

Quality Policy Manual

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This Quality Policy Manual is confidential property.

Approved by: (General Manager)

 2/14/08

Approved by: (Assistant General Manager)

 2/13/08

Forward

This manual describes the Quality System at Tyler Pipe Company, Tyler, Texas which has been designed to meet the requirements of ISO 9001 - 2000, "Quality Management Systems - Model for Quality Assurance in Production, Installation, and Servicing."

The Tyler Pipe manufacturing facility is located:

8 miles North of Tyler, Texas on U.S. Hwy. 69
P.O. Box 2027
Tyler, Texas 75710

Tyler Pipe is a gray and ductile iron foundry with two major and one minor product lines:

Major

1. Pressure Fittings
2. Cast Iron DWV Fittings

There are multiple products produced within each of the two categories. Primary processes include core making, melting iron, production of castings, machining, and coating.

This Quality System applies to all products required to be manufactured under ISO 9001:2000 Standards. A copy of this manual will be supplied to a customer only when requested.

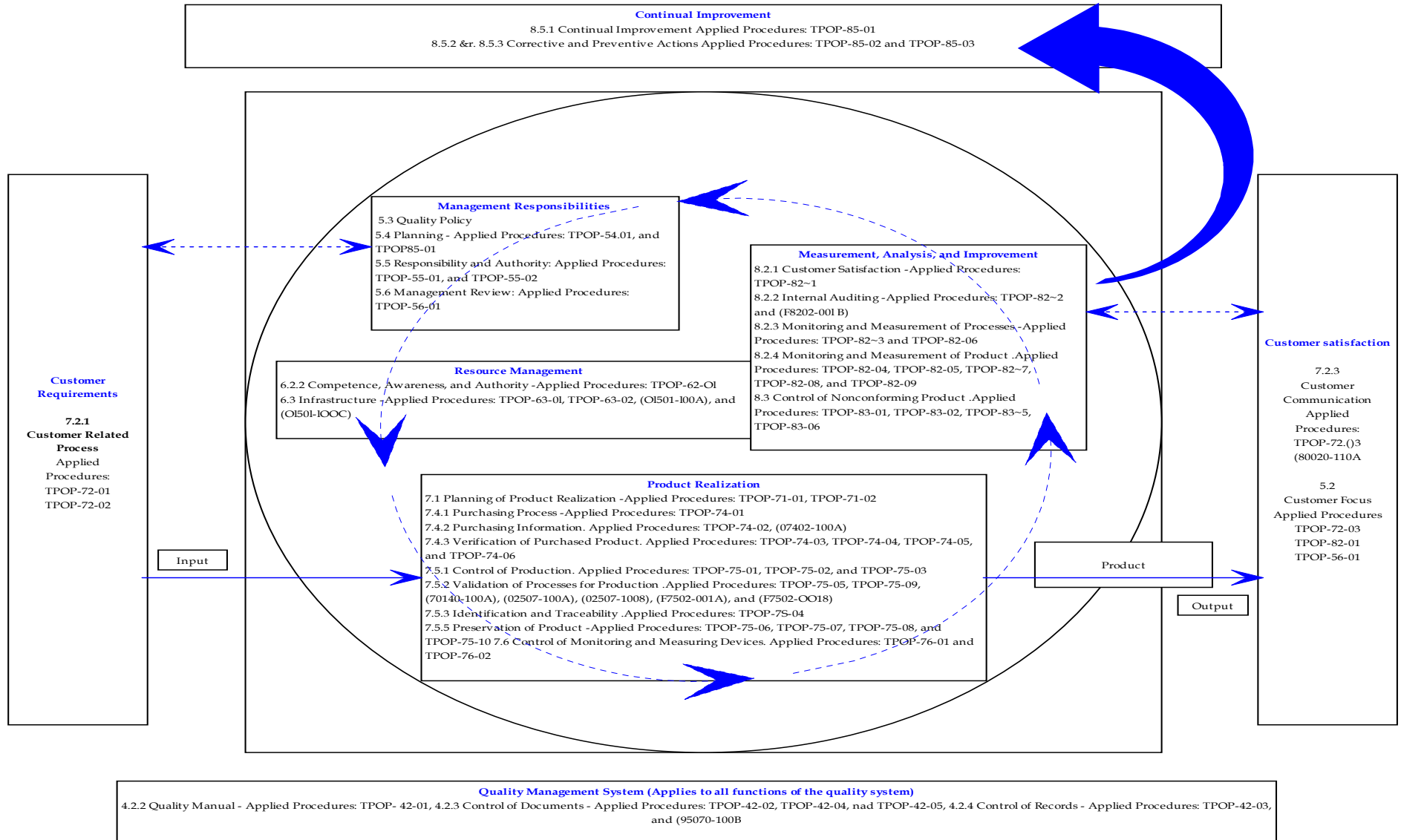
Distribution of this manual and all applicable revisions are controlled as described in [Policy Section 4.2](#) Documentation Requirements.

