

|   |              |            |
|---|--------------|------------|
| <b>OIL CITY IRON WORKS, INC.<br/>QUALITY MANUAL</b> | Section      | Issue Date |
|   | 0.1          | 7-27-09    |
|   | Page         | Revision   |
|   | Page 1 of 32 | 9          |

## **Authorization**

Prepared By: Eric Ryan Meyers, President

Approved By: Eric Meyers Sr., Chairman of the Board

| Section | Title                                 | Revision | Issue Date | Page |
|---------|---------------------------------------|----------|------------|------|
| 0.1     | Table of Contents                     | 9        | 7-27-09    | 1    |
| 0.2     | Amendment Page                        | 9        | 7-27-09    | 2    |
| 0.3     | Controlled Distribution List          | 9        | 7-27-09    | 4    |
| 0.4     | Introduction                          | 9        | 7-27-09    | 5    |
| 4.0     | Quality Management System             | 3        | 7-27-09    | 6    |
| 5.0     | Management Responsibility             | 5        | 7-27-09    | 11   |
| 6.0     | Resource Management                   | 9        | 7-27-09    | 18   |
| 7.0     | Product Realization                   | 4        | 7-27-09    | 20   |
| 8.0     | Measurement, Analysis and Improvement | 4        | 7-27-09    | 27   |

|   |              |            |
|---|--------------|------------|
| <b>OIL CITY IRON WORKS, INC.<br/>QUALITY MANUAL</b> | Section      | Issue Date |
|   | 0.4          | 7-27-09    |
|   | Page         | Revision   |
|   | Page 2 of 32 | 9          |

### Amendment Page

This Quality Manual (QM) contains only the pages issued by this facility. The Management Representative (MR) is responsible for processing all authorized changes, and for inserting amendment pages into official copies. The MR has authority to remove and dispose of obsolete pages to prevent their unintentional usage. This QM is a controlled copy document and will be used as the final authority regarding the latest revision level and amendment status for the QM. The MR maintains the Master Copy (MC) of this QM.

| SECTION | REVISION NUMBER | REVISION DATE | DESCRIPTION   | APPROVAL |
|---------|-----------------|---------------|---|----------|
| All     | 0               |               | Initial Release   | MR       |
| 4 & 5   | 1               | 10/18/04      | Distribution List<br>Section Header for Section 5   | ERM      |
| 6       | 1               | 10/19/04      | Organizational Flowchart  | EM Sr.   |
| 6       | 2               | 11/29/04      | Organizational Flowchart  | ERM      |
| .4      | 1               | 12/2/04       | Revised Scope and<br>Justification for Exclusions   | ERM      |
| 7       | 1               | 12/1/04       | Revised clause 7.5.2  | ERM      |
| 6       | 3               | 3/15/05       | Organizational Flowchart  | ERM      |
| 6       | 5               | 1/8/07        | Organizational Flowchart  | ERM      |
| All     | 1               | 4/23/05       | Title change to VP of<br>Administration/MR only in<br>reference to responsibility or<br>MR        | ERM      |
| .4      | 2               | 4/23/05       | Change title to VP of<br>Administration on line 1.<br>Add Director of IT to<br>distribution list. | ERM      |
| 5       | 2               | 12/15/2005    | Change Quality Objectives   | ERM      |
| 6       | 6               | 5/15/2006     | Organizational Flowchart  | ERM      |
| All     | 2               | 1/12/2007     | Change all references to MR<br>responsibility to Training and<br>Development Manager              | TRS      |
| 6       | 7               | 5/04/2007     | Organizational Flowchart  | TRS      |
| .4      | 8               | 5/04/2007     | Controlled Distribution List  | TRS      |
| All     | 3               | 5/04/2007     | Change all references to MR<br>responsibility to Safety and<br>Training Director                  | TRS      |
| 4       | 2               | 9/17/2007     | Revisions in Interaction of<br>Processes  | TRS      |

|   |              |            |
|---|--------------|------------|
| <b>OIL CITY IRON WORKS, INC.<br/>QUALITY MANUAL</b> | Section      | Issue Date |
|   | 0.4          | 7-27-09    |
|   | Page         | Revision   |
|   | Page 3 of 32 | 9          |

