controls needed for the identification, storage, protection, retrieval, retention time and disposition of records. The retention time indicates the minimum time records will be maintained. Records may be maintained longer than specified.

6. MANAGEMENT RESPONSIBILITY

6.1 Management Commitment - The following are expressions of Dresser-Rand's management commitment to develop and improve the Quality management system:

- a. Communication occurs throughout the company about the importance of fulfilling client, legal, statutory and regulatory requirements. That communication happens through the use of:
 1. General and product or service specific training
 2. Retraining when and where shortfalls appear
 3. Displays and postings in high traffic areas
 4. Periodic communication meetings
 5. Specific emphasis in provided documentation
- b. The Quality policies (see 6.3, 6.3.1)
- c. The Quality objectives (see 6.4.1)
- d. The management review records
- e. The appointment of specific management representative(s)
- f. Resources are addressed in Section 7 of this manual

6.2 Client Focus - The highest level of management assures that client needs and expectations are determined and transformed into clear requirements through the processes described in 8.2 later in this Quality Manual. Through all of the policies, objectives, targets, and processes described in this Quality Manual, the highest level of management assures the needed environment to consistently fulfill the client needs and expectations. By routinely assessing client satisfaction, the highest level of management optimizes the likelihood of its continual achievement. Specifically, the process described in Section 8.2.3 and 9.2.1 serves that purpose.

6.3 Quality Policy - Having given due consideration to the following:

- a. The purpose of Dresser-Rand
- b. The need to include an explicit commitment to meeting requirements
- c. The need to include an explicit commitment to continual improvement
- d. The nature, scale, and environmental impacts of its activities, products, and services
- e. The required continual compatibility with Quality objectives and targets, a Quality Policies statement that has been formulated by the highest level of management is available to the public, documented and communicated to all employees and can be found prominently displayed at many strategic locations throughout the site. The Quality Policy read as follows:

OUR QUALITY COMMITMENT IS TO:

- **Meet Client Requirements, Improve Client Satisfaction and Increase Shareholder Value**
- **When a Nonconformance is Detected, Stop the Process and Implement Corrective Action**
- **Establish and Achieve Company Objectives and Targets**
- **Achieve Continual Improvements of our Activities and Processes**
- **Comply with Quality System Requirements and Relevant regulations**
- **Develop a trained workforce Empowered to meet these Commitments**

6.3.1 After communication of the Quality policy to the employee population, employees at all levels of the organization are expected to fulfill the requirements of this policy in all of their work-related efforts and decisions.

6.3.2 Lastly, the Quality policy is reviewed at least annually for suitability. Its distribution is controlled because of the possibility that it might change.

6.4 Planning

6.4.1 Quality Objectives - The highest level of management has formulated the “Fishbone” along with the “Performance Metrics”, which is used by all employees as a means to supporting the overall company’s objectives. These Quality objectives are rolled down to relevant functions and managers who in turn convert them into objectives at their level.

6.4.2 Planning - Having created measurable Quality objectives, each relevant function is required to consider the following as they create or change Quality plans:

- a. The integrity of the Quality management system is maintained as changes are planned and implemented.
- b. Legal and other requirements to which the Operations subscribe.
- c. Continual improvement of the Quality management system.

6.4.3 When significant changes occur in categories such as the organization, the facilities or the business strategy, Process Improvement Tools are employed to assure integrity and compatibility of the Quality management system.

6.5 Responsibility, Authority, Communication

6.5.1 General - Dresser-Rand’s Quality management system administration is described in clauses 6.5.2 through 6.5.5.

6.5.2 Responsibility and Authority - The Functions and Responsibilities of each department illustrate functions, their interrelations, responsibilities and authorities relevant to the Quality management system. More specific Quality management system responsibilities and authorities can be found in Team Procedures, on job descriptions, route sheets, flow charts, work instructions, and operational controls associated with machines utilized, products manufactured and services provided. Appropriate distribution of these documents and associated training assures clear communication of this information.