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Introduction

Tyler Pipe has developed and implemented this manual, which describes our Quality Management System. The system has been designed to demonstrate its ability to consistently provide product that meets the requirements of ISO 9001:2000. The Quality Management System promotes our objectives to be a “World Class Supplier of Cast Iron Drainage Products and Ductile Iron Watermain Fittings” and addresses customer satisfaction through the effective applications including continual improvement and prevention of nonconformities.

The manual is divided into five sections modeled on the sectional organization of the ISO 9001:2000 standard.

The purpose of this manual is to define and describe the quality system, to define authorities and responsibilities of the management personnel involved in the operation of the system, and also to provide general procedures for all activities comprising the quality system. Where stated throughout this manual, the term Top or Executive Management refers exclusively to the General Manager and the Assistant General Manager.

This manual is also used to present the quality system to our customers and other external interested parties, upon request. This manual will inform them as to what specific controls are implemented in order to assure quality and applies to all products to be manufactured under the above listed standards.

Scope

The scope of this facility is the manufacturing of ductile and gray castings for the drain, waste, vent, and utility market.

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Exclusions

The quality management system shall be relevant to the nature of our organization and products, and to customer and regulatory requirements. For this reason, those requirements of ISO 9001:2000 that do not apply are excluded from the scope of our quality system. The following rules and criteria are used for excluding irrelevant requirements:

EXCLUSIONS

1. Exclusion: ISO 9001:2000 Section 7.3, Design and/or Development, including all subsections

Justification: Tyler Pipe Co. does not design or develop products. The customers through specific nationally specified requirements specify all principal product characteristics. Our engineering activities are limited to developing methods and means of production, fabrication, or installation.

2. Exclusion: ISO 9001:2000 Section 7.5.1, Service only

Justification: At present, Tyler Pipe has no staff or department dedicated to servicing operations, has developed no agencies to perform or procedures to govern servicing activities, and has no plans to initiate servicing projects in the future.

If, at any time Tyler Pipe enters into contractual agreements wherein servicing is a specified requirement, procedures shall be established for performing, verifying, reporting, and documenting the necessary activities.

3. Exclusion: ISO 9001:2000 Section 7.5.2, Validation of Processes

Justification: Tyler Pipe Company currently does not have Special Processes

If, at any time Tyler Pipe establishes Special Processes, procedures shall be established for performing, verifying, reporting, and documenting the necessary activities.

4. Exclusion: ISO 9001:2000 Section 7.5.4, Customer property

Justification: Tyler pipe does not use or store customer-owned tools, equipment, or other property. All product produced at Tyler Pipe is solely owned by Tyler Pipe.

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Section 4.1 - General Requirements

Tyler Pipe Co. is committed to establish, document, implement and maintain a quality management system, and continually improve its effectiveness, in conformance with specified requirements of ISO 9001:2000 International Standard.

- Operational Procedure [TPOP-42-01](#), Quality System Documentation, explains in more detail how quality system processes are defined and documented.

Section 4.2 - Documentation and Records

Establishment and revision of documents, and their distribution, are controlled. All documents and revisions are reviewed for adequacy by the appropriate personnel and approved prior to issue; and are identified with respect to their revision level. Appropriate documents are available at locations where they are used. Obsolete documents are promptly removed from all areas of issue. Documents of external origin are identified and their distribution is controlled.