|         |   |           |  |     |
|---------|---|-----------|--|-----|
| 5       | 4 | 3-20-2008 | Change Vice President of Administration to President; Training and Safety Director/MR to Safety and Training Director/MR                           | TRS |
| 6       | 8 | 3-20-2008 | Organizational Flowchart: Change Vice President of Administration to President; Training and Safety Director/MR to Safety and Training Director/MR | TRS |
| 7 and 8 | 3 | 3-20-2008 | Change Vice President of Administration to President; Training and Safety Director/MR to Safety and Training Director/MR                           | TRS |
| 5       | 5 | 3/13/2008 | Change Quality Policy Statement  | TRS |
| All     | 9 | 6/4/2009  | Change references to ISO 9001:2008 from 9001:2000  | TRS |
| .4      | 9 | 7/27/2009 | Add "coatings facility" to scope   | TRS |
| 4       | 3 | 7/27/2009 | Changes as per ISO 9001:2008 recommendations   | TRS |
| 5       | 5 | 7/27/2009 | Changes as per ISO 9001:2008 recommendations   | TRS |
| 6       | 9 | 7/27/2009 | Changes as per ISO 9001:2008 recommendations   | TRS |
| 7       | 4 | 7/27/2009 | Changes as per ISO 9001:2008 recommendations   | TRS |
| 8       | 4 | 7/27/2009 | Changes as per ISO 9001:2008 recommendations   | TRS |

|   |              |            |
|---|--------------|------------|
| <b>OIL CITY IRON WORKS, INC.<br/>QUALITY MANUAL</b> | Section      | Issue Date |
|   | 0.4          | 7-27-09    |
|   | Page         | Revision   |
|   | Page 4 of 32 | 9          |

**Controlled Distribution List**

This Quality Manual describes the Quality Management System (QMS) in place at Oil City Iron Works, Inc. The Management Representative (MR) will process all authorized changes and forward such changes to holders of controlled copies. Each copyholder is responsible for replacing distribution copies and seeing that all obsolete pages are withdrawn from use and disposed of to prevent unintentional usage.

This Quality Manual is a controlled copy document. The MR maintains the Master Copy of the Quality Manual.

The Master Copy is used as the final authority regarding the latest revision level and amendment status for the Quality Manual.

| Copy      | Copy Custodian                          | Signature |
|-----------|---|-----------|
| <b>1</b>  | <b>President</b>                        |           |
| <b>10</b> | <b>Registrar (maintained by the MR)</b> |           |
|           |   |           |
|           |   |           |
|           |   |           |
|           |   |           |
|           |   |           |

|   |              |            |
|---|--------------|------------|
| <b>OIL CITY IRON WORKS, INC.<br/>QUALITY MANUAL</b> | Section      | Issue Date |
|   | 0.4          | 7-27-09    |
|   | Page         | Revision   |
|   | Page 5 of 32 | 9          |

## **Introduction**

The purpose of this manual is to outline the critical elements and requirements of the Quality Management System (QMS) of **OIL CITY IRON WORKS, INC.** including the Quality Policy, Quality Objectives and Procedure references.

This manual, along with the referenced documents and procedures, fulfills the requirements of the ISO 9001:2008 International Standard.

### **Scope of Registration**

Oil City Iron Works, Inc. is an iron foundry, heat treating facility, machine shop, coatings facility and pattern shop that specializes in the manufacturing of grey, ductile and alloyed castings.

### **Permissible Exclusions**

**OIL CITY IRON WORKS, INC.** claims the following exclusion from the scope of their registration to ISO 9001:2008.

**7.3 Design and Development – OIL CITY IRON WORKS, INC.** manufactures to customer specified drawings and is not design responsible.

**7.5.2 Validation of processes for production and service provisions - OIL CITY IRON WORKS, INC.** does not have any processes where the resulting output cannot be verified for conformity by subsequent monitoring or measuring. Therefore, **OIL CITY IRON WORKS, INC.** is excluded from section 7.5.2 of the ISO 9001:2008 standard.

**OIL CITY IRON WORKS, INC.** maintains control over outsourced processes through its control of suppliers. This control is outlined within the quality management system in OCIW-QP 7.5, Product and Process Control Procedure.