6.5.3 Management Representative – The Manager of Quality Assurance has been appointed as the Quality Management System representative. The assigned duties include:

- a. Overseeing the implementation and maintenance of the Quality management system in accordance with ISO 9001:2008 requirements.
- b. Reporting on the performance of the Quality management system to the highest level of management.

- c. Reporting on the need for improvement of the Quality management system to the highest level of management.
- d. Encouraging and assisting in extending the understanding of client requirements to the degree necessary throughout the organization.

6.5.4 Internal Communication - Data indicative of the performance of the Quality management system is shared throughout Dresser-Rand Olean/Wellsville Operations in following ways:

- a. Postings
- b. Near real-time data on the computer network
- c. Accessibility of the Global corrective and preventive action system
- d. Effectiveness of the Quality Management System to relevant functions and managers

6.6 Management Review

6.6.1 General - In order to assure the continuing suitability, adequacy and effectiveness, the highest level of management will conduct periodic reviews of the Quality management system. The reviews can address the Quality management system entirely or in parts, as long as the entire Quality management system is reviewed minimally annually. An expected outcome of that review is the determination of the need for any changes, opportunities for improvement to the Quality management system, and any needed changes to the Quality Policy and Quality Objectives.

6.6.2 Review Input - Annual performance and opportunities for improvement are determined by reviewing the following:

- a. Audit results
 - 1. Internal Quality management system audits
 - 2. 3rd party Quality management system audits
 - 3. Evaluation of compliance audits to legal and other requirements
 - 4. Client audits
 - 5. Supplier audits
- b. Client feedback/client satisfaction
 - 1. Warranty Issues (FIRs & FEPs)
 - 2. Client complaints & praise
 - 3. Communications from external interested parties
- c. Process performance and product conformance
 - 1. Departmental Root Cause and Corrective Action
- d. Preventive and corrective action status
- e. Carryover action item status
- f. Quality management system changes, including developments in legal and other requirements
- g. Recommendations for improvements

6.6.3 Review Output - Actions associated with the following are included in the output from management review:

- a. Improvement of the effectiveness of the Quality management system and its processes.
- b. Improvements upon products or services associated with client requirements.
- c. Resource needs.

Management review records are maintained.

7. RESOURCE MANAGEMENT

7.1 Provision of Resources - Resources for the following purpose are provided on time:

- a. To implement Quality management system processes.
- b. To improve the effectiveness of the Quality management system processes.
- c. To ensure client satisfaction.

7.2 Human Resources

7.2.1 Assignment of Personnel - Anyone in Dresser-Rand (Wellsville/Olean Operations) having an assignment associated with any of the processes of the Quality management system must be competent through education, skills, training and experience as necessary. If required, Consultants or contracted employees may be contracted. Requirements for education, skills, training and experience can be found in the job descriptions maintained by the Human Resource department. Competency is determined by evaluation and by temporary assignments.

7.2.2 Training, Awareness and Competency - Managers and Supervisors are jointly responsible for the determination of competency needs as new Quality management system processes evolve and existing ones change. When training is required to aid achievement of the required competency, one or more of the following may occur:

- a. Classroom training (internal or external) will be scheduled and coordinated by the Human Resource department
- b. The department supervisor will coordinate on-the-job training

One or more of the following may evaluate effectiveness of the training:

- a. Testing on the material presented in the classroom
- b. Operator certification in accordance with Operator Certification procedure
- c. Auditor Qualification/Certification
- d. Inspector Qualification
- e. Certificates of completion for externally provided training
- f. Measuring process outcomes before and after training

Employees shall be aware of how their work contributes to the attainment of the company objectives.

The Human Resource department and where applicable, the Manager and/or Supervisor is responsible for keeping records of education, experience, training and qualifications.

7.3 Facilities - The Process Innovation, Manufacturing Process, Environmental/Safety and Maintenance departments jointly determine the facilities needs for each new project or significant change to an existing project. Consideration is given to the following:

- a. Workspace
- b. Facilities associated with workspace
- c. Equipment – hardware
- d. Equipment – software
- e. Services for support (such as transport, communication or information systems)
- f. Environmental impacts

When all the facilities have been identified, it is the responsibility of the management to approve those necessary for the achievement of product and/or service requirements.