Quality records are identified and indexed to facilitate their retrieval, and are stored in a suitable environment to minimize deterioration. Quality records retention time shall be specified in the contents of tier II documents.

- Purpose, scope, and responsibility for controlling various types of documents are defined in Operational Procedure [TPOP-42-01](#), Quality System Documentation.
- Document requirements are defined in Operational Procedure [TPOP-42-02](#), Control of Documents, [TPOP-42-04](#) Control of Models and drawings, and [TPOP-42-05](#) Control of Quality Forms.
- Controls of records are defined in Operational Procedure [TPOP-42-03](#), Control of Quality Records and 95070-100B Forms Master Listing.
- Page 1a defines Tyler Pipe's model process-based quality management system.

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Section 5.1 - Management Commitment

The executive management is ultimately responsible for and to ensure establishing, implementing, maintaining, and improving the quality system. Management commitment is demonstrated by communicating to the organization the importance of meeting requirements, establishing the quality policy and quality objectives, conducting management reviews of the quality system, and ensuring the availability of necessary resources. An understanding of these procedures shall be maintained at various levels of the organization.

- For the purpose of administrating the quality management system, executive management is defined to include the General Manager , Assistant General Managers and their staff (managers) responsible for operations, purchasing, sales, human resources, and quality systems.
- Management shall ensure that procedures are established to document the company's quality policy, objectives, and commitment to quality. An understanding of these procedures shall be maintained at all levels of the organization.
- This responsibility of the Management Representative is stipulated in [Section 5.5](#), Responsibility, Authority and Communication.
- Processes for establishing the quality policy and quality objectives are defined in this manual in [Section 5.3](#), Quality Policy, and [Section 5.4](#), Quality System Planning.
- The process for conducting management reviews is defined in [Section 5.6](#) of this manual and in Operational Procedure [TPOP-56-01](#), Management Review. Records will be maintained of reviews.

[Section 6.1](#) of this manual defines processes for identifying resource requirements and allocation of resources for specific activities and projects.

Section 5.2 - Customer Focus

The principal objective of the quality management system is to focus our organization on the customer, and in particular, on customer satisfaction. Achieving high customer satisfaction is a good understanding of customer requirements and a capability to consistently fulfill these requirements.

This process is defined in operational procedures [TPOP-72-01](#) Order Processing for Catalog Products and [TPOP-72-02](#) Order Processing for Custom Products, [TPOP-72-03](#) Customer Feedback and Complaints, [TPOP-82-01](#) Customer Satisfaction, and [TPOP-56-01](#) Management Review.

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Section 5.3 - Quality Policy

Mission

World-class supplier of cast iron drainage products and ductile iron watermain fittings.

To achieve this goal,

Tyler Pipe will . . .

Maintain Continuous Improvement of Product Quality

- Continually improve our processes to produce a quality product, which exceeds customer requirements and meets quality objectives through the quality management system, at the most favorable cost.

Provide Products that Meet or Exceed Specifications

- Meet or exceed our customer and product standards that we serve. Search for new processes and products, create a shared vision, maintain constancy of purpose, create a culture of empowerment, and build long-term relationships with customers and suppliers.

Provide On-Time Delivery and Excellent Customer Service

- Create a framework to continually review our objectives to achieve customer satisfaction through continual improvement of our services, on-time deliveries, and a balanced product inventory without shortages.

-
- Using the quality policy in setting quality objectives is addressed in this manual in [Section 5.4](#), Planning.
 - Using the policy to facilitate continual improvement is explained in Operational Procedure [TPOP-85-01](#), Continual Improvement.
 - The process for reviewing the quality policy is defined in Operational Procedure [TPOP-56-01](#), Management Review.

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Section 5.4 - Planning

Quality objectives are established to support and implement the quality policy and continual improvement. Quality planning includes identification and determination of quality system processes (including any exclusions of ISO 9001 requirements); priorities for continual improvement; and resources needed to achieve quality objectives and to maintain and improve the quality system. Quality plans are periodically reviewed and updated to maintain the integrity of the quality system during organizational and other changes.