This manual, along with all referenced procedures, applies to all personnel that comprise **OIL CITY IRON WORKS, INC.** All personnel who report to **OIL CITY IRON WORKS, INC.**, both employees and subcontractors, are required to understand and conform to the portions of this manual that apply to their area of operations.

|   |              |            |
|---|--------------|------------|
| <b>OIL CITY IRON WORKS, INC.<br/>QUALITY MANUAL</b> | Section      | Issue Date |
|   | 6.0          | 7-27-09    |
|   | Page         | Revision   |
|   | Page 6 of 32 | 9          |

## 4.0 Quality Management System

### Scope and Purpose

The quality system described in this section of the Quality Manual conforms to ISO 9001:2008 Clause 4 – Quality Management System. This policy defines the corporate commitment to quality with respect to Implementation of the Quality Management System and Documentation Requirements of the ISO 9001:2008 international standard.

### Responsibility and Authority (R&A)

The R&A for overall administration of quality activities of **OIL CITY IRON WORKS, INC.** has been assigned to the Management Representative (MR). All employees have the responsibility and freedom to carry out all quality activities in support of the quality policy, quality system documentation and customer requirements. Each employee has been granted this authority in order to meet specified requirements.

#### 4.1 General Requirements

A quality management system has been established, documented, implemented, maintained and is continually improved in accordance with the applicable requirements of ISO 9001:2008. To implement the system **OIL CITY IRON WORKS, INC.** has:

- Determined the processes needed for the quality management system and their application throughout **OIL CITY IRON WORKS, INC.**;
- Determined the sequence and interaction of these processes;
- Determined the criteria and methods needed to ensure that both the operation and control of these processes are effective;
- Ensured the availability of resources and information necessary to support the operation and monitoring of these processes;
- Monitored, measured (where applicable) and analyzed these processes; and,
- Implemented actions necessary to achieve planned results and continual improvement of these processes.

|   |              |            |
|---|--------------|------------|
| <b>OIL CITY IRON WORKS, INC.<br/>QUALITY MANUAL</b> | Section      | Issue Date |
|   | 6.0          | 7-27-09    |
|   | Page         | Revision   |
|   | Page 7 of 32 | 9          |

- Put in place controls to support business goals that will mitigate risks associated with changes in the business environment.

## **4.2 Documentation Requirements**

### **4.2.1 General**

**OIL CITY IRON WORKS, INC.** has defined and documented its system for meeting quality objectives in the Quality Manual, Quality Policy, organizational structure, procedures, processes, work instructions, and quality records.

Quality Management system documentation includes:

- Quality Policy - Top Management has established a company quality policy, and quality system objectives have been identified. The quality policy and objectives have been communicated to all employees and are maintained as the highest priority within the company. Each employee understands their role in achieving quality objectives, in order to enhance customer satisfaction;
- A Quality Manual;
- Documented procedures and records required by ISO 9001:2008;
- Documents including records determined by **OIL CITY IRON WORKS, INC.** to ensure the effective planning, operation and control of processes.

### **4.2.2 Quality Manual**

A quality manual has been established and maintained that includes:

- The scope of the quality management system, including details of and justification for any permissible exclusions, outlined in the introduction of this Quality Manual;
- The documented procedures established for the quality management system are referenced; and,
- A description of the interaction between the processes of the quality management system is provided.

|   |              |            |
|---|--------------|------------|
| <b>OIL CITY IRON WORKS, INC.<br/>QUALITY MANUAL</b> | Section      | Issue Date |
|   | 6.0          | 7-27-09    |
|   | Page         | Revision   |
|   | Page 8 of 32 | 9          |

#### 4.2.3 Control of Documents

All documents, drawings, data and standards that relate to the ISO 9001:2008 Standard, affect product quality, or are required to produce a quality product are maintained per OCIW-QP4.2.3, Control of Documents Procedure. This procedure defines the document control requirements that all document owners and users adhere to. The document control procedure defines the controls needed to:

- Approve documents for adequacy prior to issue;
- Review and update as necessary and re-approve documents;
- Ensure that changes, the current revision status and revision date 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;
- Ensure that documents of external origin determined by **OIL CITY IRON WORKS, INC.** to be necessary for the planning and operation of the quality management system are identified and their distribution controlled; and,
- Prevent the unintended use of obsolete documents, and to apply suitable identification to them if they are retained for any purpose.

#### 4.2.4 Control of Records

Records to provide evidence of conformity to requirements and of the effective operation of the quality management system of **OIL CITY IRON WORKS, INC.** shall be controlled.

Records shall remain legible, readily identifiable and retrievable.