7.4 Work Environment - Dresser-Rand considers and addresses many different aspects of the work environment. Most significant among them and the departments assigned to manage them are listed below:

- a. Facilities – managed by the Maintenance department.
- b. Environmental aspects and impacts-managed by HSE department.
- c. Health and safety – managed by the HSE department.
- d. Housekeeping – managed by the Maintenance department.
- e. Work ethics – managed by Human Resources.

8. PRODUCT REALIZATION

8.1 Planning of Realization Processes - As Dresser-Rand prepares for a new product, project or contract, the following are determined:

- a. Specific Quality objectives
- b. Specific processes required
- c. Specific documentation
- d. Specific resources
- e. Specific facilities
- f. Verification activities required
- g. Validation activities required
- h. Verification criteria
- i. Validation criteria
- j. Records required

8.2 Client-related Processes

8.2.1 Identification of client requirements related to the product - In an effort to thoroughly identify all client requirements, the following are considered by Alliances & Project Leadership, Product Services and Government Project Management as they interface with the client and as the product or service development takes place:

- a. Product and/or service specifications provided by the client
- b. Product and/or service performance requirements provided by the client
- c. Client stated availability requirements
- d. Client stated delivery and post-delivery requirements
- e. Client stated support needs
- f. Determination of application related requirements, if not provided by the client
 1. Temperature requirements
 2. Humidity requirements
 3. Duty cycle
 4. Product life
- g. Determination of relevant legal requirements if any
 1. Federal/Governmental
 2. State
 3. Local
- h. Determination of relevant environmental requirements if any
- i. Determination of any other relevant requirements
 1. UL, CSA, CENELEC, etc
 2. Unique requirements for clients in targeted countries

8.2.2 Review of Product Requirements - Dresser-Rand will review all identified client requirements and other identified requirements for new business acceptance. This procedure addresses:

- a. Definition of product requirements.
- b. Situations where client requirements have been provided verbally.
- c. Requirements that change after the quote process has begun.
- d. The determination of Dresser-Rand's ability to meet the requirements.
- e. Differences between the quote and order are resolved

Records of required reviews and follow-up actions are maintained.

Specification, contract or client purchase order changes are managed in accordance with change order procedures.

8.2.3 Client Communication - There are several scenarios where communication occurs between Dresser-Rand and its clients. The first contact often occurs through some form of advertising provided by the Sales organization. Inquiring potential clients are provided with any further information by the Sales department. Contact required by the client with other functions, is coordinated by the Alliances & Project Leadership, Government Project Management, or Product Services departments. Order taking occurs within the Alliances & Project Leadership, Government Project Management or Product Services. The Navy Field Service or Commissioning Engineering department coordinates responses to client complaints through the use of Field Problem Expense Summary (FEPS) & Field Incident Report (FIRs). The Client Interface and Response System (CIRS) collects client issues and assigns the appropriate party to investigate and respond. Meetings are held to ensure issues are addressed and clients responded to on a timely basis.

8.3 Design and/or Development

8.3.1 Design and/or Development Planning - Design and/or development originate in the Dresser-Rand Core Technology & Engineering Development department. Using project management planning tools, each design team leader establishes a plan that includes:

- a. Design and development in structured and manageable stages
- b. Predetermined reviews of design and development
- c. Scheduled verification activities
- d. The identified validation

Control of the design and/or development process occurs when the team leader utilizes the planning tools to:

- a. Assign responsibilities
- b. Establish authorities
- c. Update and track progress

Further direction for design and development planning is available in Design and/or Development procedures.

As the Design and/or Development processes the planning output is updated.

8.3.2 Design and/or Development Inputs - Dresser-Rand uses Design and/or Development procedures, to define design and/or development input requirements including:

- a. The functional and performance requirements as derived from client input
- b. Legal and regulatory requirements which apply
- c. Useful information or experience from previous similar design and development efforts
- d. Other necessary requirements

Before finalizing the documentation of all required inputs, resolution of incomplete, ambiguous or conflicting requirements must occur.