- Quality objectives for facilitating continual improvement are explained in Operational Procedure [TPOP-85-01](#), Continual Improvement.
- Performance objectives are established, documented, and monitored within the framework of management reviews of the quality system, in accordance with Operational Procedures [TPOP-56-01](#), Management Review. Planned Performance objectives are detailed in TPOP-54-01 Planning Performance Objectives.
- Quality system objectives are established, documented, and monitored within the framework of management reviews of the quality system, in accordance with Operational Procedure [TPOP-56-01](#), Management Review.
- Planning of product realization, verification, and validation processes is addressed in [Section 7.1](#) of this manual.
- The output of this planning is defined in Operational Procedures [TPOP-85-01](#), Continual Improvement; and [TPOP-56-01](#), Management Review.

Section 5.5 - Responsibility, Authority and Communication

Functions and their interrelation within the company are defined and communicated. Executive management appoints a management representative responsible for establishment and maintenance of the quality system, and for reporting to the executive management on the performance of the system. Issues regarding the quality system are communicated internally through distribution of pertinent documents, meetings, awareness programs, and management reviews.

- Operational Procedure TPOP-55-01, Responsibility, Page 1a of this manual, and Authority Quality Assurance and TPOP-55-02 Quality Systems Management Representative explain in more detail how responsibility and authority are assigned.

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Section 5.6 - Management Review

Executive management conducts periodical reviews of the quality system. The review evaluates the suitability and effectiveness of the system, identifies opportunities for improvement, and considers the need for changes to the quality policy and quality objectives. Results of the review are documented.

- Operational Procedure TPOP-56-01, Management Review, explains in more detail how quality system conduct management reviews.

Section 6.1 - Provision of Resources

Executive management is committed to provide adequate resources for the implementation and improvement of the quality system, and for addressing customer satisfaction.

- The principal forum for determining and communicating resource requirements [and allocation of resources](#) are management reviews of the quality system. Operational Procedure [TPOP-56-01](#), Management Review, explains this process.
- Operational Procedure [TPOP-82-01](#), Customer Satisfaction explains how information about customer satisfaction is collected and analyzed.

Section 6.2 - Competence, Awareness and Training

Tyler Pipe Co. identifies personnel training needs, provides required training, and evaluates the effectiveness of the training provided. Personnel assigned to perform specific tasks, operations, and processes are qualified on the basis of appropriate education, experience, or training. Employees are made aware of the relevance and importance of their activities and how they contribute to the achievement of quality objectives. Records of personnel qualifications and training are maintained.

Operational Procedure [TPOP-62-01](#), Training and Awareness describes in detail the training and awareness programs provided and more specific methods for evaluating particular categories of training and awareness programs.

Section 6.3\6.4 - Infrastructure and Work Environment

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Suitable infrastructure, facilities and work environment are provided as required to achieve product conformity. This includes planning, provision, and maintenance of employee facilities, workspaces, equipment, software, and associated services.

- Planning of facilities is addressed in Operational Procedure TPOP-63-01 Planning, Identification, and Maintenance of Equipment – Work Environment
- Production equipment maintenance is addressed in Operational Procedure [TPOP-63-02](#) Equipment Maintenance, 01501-100A Daily/Weekly Checklist Process Flow, and 01501-100C Periodical Checklist Process Flow.

Section 7.1 – Planning of Product Realization

Planning of product realization processes includes determination of quality objectives for products; development of required processes and process documentation; and establishment of product verification and validation programs. The plan also defines requirements for records necessary to demonstrate process and product conformity.

- Planning of product realization is detailed in TPOP-71-01 Test and Inspection Processes, TPOP-71-02 New Product Introduction, 70140-100A Product in Process Flow Chart, 02507-100A South Plant Process Monitoring, 02507-100B and F7502-001B South Plant Process Flow Chart.
- Quality Systems and Sales are responsible for identifying product quality objectives and requirements. This may be integrated with the process of determining customer and product requirements (refer to Operational Procedure [TPOP-72-02](#), Order Processing for Custom Products).
- Operational procedures related to [Section 7.5](#), explain how outputs of product realization planning are used.
- Operational Procedures [TPOP-74-03](#), Verification of Purchased Product; [TPOP-82-04](#), In-process Inspections; and [TPOP-82-05](#), Final Inspection, explain how outputs of product verification and validation planning are used.

