

# **JML OPTICAL INDUSTRIES**

## **QUALITY MANUAL ISO- 9001: 2000**

# ISO 9001:2000 QUALITY MANUAL

This document is the Quality Manual of JML Optical Industries. It has been approved by the Corporate Officers and constitutes the policy of this corporation. Its use is mandatory for all JML Optical personnel.

\_\_\_\_\_  
President/CEO

Date:\_\_\_\_\_

The undersigned have reviewed this revision of the Quality Manual:

Reviewed by:

Date:

\_\_\_\_\_  
Senior Vice President Administration

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Senior Vice President Operations

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Vice President of Optical Design

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Vice President of Manufacturing

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Vice President of Sales, Marketing & Engineering

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1. **Scope:**

The quality management system documented in this Quality Manual applies specifically to the operations of JML Optical Industries in Rochester, New York.

2. **Controlled Copies of the Quality Manual**

All changes to this manual shall be approved by the Corporate Officers as denoted by the President/CEO's signature on page 2. Change(s) shall be incorporated in all of the controlled copies. There are five controlled copies, which are numbered and located in the following offices:

Copy # 1:	President/CEO
Copy # 2:	Senior Vice Presidents of Administration & Operations
Copy #3	Vice President of Manufacturing
Copy # 4:	Vice President of Sales, Marketing & Engineering
Copy # 4:	Vice President of Optical Design

### 3. Responsibilities:

The President/CEO is responsible for the content of the Quality Manual and the overall implementation of the quality management system.

## 4. Quality Management System

### 4.1. General requirements

JML Optical Industries, located in Rochester, New York, is a privately owned designer, manufacturer and distributor of precision optical components and systems. The company is dedicated to providing optimum and cost-efficient service to customers with wide ranging needs.

Since 1972, the first year of operations, JML Optical has continuously served domestic and international original equipment manufacturer customers in the commercial and government sectors with high quality optics in prototype through high volume quantities.

The system model for JML Optical, showing the interaction among key processes is shown in figure 4.1. The key processes and sub processes along with the key measures are shown in figure 4.2.

This quality manual covers the determination of the criteria and methods needed to:

- Ensure that the operation and control of the quality management processes are effective
- Assure the availability of resources and information necessary to support the operation of the processes
- Measure, monitor, and analyze these processes
- Implement actions necessary to achieve planned results and continuous improvement.

