Hudson Technologies Company

300 Tice Blvd. Woodcliff Lake, NJ 07677

QUALITY MANUAL

SECTION 1 SCOPE

The ISO 9001:2015 International Standard specifies requirements for a quality management system where Hudson Technologies:

a. Will demonstrate its ability to consistently provide product that meets customer and applicable regulatory requirements, and
b. Aims to enhance customer satisfaction through the effective application of the quality system, including processes for continual improvement of the system and the assurances of conformity to customer and applicable regulatory requirements.

The Hudson Technologies quality management system will bring together people, processes, methods and tools with the aim of constantly improving both the system and the company's products. All of these efforts are geared to the customer and customer satisfaction.

Hudson Quality Policy

Hudson Technologies is dedicated to supplying the highest-quality, environmentally sound, and compliant refrigerant reclamation products and services that meet or exceed all industry standards and the high expectations of all our customers. Our quality system is a result of continuous improvement through a partnership with our employees and our suppliers to achieve our continuous goal of total customer satisfaction.

SECTION 2 NORMATIVE REFERENCE

The normative reference is the International Standards Organization's International Standard ISO 9001:2015(E), Quality Management Systems—Requirements.

SECTION 3 TERMS AND DEFINITIONS

Supplier Organizations, companies, and people from which we obtain products, supplies, or services. (This allies to sub-contractors as well)

Customer Organizations, companies, and people to which we provide products or services.

Calibration All the operations engaged in for the purpose of determining the values of errors of a measuring instrument and, if necessary, of determining other measurement properties.

Contract An agreement formally executed by both customer and organization (enforceable by law) which requires the performance of services or delivery of products at a cost to the customer in accordance with stated terms and conditions.

Conformity: The fulfillment of a specified requirement by the quality characteristic of an item or service

Corrective action: Action to eliminate the cause of a detected nonconformity or other undesirable situation.

Preventive action: Action to eliminate the cause of a potential nonconformity or other undesirable potential situation.

Validation: Confirmation, through the provision of objective evidence, that the requirements for a specific intended use or application have been fulfilled

Verification: Confirmation, through the provision of objective evidence, that specified requirements have been fulfilled.

Work instructions: Instructions which describe work to be executed, who is to do it, when it is to start and be completed, and how, if necessary, it is to be carried out.

SECTION 4 QUALITY MANAGEMENT SYSTEM

4.1 Introduction

Leading and operating an organization successfully requires managing it in a systematic and visible manner. Success should result from implementing and maintaining a management system that is designed to continually improve the effectiveness and efficiency of the organization's performance by considering the needs of the interested parties. Top management will establish a customer-oriented organization.

Reasons for creating a documented quality management system:

- to ensure products and services satisfy customer requirements
- maintain the standards that have been successful in achieving quality products
- to improve standards in those areas where performance is wanting
- to harmonize policies and practices across all depa11ments
- improvement of efficiency
- creating stability and minimizing variance
- eliminating complexity and reducing processing time
- focus attention on quality
- to ensure products and services are delivered on time
- reduction of operating costs.

4.2 General Requirements

Hudson Technologies will establish, document, implement, and maintain a quality management system and continually improve its effectiveness in accordance with the requirements of the International Standard ISO 9001.

4.2.1 Hudson Technologies will:

a. determine the processes needed for the quality management system and their application throughout the organization

b. determine the sequence and interaction of these processes

c. determine criteria and methods needed to ensure that both the operation and control of these processes are effective

d. ensure the availability of resources and information necessary to support the operation and monitoring of these processes

e. monitor, measure (where applicable) and analyze these processes

f. implement actions necessary to achieve planned results and continual improvement of these processes.

4.3 Documentation Requirements

4.3.1 General

The quality management system documentation shall include:

a. documented statements of a quality policy and quality objectives

b. a quality manual

c. documented procedures and records required by the ISO 9001

d. documents, including records determined by the organization to be necessary to ensure the effective planning, operation, and control of its processes