8.3.3 Design and/or Development Outputs - Utilizing Design and/or Development procedures, Dresser-Rand assures that design and/or development output will:

- a. Comply with the design and/or development input requirements
- b. Include information needed for purchasing, production and service
- c. Include or reference acceptance criteria
- d. Indicate those characteristics of the design that are critical to the safe and proper operation of the product
- e. Be approved before issuance

8.3.4 Design and/or Development Review - During the evolution of each product design or process development, planned reviews must occur in accordance with Design and/or Development procedures. The reviews are intended to assure that requirements are being fulfilled. When they are not, those involved in the review must propose a remedy for each identified problem. All functions concerned with the stage being reviewed are represented at the review. Design review results are recorded.

8.3.5 Design and/or Development Verification - Design and/or Development procedures provides direction for determining that output, in accordance with planned arrangements, meets design and/or development inputs through design and/or development verification. Records of verifications are created and retained.

8.3.6 Design and/or Development Validation - Product or service resulting from design and/or development efforts at Dresser-Rand is validated, in accordance with planned arrangements, to assure that it performs to expectations or that it is suitable for application. Validation guidance for conducting design and/or development validation is found in Design and/or Development procedures. Records of validations are created and retained.

8.3.7 Control of Design and/or Development Changes - Design and/or Development procedures provide for the identification, documentation and control of all design and development changes. Control includes the assessment of the impact of changes upon component parts and completed products including those that have already been delivered. Control also includes the determination of treatment required for each change. That treatment may include verification and/or validation. Changes deemed ready for implementation are approved in accordance with applicable procedures. Change review records are kept.

8.3.8 Procedures are in place to ensure that Engineering software including critical databases and Engineering calculations within the Navy/Nuclear group, that directly affect the design or selection of product, are controlled. The appropriate Engineering group ensures that as appropriate adequate tests, verifications or validations are carried out on new or revisions to existing programs. It is recognized that spreadsheets and calculator programs have been developed by users and are considered extensions of pencil calculations and do not require to be controlled.

8.4 Purchasing

8.4.1 Purchasing Control - Significant waste is avoided by controlling the purchasing process at Dresser-Rand. After a potential supplier is determined to be technically suitable, approval is based on the supplier evaluation indicated in the Purchasing procedures. These procedures offer:

- a. Ensures that product conforms to specified requirements
- b. A structured approach for supplier selection that considers relevant capability, quality system and quality assurance requirements
- c. Criteria for initial approval, re-approval, and performance requirements for maintaining the approved status
- d. The direction to maintain an approve supplier list

The application of the above process is tempered by the impact of the purchased material on the product and/or service realization process.

8.4.2 Purchasing Information - Dresser-Rand purchase documents requires that the originator include where applicable:

- a. Approval/qualification requirements including as appropriate
- b. Precise identification of product or service ordered
- c. Approval of the product
- d. Positively identified specifications, drawings, pertinent standards and codes or other technical documents required to establish full acceptability
- e. Specialized equipment
- f. Uniquely qualified personnel
- g. Quality management system requirements

All Dresser-Rand purchasing documents must be originated in the purchasing department. Each originator of purchasing documents must assure that specifications contained in the purchasing documents are adequate.

8.4.3 Verification of Purchased Product - The processes for verification of purchased product or service are found in the specific inspection plans or procedures for those products or services. The process selected and included in the inspection plans depends on the critically of the purchased product and the performance history of the supplier.

The processes for incoming material acceptance include:

- a. Acceptance based on certification of conformance
- b. Acceptance based on the review of data from a certificate of analysis
- c. Acceptance based on incoming inspection
- d. Acceptance based on inspection at the source by Dresser-Rand or Dresser-Rand's client.
- e. Acceptance related to hazardous materials based on review and approval by the Chemical Review Board (CRB).

When Dresser-Rand stipulates in any contract that purchased product or service is subject to source inspection by Dresser-Rand or Dresser-Rand's client, the details for such an inspection and subsequent release of accepted material will be stated in the purchase agreement.