Figure 4.1 System Model

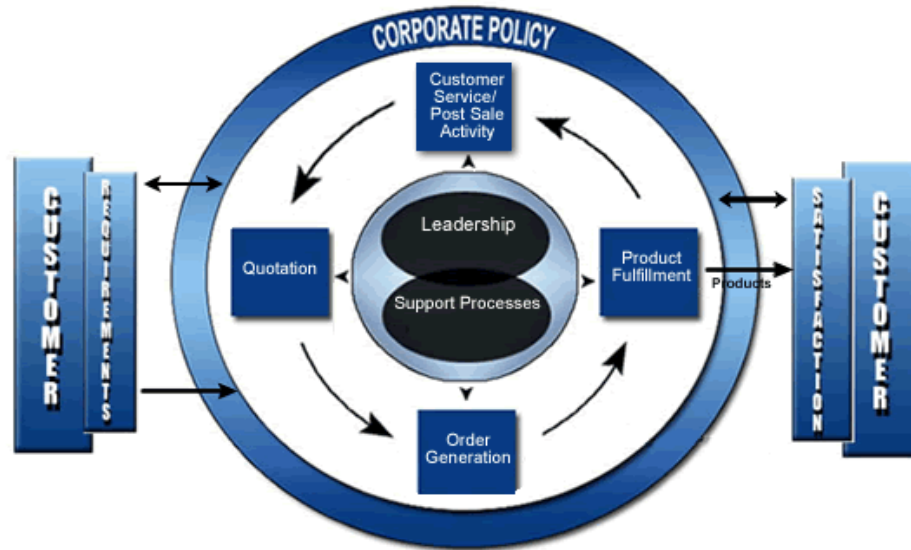


Figure 4.2 Key Processes and Measures

Key Process	Sub Process	Key Measures
<b>Leadership</b>	Vision/Inspiration	<b>Organization Level:</b> Customer Satisfaction Growth Revenue Profit (Profit/Loss) Coworker Satisfaction  <b>Additional:</b> Sales/Employee Profit/Employee Suggestions per employee
	Strategic Planning	
	Policy Development	
	Finance	
	Resource Planning	
	Customer Relationship Development	
	Supplier Relationships Development	
	Co-worker Relationships Development	
Systems Review		
<b>Quotation</b>	Estimating/Quotes	<b>Organization Level:</b> Quotation (Win/Loss)  <b>Additional:</b> Advertising effectiveness Website hits per month
	Design Engineering Review	
	Management Review	
	Customer Inquiry/Marketing	
<b>Order Generation</b>	Sales	<b>Organization Level:</b> Growth Niche (New Capacity)  <b>Additional:</b> Monthly booking
	Order Review	
	- Design Engineering	
	- Scheduling	
Credit Analysis		
<b>Product Fulfillment</b>	Manufacturing Engineering	<b>Organization Level:</b> Nonconforming Scrap/Rework  <b>Additional:</b> Customer returns On-time delivery Machine utilization Inventory turns Vendor quality
	Purchasing/Inventory Control	
	Process Development	
	Shop loading/Scheduling	
	Manufacturing	
	Inspection/Testing/Quality Control	
	Shipping	

<b>Post Sale/Customer Service</b>	Collection Process	<b>Organization Level:</b> Accounts receivable days
	Customer Feedback	
	Design Changes	
	Schedule Changes	
	Returns/Corrective Action	
<b>Support Processes</b>	Human Resources	<b>Additional:</b> Preventive maintenance Lost days for injury Employee turnover Training hours Recycling Reduction in hazardous waste
	Information Technology	
	Process Documentation	
	Maintenance	
	Safety	

Figure 4.3 Manufacturing Flow Chart

4.2. Documentation requirements

4.2.1. The documentation system includes this quality manual, the quality policy and quality objectives, quality system procedures, work instructions, and supporting records.

4.2.2. Quality manual

This quality manual describes the quality management system of JML Optical. It covers the key processes required to ensure that product and services provided by JML Optical meet or exceed customer requirements within an environment of prevention and continual improvement.

Additional documented procedures for the quality management system are identified in JML Optical’s master list of documents maintained by the Document Control database and overseen by our IT department.

4.2.3. Control of documents

PRO000001 describes the procedure used by JML Optical to control documents. This procedure describes the controls used to:

- Approve documents for adequacy prior to issue
- Review and update as necessary and re-approve documents
- Ensure that changes and the current revision status of documents are identified
- Ensure that relevant versions of applicable documents are available at points of use
- Ensure that documents remain legible and readily identifiable
- Prevent the unintended use of obsolete documents and apply suitable identification to them if they are retained for any purpose.

JML’s IT department has responsibility for maintaining and controlling the quality system documentation and for maintaining a file of quality system documents.

All JML Optical employees have a responsibility to assure that the documents being used are the current revision and to recommend changes to assure that documentation is consistent with current practice.

Documents of external origin that are to be used as part of the quality management system will be converted to JML Optical controlled documents and maintained as part of this quality management system, including being tracked via the master list of documents. Where this is not practical, the

documents will be identified as customer property and dealt with via the provisions of 7.5.4 of this manual.

#### 4.2.4. Control of records

All key records are listed in the Quality Records Master List, PRO000002, maintained by the IT department along with our ISO representative. This list indicates the location of the record, the individual responsible for maintaining the record, the security for the record, retrieval process, storage of older records, protection, as well as the time period the record is to be maintained and its disposition. The individuals responsible for maintaining the records will determine which employees have access to the documents under their responsibility. Any employee may access any document using the Document Control database.

### **5. Management Responsibility**

#### 5.1. Management commitment

All employees are trained in the importance of meeting customer requirements. Where relevant, employees are trained to ensure compliance with applicable statutory and regulatory requirements such as OSHA. The quality policy is stated in this manual in section 5.3. The quality objectives are determined by the Corporate Officers and maintained by the Vice President for Manufacturing. Management reviews are conducted as described in section 5.6 of this manual as well as PRO000003 (Management Review Procedure). Resources are managed in accordance with section 6 of this manual.