4.3.2 Quality Manual

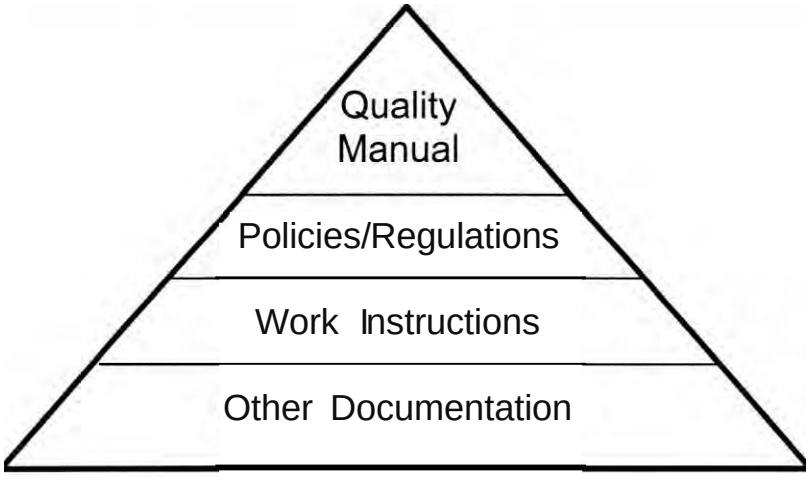
The Quality Manual includes:

a. the scope of the quality management system, including details of and justification for any exclusions

b. the documented procedures established for the quality management system or reference to them

c. a description of the interaction between the processes of the quality management system.

4.3.3 Structure of the Quality manual



Level 1: Defines Approach and Responsibility
Level 2: Defines Who, What, When
Level 3: Answers How
Level 4: Results - shows that the system is operating

Level 1. The Quality Manual will describe, in broad terms, the overall adaptation of ISO 9001 to Hudson Technologies' working environment. It will describe how each applicable section of the standard is to be implemented. It will also establish the structure, authority, and responsibility for maintaining the company's Quality Management System.

Level 2. Quality system policies describe the actual detail of how Hudson Technologies operates. The listed policies prescribe in detail how the requirements of the Documented Quality Management System and the customer contract requirements will be met. The quality policies should contain clear, detailed descriptions of those processes which are related to the application of ISO 9001. These would include such functions as quality auditing, documentation and its control, customer-complaint handling, Quality Management System reviews, etc. Level 2 also includes industry and government regulations.

Level 3. Work instructions will be prepared according to the needs of individual tasks, jobs or contracts. Any instructions need to be written simply and in plain language. They may incorporate diagrams or photos if appropriate. The Quality Policy Manual and associated Operating Procedures contain Mandatory requirements on all of the staff. They are 'living' documents and will be continually amended and updated as required. Work Instructions provide a means by which a manager can describe exactly how some function within his authority should be carried out. Any work instruction needs to be constantly reviewed to ensure it is accurate and describes the optimum way to carry out the task.

Level 4. These are other documents as required. They may be test results, production results, shipping and receiving documents, bookkeeping records, purchasing records etc.

4.3.4 Control of Documents

A document is information and its supporting medium. Examples include policies, specifications, procedure documents, drawings, work instructions, and standards.

Hudson Technologies will establish controls needed:

a. To approve documents adequacy prior to use
b. Review and update documents as necessary
c. To ensure that changes and current status of documents are identified
d. To ensure relevant documents are available at points of use
e. To ensure documents are legible and identifiable
f. To ensure documents of external origin are identified and controlled
g. To prevent unintended use of obsolete documents and identify these documents if they are retained for any purpose

4.3.4 Control of Records

Records are a special type of document and will be controlled accordingly. For example a blank form is a document, a completed form is a record.

Records shall remain legible, readily identifiable and retrievable. A procedure will be established to define the controls needed for the identification, storage, protection, retrieval, retention time and disposition of records.

SECTION 5 MANAGEMENT RESPONSIBILITY

5.1 Management Commitment

Hudson Technologies top management will provide evidence of its commitment to the development and implementation of the quality management system and continually improving its effectiveness by:

a. communicating to the organization the importance of meeting customer as well as statutory and regulatory requirements
b. establishing the quality policy
c. ensuring that quality objectives are established
d. conducting management reviews
e. ensuring the availability of resources.

5.2 Customer Focus

Hudson Technologies top management shall ensure that customer requirements are determined and are met with the aim of enhancing customer satisfaction.

Customers need confidence that the organization supplies product under controlled conditions. Customer-related processes are described in section 7.2 (Customer Related Processes) and monitoring and measurement of customer satisfaction in section 8.2.1 (Customer Satisfaction).

5.3 Quality Policy

Hudson Technologies top management shall ensure that the following quality policy:

a. is appropriate to the purpose of the organization
b. .includes a commitment to comply with requirements and continually improve the effectiveness of the quality management system
c. provides a framework for establishing and reviewing quality objectives
d. is communicated and understood within the organization
e. is reviewed for continuing suitability.