8.5 Production and Service Operations

8.5.1 Validation of Processes - Processes within Dresser-Rand, whose outcomes are not verifiable at reasonable cost, must be validated to assure that requirements will be met. This also applies to processes used for products that may experience premature failure and for service that may require premature renewal.

The procedures address:

- a. Process qualification
 1. Validation of first piece(s)
 - Measurement of product characteristics
 - Destructive testing
 - Reliability and qualification testing
 2. Measurement of process parameters
- b. Process validation
- c. Process capability
- d. Equipment qualification
- e. Operator training/operator certification
- f. Required documentation
- g. Revalidation
- h. Key characteristics of its operations and activities that can have a significant impact on the environment
- i. Periodically evaluating compliance with relevant environmental legislation and regulations

8.5.2 Identification and Traceability - In order to prevent the misuse or misapplication and to maintain identify of purchased material, work-in-process, or completed product, Dresser-Rand utilizes various identification and traceability procedures depending on the product.

Inspection or acceptance status of product at Dresser-Rand is an integral part of the inspection procedures.

Product traceability is maintained through the use of various procedures when required by the client or a governing regulatory agency or when Dresser-Rand determines that the practice would be prudent for the product being manufactured.

8.5.3 Client Property - Client property is treated the same as purchased material. More specifically, it is:

- a. Identified per procedure
- b. Verified per inspection plans
- c. Protected against damage or deterioration
- d. Maintained using appropriate procedures for lost, damaged, or non-conforming purchaser supplied material. In the event of damaged or lost material the client will be notified.

Client provided intellectual property and personal data will be treated as documents of external origin and distributed on a need-to-know basis.

8.5.4 Preservation of Product - The Dresser-Rand procedures for handling, storage/preservation, packaging, and protection of product are thoroughly documented in material movement and protection procedures. Product Identification is accomplished per various procedures.

When contractually agreed upon Dresser-Rand takes on the responsibility for product delivery without degradation of product quality. Sub-contracted delivery services are selected based upon historical records of previous sub-contracts with Dresser-Rand and evidence of suitable insurance.

8.6 Control of Measuring and Monitoring Equipment - Routers, Shop Travelers or procedures identify the measurements to be made and the monitoring and measurement equipment required. Inclusion of a monitoring and measurement device into a Quality plan requires that there be sufficient confidence that the error of the measurement system (device, documentation and operator) will not alter the measurement to be made. When possible, Dresser-Rand accommodates this need by selecting measurement devices that can resolve one more decimal place than the number of decimal places in the tolerance of the measurement to be made. When this criteria cannot be achieved or when there is reason to believe that other sources may interfere with obtaining a true reading, Application of Measuring and Test Equipment procedures must be employed. This approach assures that initially, measurement capability is consistent with the measurement requirements.

To assure that measurement capability remains consistent Dresser-Rand requires that measuring and monitoring devices:

- a. Be calibrated according to established procedures
- b. Be calibrated prior to use or periodically to NIST traceable standards
- c. Utilize safeguards for inappropriate adjustment
- d. Be maintained appropriately
- e. Be handled and stored properly
- f. Have records of calibration

Calibration procedures have provisions to accomplish the above.

When equipment is found not to conform to requirements, Dresser-Rand shall assess and record the validity of previous measurement results.

In the event that calibration reveals that measurement capability has been lost, corrective action must be taken.

9. MEASUREMENT, ANALYSIS AND IMPROVEMENT

9.1 Planning - Dresser-Rand product inspection plans are used for planning and defining the necessary monitoring and measurement techniques, including statistical techniques. Implementation occurs according to the defined plans, the resulting data is analyzed and improvements are pursued to continually improve the effectiveness of the Quality Management System.

Statistical techniques or sampling inspection procedures used on government orders for product acceptance shall be subject to approval by the government.

9.2 Measuring and Monitoring

9.2.1 Client Satisfaction - Dresser-Rand builds high value, custom-engineered equipment. Our opportunity for client satisfaction is two-fold, on time delivery and cycle time reduction of products.