#### 5.2. Customer focus

The management team's commitment to meeting customer requirements and enhancing customer satisfaction is an integral part of the quality policy and quality objectives. This customer focus is conveyed to all employees through the orientation program, daily interactions, employee meetings and performance appraisals. It is monitored through the management review process described in section 5.6 of this manual.

#### 5.3. Quality Policy

The mission and vision of JML Optical define its quality policy:

##### **Vision Statement:**

JML Optical is the worldwide innovator in developing, manufacturing and supplying the most complete array of optical systems and components. Focused on excellence, quality is our key word:

- Quality of product
- Quality of work life
- Quality of environment

Our dedicated, creative and highly skilled team of professionals, combined with state-of-the-art equipment, ensure total customer satisfaction.

**Mission Statement:**

The mission of JML Optical Industries is to design, manufacture and supply the highest quality lenses, optical systems and related products and services.

We continue to be a world leader through total commitment to customer satisfaction, continuous improvement, innovative marketing techniques and expansion into new technologies.

The JML family is committed to company policies that enhance the dignity and welfare of our employees, our community and our environment.

The policy is explained to all new employees during orientation.

The quality policy is reviewed periodically as indicated in PRO000003 (Management Review Procedure).

**5.4. Planning****5.4.1. Quality objectives**

Quality objectives are determined on an annual basis by the Corporate Officers per PRO000003 (Management Review Procedure). Each Vice President is required to identify supporting objectives as appropriate. Each objective includes a method for measuring the progress toward its accomplishment.

**5.4.2. Quality management system planning**

The quality management system has been planned and is described in this quality manual. The integrity of the quality management system is maintained through training and implementation, as applicable, when changes are required.

**5.5. Responsibility, authority and communication****5.5.1. Responsibility and authority**

Responsibilities and authorities are defined via the company's organizational chart (see "JML Optical's Organizational Chart" in the Document Control system) and job descriptions for each job classification. These responsibilities are communicated through this quality manual and the documented procedures. Job descriptions are available through the Senior Vice President of Operations.

**5.5.2. Management Representative**

The management representative is the Senior Vice President of Administration. Through training and orientation, quality auditing and management review he ensures that the processes needed for the quality management system are established, communicated, implemented and maintained. Said Senior Vice President reports to the Management Team per PRO000003 (Management Review) on the performance of the quality management system and any needs for improvement.

**5.5.3. Internal communication**

The following methods are used to facilitate communication throughout JML Optical:

- Documented procedures
- Management Team Meetings
- Monthly Town Meetings

- Departmental Staff Meetings
- Internal Email
- Performance Evaluation process
- New employee orientation
- Training programs

## 5.6. Management Review

### 5.6.1. General

The Corporate Officers, as defined in PRO000003, are responsible for reviewing JML Optical's quality management system. These reviews occur at least quarterly in order to ensure the continuing suitability, adequacy and effectiveness of the quality management system. The reviews include provisions for assessing opportunities for improvement and the need for changes to the quality management system including the quality policy and quality objectives.

Records from the management reviews are maintained in accordance with PRO000003 and section 4.2.4 of this manual.

### 5.6.2. Review input

The inputs to the management review are defined in PRO000003 and include:

- results of audits
- customer feedback and customer satisfaction
- process performance and product conformity
- status of preventative and corrective actions
- follow up actions from previous management reviews
- changes that could affect the quality management system
- recommendations for improvement.

### 5.6.3. Review output

The output from the management review is defined in PRO000003 and includes any decisions and actions related to:

- improvement of the effectiveness of the quality management system and its processes
- improvement of product related to customer requirements, and
- resource needs.

## 6. Resource management

### 6.1. Provision of resources

JML Optical considers the implementation, maintenance, and improvement of the quality management system with the objective of enhancing customer satisfaction to be never ending and allocates resources to continue this quality journey via the Management Review Process.

### 6.2. Human resources

#### 6.2.1. General

Job descriptions and training materials define the specific competencies required for each position at JML Optical. The competence of each employee is assessed through a review of educational background, work experience, and training. Ongoing competence is assessed through the Appraisal Form.

### 6.2.2. Competence, awareness and training.

The Senior Vice President of Operations is responsible for maintaining job descriptions in consultation with the appropriate supervisor/manager. These job descriptions indicate the competencies required and major responsibilities. The Department Managers are responsible for preparing, developing orientation and training modules for selected operations that detail additional competencies. PRO000004 (General Training Procedure) and PRO000005 (Personnel Selection and Evaluation Procedure) describe these processes in further detail.