5.3.1 Hudson Quality Policy

Hudson Technologies is dedicated to supplying the highest quality and environmentally sound and compliant refrigerant reclamation products and services that meet or exceed all industry standards as well as the high expectations of all our customers. Our quality system is a result of continuous improvement through a partnership with our employees and our suppliers to achieve our continuous goal of total customer satisfaction.

5.3.2 Policy Objectives

In order to consistently achieve its objectives the company is wholly committed to the operation of a management system, with the full co-operation of adequately trained staff which satisfies the requirements of ISO 9001.

The system and policy are regularly reviewed by the President or by the Executive responsible for Quality, to ensure their ongoing effectiveness and efficiency in meeting the company objectives. It is also regularly reviewed to ensure the organization's systems and policy continue to meet the current needs and expectations of the customers.

The Quality Assurance Manager or Management Representative has the authority and is responsible for implementing, managing and maintaining theQuality Policy Manual and

Operating Procedures. S/he also has the authority and organizational freedom to identify and investigate problems affecting the quality of the product, services and Documented Management System.

5.4 Planning

5.4.1 Quality Objectives

Hudson Technologies top management shall ensure that quality objectives, including those needed to meet requirements for product, are established at relevant functions and levels within the organization. The quality objectives shall be measurable and consistent with the quality policy.

5.4.2 Quality Management System Planning

Hudson Technologies top management shall ensure that:

a. the planning of the quality management system is carried out in order to meet the requirements given in section 4.1, as well as the quality objectives
b. the integrity of the quality management system is maintained when changes to the quality management system are planned and implemented.

The standard requires that quality planning which is in accordance with all other requirements of the quality management planning is implemented into all standard operating procedures. This is achieved by initially carrying out an appropriate, formal and recorded review before tendering for, and on receipt of, each contract. Also the regular management review considers performance and future plans for quality. The documented quality system is designed to build in quality at the appropriate stage by:

- adequate specification of work and inspection requirements
- use of trained or qualified personnel
- careful and recorded review of every individual contract.

5.5 Responsibility, Authority and Communication

5.5.1 Responsibility and Authority

Hudson Technologies top management shall ensure that the responsibilities and authorities are defined and communicated within the organization.

The President and all managers and supervisors will ensure that all the requirements of the Quality Policy Manual and the Operating Company Procedures have been fully implemented and are maintained.

They also will ensure all staff understands the requirements of the Operating Procedures and Work Instructions affecting their tasks and the requirements of each contract.

The President, managers and supervisors will also ensure that their staff have the necessary, procedures, work instructions, training, specifications, drawings, tools and equipment to effectively carry out the work.

Each employee of the company is responsible for maintaining the specified standards of work for every contract, at all times. Other staff's responsibilities are adequately covered by the Operating Procedures and Work Instructions.

5.5.2 Internal Communication

Hudson Technologies top management shall ensure that appropriate communication processes are established within the organization and that communication takes place regarding the effectiveness of the quality management system. They will establish suitable conditions, by which internal communication between their different functional areas is guaranteed.

5.6 Management Review

5.6.1 General

The standard ISO 9001 requires that the top management shall review the organization's quality management system, at planned intervals, to ensure its continuing suitability, adequacy and effectiveness. This review shall include assessing opportunities for improvement and the need for changes to the quality management system, including the quality policy and quality objectives.

Records from management reviews shall be maintained. (see 4.2.4)

5.6.2 Review Input

The input to management review shall include information on:

a. results of audits
b. customer feedback
c. process performance and product conformity
d. status of preventive and corrective actions
e. follow-up actions from previous management reviews
f. changes that could affect the quality management systems

5.6.3 Review Output

The output from the management review shall include any decisions and actions related to:

a. improvement to the effectiveness of the quality management system and its processes
b. improvement of product related to customer requirements
c. resource needs.
d. any other information generated

SECTION 6 RESOURCE MANAGEMENT

6.1 Provision of Resources

The organization shall determine and provide the resources needed:

a. to implement and maintain the quality management system
b. to improve continually its effectiveness
c. to enhance customer satisfaction by meeting customer requirements.

6.2 Human Resources

6.2.1 General

Personnel performing work affecting conformity product requirements shall be competent on the basis of appropriate education, training, skills and experience.