Section 7.2 – Customer-related Processes

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Product requirements are determined to include customer requirements and legal, regulatory, and other necessary requirements that may not be specified by customers. Orders are reviewed to ensure that product and order requirements are defined and can be met, and to resolve any incomplete or conflicting requirements. Verbal orders are confirmed before acceptance. Order amendments and changes are likewise reviewed and are communicated to all relevant functions. Order reviews are recorded. Arrangements for communication with customers relating to product information, order handling, and customer feedback and complaints are defined and implemented. Where appropriate, operational procedures and instructions for these activities are established and implemented.

- Catalog or custom product requirements are determined and reviewed with regard to requirements specified by the customer; other relevant product requirements not specified by the customer, and the company's capacity and capability to meet all applicable requirements. Operational Procedure [TPOP-72-01](#), Order Processing for Catalog Products and [TPOP-72-02](#), Order Processing for Custom Products, instructs on how to carry out this review.
- Sales department is responsible for developing the content and format for company's brochures, catalogs, Internet site, and other forms of promotional and product information material.
- Only personnel from Sales, and Customer Service are authorized to communicate with customers regarding product information. The Vice President Sales is responsible for designating these personnel, and for supporting them with training and current product information.
- Procedure [TPOP-72-03](#), Customer Feedback and Complaints and 80020-110A Product Complaint Responsibility, provides detailed instructions how to process and respond to customer feedback and complaints.

Section 7.4 – Purchasing

Tyler Pipe Company evaluates its suppliers and purchases only from those that can satisfy quality requirements. Quality performance of suppliers is monitored and evaluated. Purchasing documents clearly and completely describe ordered products, including quality requirements. Purchasing documents are reviewed and approved prior to release. Purchased products that are critical to our operation are verified before they are used.

- The system for [evaluating, approving and](#) monitoring suppliers is defined in Procedure [TPOP-74-01](#), Supplier Evaluation.
- The preparation, review, and approval of purchasing documents are explained in Procedure [TPOP-74-02](#), Purchasing, and 07402-100A Purchasing Flow Chart.
- Operational Procedure [TPOP-74-03](#), Verification of Purchased Product, TPOP-

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74-04 Procurement of Scrap Iron, TPOP-74-05 Purchasing and Testing of Coating for Portable Water Pipe, and TPOP-74-06 Purchasing and Testing of Cement Mortar for Portable Water Pipe sets forward detailed rules for selecting product verification methods and for performing receiving and quality inspections.

Section 7.5 – Production Provisions

Product and process information and appropriate work instructions are established and are communicated to relevant personnel. Operations and production processes are monitored and controlled, and are validated where appropriate. Machines and equipment used in production and for monitoring and measurement activities are maintained. Methods for product release and delivery are defined. Materials, components, parts, and finished products are identified. When required, trace ability of materials and processes is recorded and maintained. Inspection and test status of product is identified to ensure that only product that has passed the required inspections is used. Appropriate handling, storage and preservation methods are implemented to prevent product damage or deterioration. Receipt and dispatch to and from storage areas are controlled.

- Procedure TPOP-75-01, Production Scheduling, specifies criteria for determining product and process information.
- Procedure [TPOP-75-02](#), Work Instructions and TPOP-75-03 Product Finishing Production Processes specifies criteria for determining when work instructions are needed, and provides guidelines for issuing, authorizing and controlling work instructions.
- Procedure TPOP-75-09 In-Service Tooling Replacement or Modifications, specifies criteria tooling replacement or modification.
- Requirements for the maintenance of production equipment are specified in Operational Procedure [TPOP-63-02](#), Equipment Maintenance.
- Requirements for measuring and monitoring equipment are determined by Production and Plant Quality Managers. The use of suitable monitoring and measuring equipment will be applied to assure that process control and product verification programs are defined and carried out. See product realization planning (refer to [Section 7.1](#) of this manual).
- Control system for measuring and monitoring equipment is defined in Operational Procedure [TPOP-76-01](#), Measuring and Monitoring Equipment.
- Process monitoring activities are further defined in [Section 8.2](#) of this manual. Activities related to process control are defined in Operational Procedures [TPOP-75-02](#), Work Instructions.
- Operational Procedure [TPOP-82-05](#), Final Inspection, define the system for final

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product verification and release.