The effectiveness of training and the other practices used to ensure employee competence is evaluated through the Appraisal Form, PRO000004 (General Training Procedure).

Note: PRO000005 does not include evaluation

The orientation program is used to make employees aware of the relevance and importance of their activities and how they contribute to the achievement of quality objectives.

The Senior Vice President of Operations maintains records of education, training, skills and experience for all employees.

### 6.3. Infrastructure

The building, workspace, and associated utilities critical to achieving conformity to product requirements are identified in the plant layout. The preventive maintenance database lists the equipment that is critical to achieving conformity to product requirements.

The Vice President of Manufacturing is responsible for maintaining and improving the infrastructure, including supporting services. At least annually the Vice President of Manufacturing reports the status of the infrastructure to the Corporate Officers (PRO000003) in order to identify opportunities for continual improvement.

### 6.4. Work environment

JML Optical Industries recognizes the need to create and maintain a work environment which is conducive to the general well being of its employees and one that ensures product conformity. To help facilitate this, the Quality of Work Life task force meets and reviews issues and opportunities. They report directly the Corporate Officers during Management Review Meetings.

## 7. Product realization

### 7.1. Planning of product realization

During the quotation phase, resources, process equipment and process capabilities are evaluated against the product being quoted per PRO000011 (Domestic Quote Processing Procedure).

The JML Engineering Drawing, Contract, or Production Schedule identifies the critical characteristics and inspection and test requirements. The Drawing is produced by Engineering, the Contract by Sales, and the Production Schedule is a compilation of Sales Order information. (Reference PRO000008, Design and Development Procedure, and PRO000007, Contract Review Procedure.)

Manufacturing is responsible for developing the Process Sheet that includes required tooling, manufacturing procedures, and special instructions per PRO000020 (Production Control and In-Process Inspection and Test Procedure).

Domestic Purchasing issues a Work Order for product that requires Glass Cutting or Machine Shop to start off the job. The work order includes the initial sizes of raw material, or refers to Engineering Drawings. If the job requires raw material to be purchased on the outside, a Purchase Order is issued to an Approved Vendor as described in PRO000012 (Domestic Purchasing Procedure).

## 7.2. Customer-related processes

### 7.2.1. Determination of requirements related to the product

Sales is responsible for determining the customer specific requirements as described in PRO000007 (Contract Review Procedure). During the Design and Development process (PRO000008) Engineering identifies any additional requirements including those that may be necessary for the products intended use and statutory and regulatory requirements.

### 7.2.2. Review of requirements related to the product

PRO000007 (Contract Review Procedure) and PRO000011 (Domestic Quote Procedure) document the processes followed to review the requirements related to the product. This review is conducted prior to entry of a purchase order into the computer system. The processes described in the referenced documents ensure that:

- the product requirements are defined
- any contract or order requirements differing from those previously expressed are resolved
- JML Optical has the ability to meet the defined requirements.

Marking of the sales order as being confirmed in the computer system serves as the record that the review was completed.

In the event that logistical issues related to the order are amended by the customer (delivery date, shipping location, etc), the change will be evaluated by the Sales Department, and, if accepted, the order will be modified and the customer notified. Engineering reviews all changes to product specification per PRO000010 (Design and Engineering Change), and revises the Engineering Drawing and Process Sheets as necessary.

### 7.2.3. Customer communication

Communications regarding product information, inquiries, contracts, order handling (including amendments) are covered under section 7.2.2 of this manual as well as in PRO000007 (Contract Review Procedure). PRO000032 (Customer Returns Procedure) and PRO000033 (Corrective Action Procedure) document the processes by which customer complaints are handled and documented. Other feedback, general information, or letters from a customer are filed in the customer's file maintained by the Sales Department (or in the quotation file if such communication occurs during the quotation phase of a customer relationship).

## 7.3. Design and development

PRO000008 (Design and Development Procedure), describes the responsibilities and processes to control and verify the design and development of JML Optical products to ensure that the specified customer requirements are met. This procedure covers all design activities including design planning, interfaces, input, output, review, verification, validation and changes for both new market products and customer requested products requiring a major change.