6.2.2 Competence, Training and Awareness

In order to ensure that all staff are able to fulfill their tasks in accordance with the quality objectives the organization shall:

a. determine the necessary competence for personnel performing work affecting conformity to product quality.
b. Where applicable provide training or take other actions to achieve the necessary competence.
c. ensure that its personnel are aware of the relevance and importance of their activities and how they contribute to the achievement of the quality objectives
d. maintain appropriate records of education, training, skills and experience. (see 4.2.4)

Particular attention will be given to the qualification, selection and training of newly recruited personnel and personnel transferred to new assignments.

Training should not be restricted to personnel with primary quality assignments, but should also include assignments such as marketing, procurement, engineering and chemistry.

6.3 Infrastructure

The organization shall determine, provide and maintain the infrastructure needed to achieve conformity product requirements. Infrastructure includes, as applicable:

a. buildings, workspace and associated utilities
b. process equipment (both hardware and software)
c. supporting services (such as transport or communication or information systems).

6.4 WORK ENVIRONMENT

The organization shall determine and manage the work environment needed to achieve conformity to product requirements. The work environment includes:

a. work environment in offices
b. work environment in workshops
c. work environment in test facilities and field operations
d. work environment in laboratories

The term "work environment" relates to conditions under which work is performed including physical, environmental and other factors (such as noise, temperature, humidity, lighting or weather)

SECTION 7 PRODUCT REALIZATION

7.1 Planning of Product Realization

The organization shall plan and develop the processes needed for product realization. Planning of product realization shall be consistent with the requirements of the other processes of the quality management (see section 4.1).

In planning product realization, the organization shall determine the following as appropriate:

a. quality objectives and requirements for the product
b. the need to establish processes, documents and to provide resources specific to the product
c. require verification , validation, monitoring, measurement , inspection and test activities specific to the product and the criteria for product acceptance
d. records needed to provide evidence that the realization processes and resulting product meet requirements (see 4.2.4)

The output of this planning shall be in a form suitable for the organizations method of operations.

In general, all processes and controls originally planned are continually reviewed. It is expected that over a period of time, they will be modified, either to improve the standard of workmanship, to meet new or additional customer requirements, or to maintain the lead over competitors or to meet new legislation.

7.2 Customer Related Processes

7.2.1 Determination of Requirements Related to Product

Hudson Technologies must determine the requirements of the customer regarding the product or the service before it can bid an offer or accept a contract or an order. The organization shall determine:

a. requirements specified by the customer, including the requirements for delivery and post-delivery activities
b. requirements not stated by the customer but necessary for specified or intended use, where known
c. statutory and regulatory requirements applicable to the product
d. any additional requirements considered necessary by the organization.

7.2.2 Review of Requirements Related to the Product

Hudson Technologies shall review the requirements related to the product. This review shall be conducted prior to the organization's commitment to supply a product to the customer (e.g. submission of tenders, acceptance of contracts or orders, acceptance of changes to contracts or orders) and shall ensure that:

a. product requirements are defined
b. where the customer provides no documented statement of requirement, the customer requirements shall be confirmed by the organization before acceptance
c. contract or order requirements differing from those previously expressed are resolved
d. the organization has the ability to meet the defined requirements.

e. Where product requirements are changed, the organization shall ensure that relevant documents are amended and that relevant personnel are made aware of the changed requirements.

Records of the results of the review and actions arising from the review shall be maintained (see 4.2.4).

When situations arise that make a formal review impractical for each order the review can cover relevant published standard product information.

7.2.3 Customer Communication

Hudson Technologies shall determine and implement effective arrangements for communicating with customers in relation to:

- product information
- enquiries, contracts or order handling, including amendments
- customer feedback, including customer complaints.

This can include but are not limited to emails, text messages, phone calls, social media, the internet or web or hard copy documents.

7.3 Design and Development

Hudson Technologies does not at this time design any product. Section 7.3 does not apply at this time.

7.4 Purchasing

The procedures controlling the selection of suppliers and for purchasing are mandatory for the procurement of all products or services that affect the quality of the product or service provided by Hudson Technologies

7.4.1 Purchasing Process

Hudson Technologies shall ensure that purchased product conforms to specified purchase requirements. The type and extent of control applied to the supplier and the purchased product shall be dependent upon the effect of the purchased product on subsequent product realization or the final product.

The organization shall evaluate and select suppliers based on their ability to supply products in accordance with the organization's requirements. Criteria for selection, evaluation and re-evaluation shall be established.

Records of purchasing actions shall be maintained. (see 4.2.4)

7.4.2 Purchasing Information

Purchasing information shall describe the product to be purchased, including where appropriate;

a. requirements for approval of product, procedures, processes and equipment
b. requirements for qualification of personnel
c. quality management system requirements.