- Activities related to establishment and maintenance of traceability are regulated by Operational Procedures TPOP-75-04, Product Identification and Traceability.
- Detailed instructions on how to identify conforming and nonconforming products are provided in Procedure TPOP-75-05, Inspection and Test Status, and Procedure TPOP-83-01, Control of Nonconforming Product.
- Procedure TPOP-75-06, Product Handling and Preservation, describes in detail how these policies are implemented.
- Procedure TPOP-75-07, Storage Areas, governs the operation of warehouse and storage, staging and holding areas.
- Packaging, shipping, and delivery activities are governed by Procedure TPOP-75-08 Packaging, Labeling and Shipping.
- Procedure TPOP-75-10 Distribution Procedures defines the processes involved in the handling, storage, packaging, and delivery of Tyler Pipe products.

Section 7.6 – Measuring and Monitoring Equipment

Determination of monitoring and measurement to be undertaken and measuring devices needed to provide evidence of conformity of product to determined requirements is addressed in Policy 7.1. The established processes to ensure that monitoring and measurement can be carried out and are carried out in a manner that is consistent with the monitoring and measurement requirements are addressed in Policy 7.1. Appropriate measuring and monitoring instruments are maintained and selected to ensure that measurement capability is consistent with the measurement requirements.

- Calibration-related activities are regulated by Procedures TPOP-76-01, Measuring and Monitoring Equipment and TPOP-76-02 Equipment Certification and Calibration Services.

Section 8.1 – Planning of Monitoring and Measurement

Measurement and monitoring activities required to assure product conformity, and to achieve improvement processes, are planned and defined. When applicable and appropriate, statistical techniques are used for analyzing measurement data.

- Measurement and monitoring activities to assure and verify product conformity are defined in, inspection and testing procedures, process control procedures, and department work instructions. These activities are further defined in this manual in Section 8.2, Measurement and Monitoring, and in several operational procedures referenced at the end of this section.

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- The effectiveness of the quality system is monitored by internal audits and by measuring quality performance through customer satisfaction. Results of these activities are reported to the executive management and are used to identify opportunities for improvement. Activities related to internal audits and to measuring customer satisfaction and quality performance are further defined in this manual in [Section 8.2](#).
- Identify, where applicable, statistical techniques may be necessary for establishing, controlling, and verifying process capabilities and product characteristics.
- Procedures are documented and maintained to implement and control the required applications of statistical further defined in [TPOP-82-07](#).
- Departmental managers are responsible for identifying the need for using statistical techniques in their departments where applicable and in other activities for which they are responsible. Quality Systems may be called upon to assist other departments in selecting and documenting specific techniques.

Section 8.2 – Monitoring and Measurement

Customer satisfaction is Tyler Pipe Company principal objective. The level of customer satisfaction is one of the most important tools for measuring the effectiveness of the system. Customer satisfaction is measured by customer feedback through customer service, marketing data, and by measuring secondary indicators of customer satisfaction. The executive management uses this information to identify opportunities and priorities for improvement. All activities and areas relevant to the quality system are audited. Audits are scheduled on the basis of the status and importance of the activity. Internal auditors are independent of those having direct responsibility for the audited activity. Identified nonconforming conditions are brought to the attention of the responsible managers in the form of corrective actions for implementation in response to audit findings. Quality system processes are monitored to ensure that they achieve planned results. Relevant product characteristics are measured through inspections, tests, and other product verification activities, as specified in control plans. Evidence of product conformity is recorded. Products are released for delivery only after all specified activities have been satisfactorily completed and verified.

- Operational Procedure [TPOP-82-01](#), Customer Satisfaction, defines the system for collecting and analyzing the pertinent information and data, and for reporting results to the executive management.
- The internal auditing process is defined in Operational Procedure [TPOP-82-02](#), Internal Quality Audits and F8202-001B Audit Procedure Flow Chart.
- The monitoring and measurement of processes is defined in Operational Procedure TPOP-82-03, Monitoring and Measurement of Processes.