## 7.4. Purchasing

### 7.4.1. Purchasing process

Due to the differences in logistics and requirements, JML Optical has organized the purchasing function into two operations: Domestic and International.

The Domestic Purchasing Manager is responsible for selecting and evaluating vendors, as described in PRO000013 (Domestic Vendor Evaluation and Qualification Procedure). This may include completion of the Vendor Evaluation and Qualification Survey and submission of product samples. The International Purchasing Coordinator is responsible for selecting and evaluating vendors, as described in PRO000015 (International Vendor Evaluation and Qualification Procedure). Vendors with an acceptable history of providing product to JML Optical prior to January 1, 2006 are grandfathered as approved.

The Purchasing Department compiles the quality performance results of all Critical Domestic Vendors every six months (January and July) for the previous six month period, and the performance results of Unapproved Vendors every month. International Approved Vendors are reviewed quarterly. Non-critical Vendors do not require review. These procedures are described in PRO000014 (Domestic Vendor Performance and Review Procedure) and PRO000017 (International Vendor Performance Review Procedure). The records of this review are maintained by Purchasing in the Vendor database. Copies of any non conformances are maintained in the Vendor files.

#### 7.4.2. Purchasing information

The PO is used by JML Optical to communicate purchasing information and describe the product to be purchased. In the case where there are requirements for approval of product, procedures, processes or equipment; qualification of personnel; or the vendor's quality management system these will be referenced in the PO. PRO000012 (Domestic Purchasing Procedure) and PRO000016 (International Procurement Procedure) describe the processes for preparing and approving purchase orders.

#### 7.4.3. Verification of purchased product

Quality Assurance is responsible for inspecting incoming parts using the P/N folder, which contains the Drawing, Process Sheets and Data Sheet as described in PRO000019 (Receiving Inspection Procedure). Received parts are controlled as described in PRO000025 (Identification and Traceability Procedure).

### 7.5. Production and service provision

#### 7.5.1. Control of production and service provision

Manufacturing is responsible for ensuring that production is carried out under controlled conditions as described in PRO000020 (Production Control and In-Process Inspection Procedure). This includes the following:

- The Production Schedule identifies the product to be manufactured for each operation.
- The Drawing, Process Sheet, and Data Sheet (if applicable) are available at workstations during set-up and manufacturing. These identify the characteristics of the product, equipment and inspection and test requirements.
- PRO000026 (Preventive Maintenance Procedure) describes the methods used to assure that equipment is operational and properly maintained.

#### 7.5.2. Validation of processes for production and service provision

JML Optical does not use any processes where the resulting output cannot be verified by subsequent monitoring and measurement. Therefore, sub clause 7.5.2 "Validation of processes for

production and service provision” is not addressed in this quality manual.

7.5.3. Identification and traceability

Product is identified throughout the product realization process, including its inspection and test status. The identification and traceability methods are detailed in PRO000025 (Identification and Traceability Procedure).

7.5.4. Customer property

JML Optical identifies, verifies, protects, and safeguards customer property per PRO000024 (Customer Material and Equipment Procedure). Any lost, damaged, or unsuitable material is recorded and reported to the customer.

7.5.5. Preservation of product

Sales order product is handled and stored in a manner which prevents damage or deterioration at all times. Methods to accomplish this are described in the Product Handling, Storage, and Preservation Work Instructions (WRK000136). Any special requirements are included on the Process Sheets.

All finished and WIP parts are traced via JML’s Alpha operating system, and moved through the shop by operator input into JML’s PTS control system. (*see work instruction WRK000059*)

7.6. Control and monitoring of measuring devices

PRO000029 (Calibration and Control of Measuring Devices Procedure for New or Reactivated Devices) and PRO000028 (Calibration and Control of Measuring Devices Procedure) describe the procedures used by JML Optical to ensure that monitoring and measurement devices are appropriate for the required measurements and to ensure valid results through:

- calibration or verification at specified intervals, or prior to use, against measurement standards traceable to international or national measurement standards; where no such standards exist, the basis used for calibration or verification is recorded
- adjustment or re-adjustment as necessary
- identification to enable the calibration status to be determined
- safeguarding from adjustments that would invalidate the measurement result
- protection from damage and deterioration during handling, maintenance and storage.