To better serve its clients by managing equipment-related information, D-R has introduced the Client Interface and Response System (CIRS) – an interactive tool that allows the company’s clients to voice an issue, technical query, or problem on an existing piece of equipment through the Internet.

CIRS provides clients with the opportunity to check on the status of any equipment issue. For D-R, the system allows team members around the world to access the same data and information in chronological order, allowing the company to resolve problems faster.

9.2.2 Internal Audit - Internal audits of the Quality management system are conducted in accordance with Internal Audit (Appendix 1) procedures. Frequency of audits of specific areas and/or specific requirements will vary with the need. That variation will be reflected in the required audit plans along with the scope, the methods and the assigned auditors.

The criteria for auditor independence and clarification of auditor responsibilities are found in auditing procedures. The results are recorded to enable management and others take timely corrective action and to allow for proper verification of effectiveness in accordance with the procedure.

9.2.3 Measurement and Monitoring of Processes and Key Characteristics - Specific product plans contain the monitoring and measurement processes to be applied to the realization processes necessary to achieve client requirements and the protection of the environment. In each case suitable control can be attained at reasonable costs. When results are not achieved, correction and corrective action shall be made.

9.2.4 Measurement and Monitoring of Product - In order to assure conformity to client requirements, specific product procedures or work instructions contain the monitoring and measurement processes to be applied to the characteristics of each product at the appropriate levels of realization. This includes measures to detect counterfeit and fraudulent items. Evidence of compliance with the requirement(s) must be recorded as well as the authority allowing further progression or final release.

Product release or service delivery must be proceeded by successful completion of all required activities unless approved by the relative authority and where applicable by the client.

9.3 Control of Nonconformity - Nonconforming material is identified using Control of Nonconforming Product procedure (Appendix 1). Use of nonconforming material is disallowed by applying the same procedure unless approved by the relative authority and where applicable by the client. Nonconforming material is corrected when possible and re-inspected after corrections have been made in accordance with the procedure. When appropriate, action will be taken to preclude the use of material from its original intended use.

Discovery of nonconforming material after delivery is immediately followed by the actions necessary to minimize its impact and preserve client satisfaction to the highest level possible under the circumstances.

9.3.1 Intended remedies for nonconforming material are reported to the client, end-user, regulatory body or other controlling agency and appropriate concession obtained if necessary.

9.3.2 Records of nonconforming material shall be maintained.

9.4 Analysis of Data - In Dresser-Rand's Quality management system related data is recorded as indicated in Quality Records, (Appendix 1), analyzed with the objectives below in mind and used to determine the suitability, effectiveness and opportunities for improvement of the Quality management system. The data analysis objectives for Dresser-Rand are:

- a. To assess client satisfaction levels or to reveal client dissatisfaction.
- b. To determine success rates in fulfilling client requirements.
- c. To gather knowledge on trends associated with its activities, products and services.
- d. To maintain awareness of the performance of suppliers.
- e. Opportunities for preventative action.

9.5 Improvement

9.5.1 Planning for Continual Improvement - The process for continual improvement is described within Continuous Improvement (Appendix 1) procedure. At Dresser-Rand, continual improvement is:

- a. A part of the Quality policy.
- b. Reflected in the Quality objectives.
- c. A part the actions taken upon audit results.
- d. Driven by opportunities surfacing from data analysis.
- e. A result of corrective action when the action taken corrects a new problem.
- f. Always a result of preventive action.
- g. A required output from management review.

9.5.2 Corrective Action - In order to avoid the recurrence of problems, appropriate corrective actions are taken. Dresser-Rand Corrective procedure, ([Appendix 1](#)) provides a systematic approach to corrective action problems that includes:

- a. The identification of nonconformity's including client complaints.
- b. The determination of causes of nonconformity's.
- c. Assessing the need for actions to avoid recurrence.
- d. The determination of corrective actions needed.
- e. The implementation of determined corrective actions.
- f. Making records of the outcomes from actions taken.
- g. Verifying the effectiveness of corrective actions taken.

9.5.3 Nonconformities/Corrective Actions resulting from HSE incident investigations are recorded in the KMI Corrective Action Database which is maintained by the HSE Department as defined in the HSE Management System Manual (Appendix 1).