The organization shall ensure the adequacy of specified purchase requirements prior to their communication to the supplier.

7.4.3 Verification of Purchased Product

Hudson Technologies will establish and implement necessary inspection or other activities and to scrutinize purchased products or services ensuring that purchased products or the services meet specified requirements.

Where Hudson Technologies or its customer intends to perform verification at the suppliers premises Hudson Technologies will state the intended verification arrangements and method of product release in the purchasing information.

7.5 Production and Service Provision

7.5.1 Control of Production and Service Provision

The organization shall plan and carry out production and service provision under controlled conditions. Controlled conditions shall include, as applicable:

a. the availability of information that describes the characteristics of the product
b. the availability of work instructions, as necessary
c. the preparatory steps to be taken to prepare the product for processing and to set up any equipment
d. the steps to be taken to process the product
e. the precautions to observe
f. the settings or results to record.
g. the use of suitable equipment
h. the availability and use of monitoring and measuring equipment
i. the implementation of monitoring and measurement
j. the implementation of product release, delivery and post-delivery activities.

7.5.2 Validation of Processes for Production and Service Provision

Hudson Technologies shall validate any processes for the production and service provision where the resulting output cannot be verified by subsequent monitoring or measurement and as a consequence, where deficiencies become apparent only after the product is in use or the service has been delivered.

Validation shall demonstrate the ability of these processes to achieve planned results.

The organization shall establish arrangements for these processes including:

a. defined criteria for review and approval of the processes
b. approval of equipment and qualification of personnel
c. use of specific methods and procedures

d. requirements for records
e. revalidation

7.5.3 Identification and Traceability

Hudson Technologies will, where appropriate, identify the product by suitable means throughout product realization.

a. This is accomplished by the Hudson Label, Date and Rotate program

Hudson Technologies will identify the product status with respect to monitoring and measurement requirements throughout product realization.

Where traceability is a requirement, the organization will control and record the unique identification of the product.

7.5.4 Customer Property

Customer property is materials, services, or intellectual property provided by the customer, and are the property of the customer.

The organization shall exercise care with customer property while it is under the organization's control or being used by the organization. The organization shall identify, verify, protect and safeguard customer property provided for use or incorporation into the product.

a. receipt inspection to check that the items agree with any information supplied by the customer;
b. identification to ensure that the items are not inadvertently used on the wrong contract or work;
c. If any customer property is lost, damaged or otherwise found to be unsuitable for use this will be reported to the customer.
d. Records will be maintained.

7.5.5 Preservation of Product

The organization shall preserve the product during internal processing and delivery to the intended destination in order to maintain conformity to requirements. As applicable preservation shall include identification, handling, packaging, storage and protection. Preservation will also apply to the constituent parts of a product.

7.6 Control of Monitoring and Measuring Equipment

Hudson Technologies shall determine the monitoring and measurement to be undertaken and the monitoring and measuring equipment needed to provide evidence of conformity of product to determined requirements.

The organization will establish processes to ensure that the monitoring and measuring can be carried out in a manner that is consistent with the monitoring and measuring requirements.

Where necessary to ensure valid results, measurement equipment shall:

a. be calibrated or verified or both at specified intervals, or prior to use, against measurement standards traceable to international or national measurement standards; where no such

standards, the basis used for calibration or verification shall be recorded (see 4.2.4)

b. be adjusted or re-adjusted as necessary
c. have identification in order to determine calibration status.
d. be safeguarded from adjustments that would invalid the measurement result
e. be protected from damage and deterioration during handling, maintenance and storage.

The organization shall assess and record the validity of the previous measuring results when the equipment is found not to conform to requirements. The organization shall take appropriate action on the equipment and any product affected.

The results of calibration and verification (records) shall be maintained (see 4.2.4)

SECTION 8 MEASUREMENT, ANALYSIS AND IMPROVEMENT

8.1 General

Hudson Technologies shall plan and implement the monitoring, measurement, analysis and improvement processes needed:

a. to demonstrate conformity to product requirements.
b. to ensure conformity of the quality management system
c. to continually improve the effectiveness of the quality management system.

This shall include determination of applicable methods, including statistical techniques, and the extent of their use.

8.2 Monitoring and Measurement

8.2.1 Customer Satisfaction

As one of the measurements of the performance of the quality management system, the organization shall monitor information relating to customer perception as to whether the organization has met customer requirements.