PRO000028 (Calibration and Control of Measuring Devices Procedure) also:

- describes the actions taken on equipment and possible product affected when equipment is found not to conform to requirements
- describes the records maintained to verify calibration and history

Computer software used for monitoring is validated prior to use.

8. Measurement, analysis and improvement

8.1. General

Monitoring, measurement, analysis, and improvement to demonstrate the conformity of the product are discussed in section 8.2.4 of this manual and other portions of section 8. Monitoring, measurement, analysis and improvement to ensure conformity of the quality management system and to continually improve its effectiveness are discussed throughout section 8.

## 8.2. Monitoring and measurement

### 8.2.1. Customer satisfaction

PRO000031 (Customer Satisfaction), describes the methods used to obtain customer satisfaction information. This information is summarized by Sales and reported to the Corporate Officers to drive improvement to product and processes.

### 8.2.2. Internal audit

The Senior Vice President of Administration has the overall responsibility of coordinating the internal quality system audits. The additional responsibilities and requirements for planning and conducting the audits are described in PRO000035 (Internal Auditing).

### 8.2.3. Monitoring and measurement of processes

Figure 4.2 identifies the five key processes (Management, Order Generation, Product Fulfillment, Post Sale Activities, and Support) and the associated measures used to monitor and measure performance. Individual managers monitor process results on a regular basis and are empowered to make corrective action as possible (PRO000033 – Corrective Action Procedure). The functional Vice Presidents review results on at least a monthly basis and also make reports to the Corporate Officers at least quarterly for the identification of preventive action and continual improvement

### 8.2.4. Monitoring and measurement of product

JML Optical product is inspected at various stages in the production process as defined by the Drawings, Process Sheets, and Data Sheets. Operators perform in-process inspections per the drawing as described in PRO000020 (Production Control and In-Process Inspection Procedure). In order to assure that product meets all necessary functional requirements defined in the contract, the Quality Assurance Technician tests the product according to the Process Sheet and Drawing as described in PRO000023 (Final Testing Procedure). The Assembly Technician conducts a final inspection as described in PRO000022 (Final Inspection Procedure), including visually inspecting, cleaning, pre-wrapping, and insuring that all required testing and inspection has been completed to the proper revision. Product that does not satisfactorily pass all the required inspections is labeled as nonconforming (PRO000030) or scrapped.

## 8.3. Control of nonconforming product

JML Optical makes sure that product that does not conform to product requirements is identified and controlled to prevent its unintended use or delivery. The controls and related responsibilities and authorities for dealing with nonconforming product are defined in PRO000030 (Nonconforming Product Procedure). The Material Review Board has responsibility for the disposition of nonconforming product. Records of non-conforming incoming parts are kept in the vendor complaint database. Records of non-conforming material in process are maintained electronically (PTS), in Data Sheets and Corrective and Preventive Action Reports (CAR).

## 8.4. Analysis of data

The Corporate Officers are responsible for determining the measures to be used to demonstrate the suitability and effectiveness of the quality management system and to identify opportunities for continual improvement. These measures are identified in the minutes of the Management Review and will be reviewed by the Corporate Officers at least quarterly.

## 8.5. Improvement

### 8.5.1. Continual improvement

The Continuous Improvement initiative at JML is structured upon its Corrective Action Procedure (PRO000033), Preventive Action Procedure (PRO000033), Management Review Process (PRO000003), Suggestion System, and this Quality Manual.

**8.5.2. Corrective action**

PRO000033 (Corrective Action Procedure) documents the processes used by JML Optical when taking action to eliminate the cause of nonconformities in order to prevent recurrence.

Department Managers and Supervisors are responsible for initiating a Corrective Action Report. Corrective actions can also be initiated as a result of a customer complaint, product return, and a management review. The process for Corrective Action resulting from a vendor nonconformance is presented in PRO000030.

Corrective action records are maintained by the Vice President of Administration, who is responsible for reporting on their status to the Corporate Officers at least quarterly.

**8.5.3. Preventive action**

PRO000034 (Preventive Action Procedure) documents the procedure to identify and implement opportunities for preventive action.

Preventive action records are maintained by the Senior Vice president of Administration, who is responsible for reporting on their status to the Corporate Officers at least quarterly.