9.5.4 Preventive Action - In order to avoid the occurrence of potential problems, appropriate preventive actions are taken:

- a. The identification of potential nonconformity's.
- b. The identification of causes of potential nonconformity's.
- c. The determination of preventive actions needed.
- d. The implementation of determined preventive actions.
- e. Documenting outcomes from actions taken.
- f. Reviewing preventive actions taken.

10. REVISION RECORD

REV. 10, J. W. Dash/R. A. Youngs, 09SEP11

Departmental Approvers Changed in the Header.

Document Ownership Changed from B. Monroe to R. Youngs.

Removed Appendix 2 (Responsibilities of Key Personnel) also listed in Table of Contents, 6.5.2 and 9.5.4

3.1 Removed Reference to 004-040-501.

6.5.3 Changed Manager of Compliance Auditing to Manager of Quality Assurance.

Appendix 1 Removed Reference to 004-040-501 and QCPS-00-5000, Revised Title to 004-114-535.

REV. 09, B. S. Monroe, 13AUG09

Changed Security Control Number from Level 2 to Level 1 since this document is posted on The D-R Company Internet site.

Removed reference to the Environmental Management System/ISO 14001 throughout the manual and compliance to ISO 9001:2008.

VOIDED Attachment 1 (Process Map) and Appendix 4.

Scope (Exclusion Table) Added D-R Gimpel Valve Design.

3.2 Added "004-040-501".

5.1 Added "and the assurance of conformity to client and applicable statutory and regulatory requirements".

5.2 Added "and records".

6.1.a. Added "statutory".

6.3 Removed Environmental Policy.

6.4.3 Changed "the Kaizen" to "Process Improvement Tools".

6.5 Changed "Administration" to "Responsibility, Authority, Communication.

7.2.2 Added "and where applicable the Manager and/or Supervisor".

7.3.e. Added "(such as transport, communication or information systems)".

7.4 Changed "Human Resources" to "HSE Department".

8.2.1 Added "related to the product", d. added "and post-delivery".

8.5.1 Deleted "Operations Control".

8.5.3 Added "and personal data".

9.2.4 Added "This includes measures to detect counterfeit and fraudulent items."

9.3.3, 9.5.4, 10 Deleted.

9.5.3 Added.

For previous revisions, contact Enabling Technologies.

APPENDIX 1

SUPPORTING PROCEDURES	
DOCUMENT CONTROL	
004-034-009	Supplier Document Control
004-034-027	Olean Specification Distribution to Clients
004-034-516	Controlled Document Format
004-034-536	Documents of External Origin
004-034-537	Document Control for Departmental Procedures
004-034-538	Document Classifications
004-034-539	Electronic Forms Control
004-034-540	Timed Review of Controlled Documents
004-034-541	Security of Controlled Documents
004-034-559	Document Change Request and Approval
004-034-901	Industry Standards
SS-4010	Drawing Issue Control
INTERNAL AUDITS	
004-120-517	Internal Audit Process
004-120-526	Auditor Qualification/Certification
RECORDS	
004-111-034	Contract Documentation Filing Guidelines
004-034-501	Document Retention
NNSOP-1-1-014	Procedure for Classification, Storage and Maintenance of Quality Records
CONTROL OF NONCONFORMING PRODUCT	
004-114-535	Resolution of Field Problems
004-120-514	Control of Nonconforming Material
NNSOP-1-2-001	Reporting of Defects and Noncompliance 10CFR21 Part 21 of Title 10 of the Code of Federal Regulations for Nuclear Turbines
PURC-01/02-0018	Control of Non-Conforming Purchased Commodities
SS-2917	Request for Waiver of Deviation Approval
SS-3012	Nonconforming Analysis Internal Quality
CORRECTIVE AND PREVENTIVE ACTION	
004-100-501	North American Operations Process Innovation Execution Process
004-114-535	Resolution of Field Incidents
004-120-511	Preventive Action
004-100-903	Worldwide Corrective Action Process