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- In-process inspection activities are regulated by Operational Procedures [TPOP-82-04](#), In-process Inspections, [TPOP-82-05](#) Final Inspection, TPOP-82-06 Sand Testing and Reporting Techniques, TPOP-82-08 Internal Quality Acceptance Standards for Utility & Soil Fittings and TPOP-82-09 General Procedures for Cement Lining.

Section 8.3 – Control of Nonconforming Product

Nonconforming product is identified, documented, evaluated, and prevented from being used or shipped. Repaired or reworked products are re-inspected. Appropriate actions are taken when product nonconformity is identified after delivery. When appropriate, corrective and preventive actions are implemented to prevent recurrence of identified nonconformities.

- Control of nonconforming product is detailed in Operational Procedure [TPOP-83-01](#), Control of Nonconforming Product, TPOP-83-05 Production Lab & Millroom Nonconforming Materials, and TPOP-83-06 Customer Returned Nonconforming Product.
- Repaired or reworked products are addressed in Procedures TPOP-83-02 Control of castings for Re-evaluation and Re-melt, and [TPOP-82-05](#), Final Inspection, as applicable.
- Product returns are addressed in Procedure TPOP-72-03 Customer Feedback and Complaints and TPOP-83-06 Customer Returned Product.
- When product nonconformity is detected internally after delivery or use has started, customer service and shipping will make necessary arrangements to recover any remaining material if applicable. Refer to Quality Systems Departmental Work Instruction [9500-040](#): Positive Recall of Nonconforming Product

Section 8.4 – Analysis of Data

Tyler Pipe Co. collects, compiles and analyzes information and data required for evaluating the suitability and effectiveness of the quality system and for identifying opportunities for continual improvement.

- Data and information recorded in quality records are compiled and analyzed periodically to determine trends in the performance and effectiveness of the quality system and to identify opportunities for improvement.
- Plant Managers are responsible for coordinating these activities, and for reporting conclusions and trends to the executive management. This is done within the framework of management reviews of the quality system, in accordance with Operational Procedure [TPOP-56-01](#), Management Review.

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The following categories of information and data are recorded, compiled and analyzed:

- Characteristics of processes and products:
 - Process performance variation — recorded in Scrap records, and man-hours per ton evaluated by Plant Managers.
 - Cycle times — recorded in production and reviewed for trends by Production.
 - Unscheduled machine downtime (including cost) — recorded in unit down time report and reviewed for trends by Production.
- Conformance to customer requirements:
 - Scrap, rework, repair (including cost) — recorded in product nonconformity reports and reviewed for trends by Production.
 - Order fill rate delivery performance — recorded in delivery performance reports and evaluated for trends by Shipping Manager and executive management.
 - Dollars and number of labor claims. Total number of product returns compared to product shipped (product tons).
- Supplier quality performance — recorded in supplier quality performance files (Procedure [TPOP-74-01](#)) and evaluated for trends by Purchasing and Plant Quality Managers.
- Customer satisfaction and dissatisfaction:
 - Customer complaints — recorded in customer complaints log and evaluated for trends by executive management.
- Quality System:
 - Effectiveness of training — recorded in training evaluation reports (Procedure [TPOP-62-01](#)) and evaluated for trends by departmental managers.
 - Effectiveness of quality system — recorded in internal audit reports (Procedure [TPOP-82-02](#)) and evaluated for trends by executive management.

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Section 8.5 – Improvement

Tyler Pipe Company deploys continual improvement philosophy throughout the organization. The improvement effort is driven by goals defined in the quality policy and quality objectives. Improvement opportunities are identified by analyzing quality performance data and information. Improvement projects are defined and implemented through the system of corrective and preventive actions and management review actions. Causes of identified nonconformities are investigated and, where appropriate, corrective actions are implemented to ensure that nonconformities do not recur. Preventive actions are implemented to eliminate the causes of potential nonconformities. Corrective and preventive actions taken are recorded and are followed up to ensure that they have been implemented and that they are effective.

- The process of facilitating continual improvement through the use of quality policy, objectives, and analysis of data, is defined in Operational Procedures TPOP-85-01, Continual Improvement, and TPOP-56-01, Management Review.
- The corrective and preventive action process is detailed in Procedure TPOP-85-02, Corrective and Preventive Action and TPOP-85-03 Preventive Action.