The measurement and monitoring of the customer satisfaction is based on the evaluation of customer's information, which can be collected actively or passively. The methods for obtaining and using this information shall be determined.

8.2.2 Internal Audit

Hudson Technologies shall conduct internal audits at planned intervals to determine whether the quality management system

a. conformed to the planned arrangements, to the requirements of ISO 9001 and to the quality management system requirements established by the organization
b. is effectively implemented and maintained.

A procedure will be established for both planning and implementing internal audits that will cover the following:

a. preparing an annual audit program
b. reviewing previous audits
c. the selection of impartial auditors and a team leader if necessary. Auditors shall not audit their own work.
d. planning audits of each type
e. conducting the audit
f. recording observations
g. determining corrective actions
h. reporting audit findings, records will be maintained (see 4.2.4)

The management responsible for the area being audited will ensure that actions taken as a result of the audit are taken without undue delay to eliminate detected nonconformities and their causes. Verification actions and results will be reported to the audit team.

8.2.3 Monitoring and Measurement of Processes

Hudson Technologies will apply suitable methods for monitoring and where applicable, measurement of the quality management system processes. These methods shall demonstrate the ability of the processes to achieve planned results. When planned results are not achieved, correction and corrective action will be taken, as appropriate.

8.2.4 Monitoring and Measurement of Product

Hudson Technologies will monitor and measure the characteristics of the product to verify that the product requirements have been met. This shall be carried out at appropriate stages of the product realization process in accordance with the planned arrangements. (see 7.1)

Evidence of conformity with the acceptance criteria shall be maintained. Records shall indicate the person(s) authorizing release of product (see 4.2.4)

Product release and service delivery to the customer shall not proceed until the planed arrangements (see 7.1) have been satisfactorily completed, unless otherwise approved by a relevant authority and, where applicable, by the customer.

8.3 Control of Non-Conforming Product

Hudson Technologies will ensure that product which does not conform to product requirements is identified and controlled to prevent its unintended use or delivery. A documented procedure shall be established to define the controls and related responsibilities and authorities for dealing with non-conforming product.

Hudson Technologies will deal with non-conforming product in one or more of the following ways:

a. by taking action to eliminate the detected non-conformity
b. by authorizing it use, release or acceptance under concession by a relevant authority and, where applicable, by the customer.
c. by taking action to preclude its original intended use or application.
d. By taking action appropriate to the effects, or potential effects, of the non- conformity when non-conforming product is detected after delivery or use has started.

Records of the nature of non-conformities and any subsequent actions taken, including concessions obtained, shall be maintained (see 4.2.4)
When non-conforming product is corrected it will be subject to re-verification to demonstrate conformity to the requirements

8.4 Analysis of Data

Hudson Technologies will determine, collect and analyze appropriate data to demonstrate the suitability and effectiveness of the quality management system and to evaluate where continual improvement of the effectiveness of the quality management system can be made. This shall include data generated as a result of monitoring and measurement and from other relevant sources.

The analysis of data shall provide information relating to

a. customer satisfaction (see 8.2.1)
b. conformity to product requirements and service requirements (see 8.2.4)
c. characteristics and trends of processes and products, including opportunities for preventive action (see 8.2.3 and 8.2.4)
d. evaluation of suppliers (see 7.4)

8.5 Improvement

8.5.1 Continual Improvement

Hudson Technologies will continually improve the effectiveness of the quality management system through the use of the quality policy, quality objectives audit results, data analysis, corrective and preventive actions, and management review.

8.5.2 Corrective Action

The organization shall take action to eliminate the causes of nonconformities and prevent their recurrence. Corrective actions will be appropriate to the effects of the nonconformities encountered.

A documented procedure shall be established to define requirements for:

a. reviewing non-conformities (including customer complaints)
b. determining the cause of non-conformities
c. evaluating the need for action to ensure that non-conformities do not recur
d. determining and implementing action needed
e. records of the results of action taken (see4.2.4)
f. reviewing the effectiveness of corrective action taken

8.5.3 Preventive Action

Hudson Technologies will determine actions to eliminate the causes of potential nonconformities in order to prevent their occurrence. Preventive actions will be appropriate to the effects of the potential problems.

A documented procedure shall be established to define requirements for:

a. determining potential nonconformities and their causes
b. evaluating the need for action to prevent occurrence of nonconformities
c. determining and implementing action needed
d. records of results of action taken (see 4.2.4)
e. reviewing the effectiveness of preventive action taken.