OCIW-QP4.2.4, Control of Records Procedure, has been established to define the controls needed for the identification, storage, protection, retrieval, retention time and disposition of records.

|   |              |            |
|---|--------------|------------|
| <b>OIL CITY IRON WORKS, INC.<br/>QUALITY MANUAL</b> | Section      | Issue Date |
|   | 6.0          | 7-27-09    |
|   | Page         | Revision   |
|   | Page 9 of 32 | 9          |

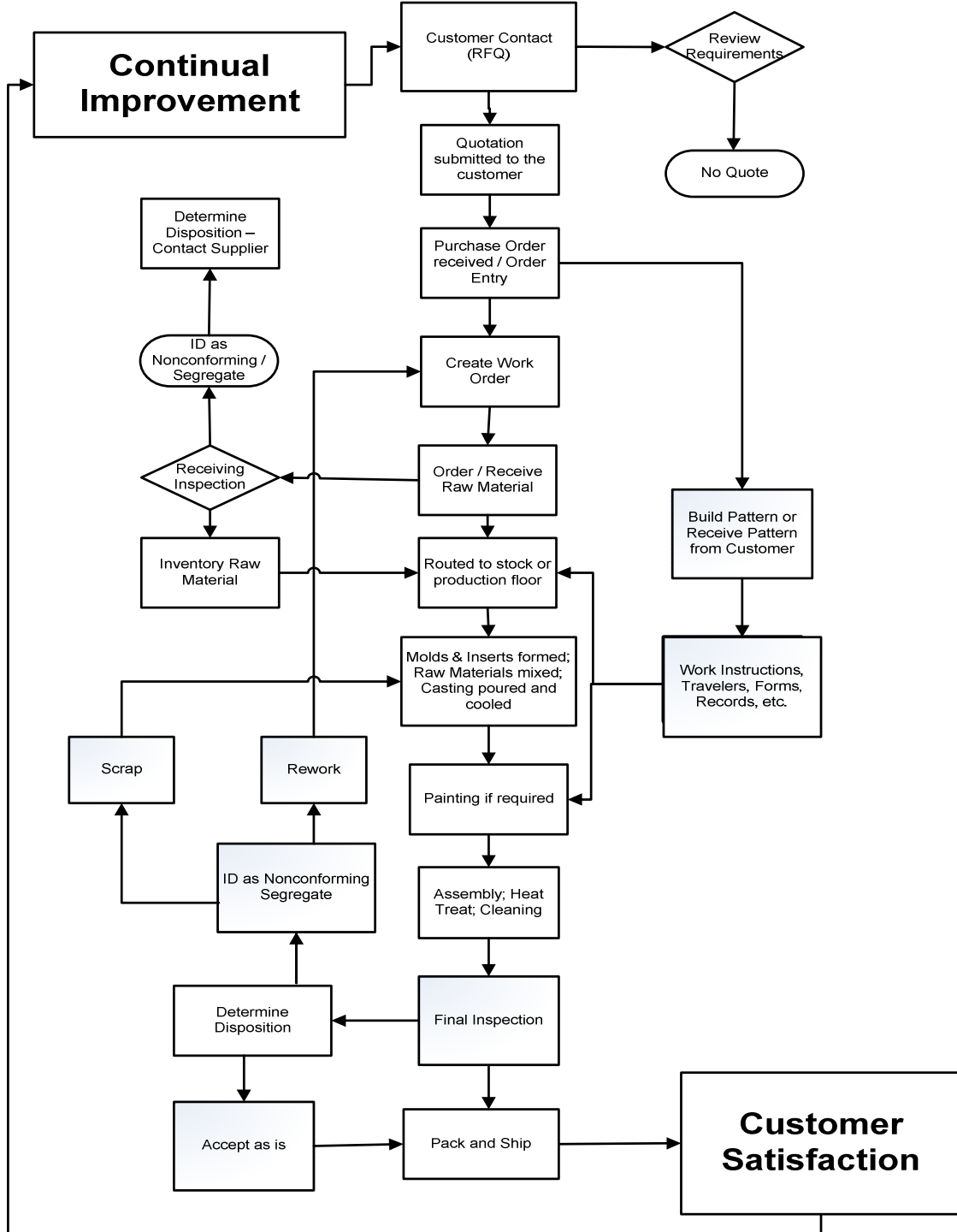
Quality Records are:

- Maintained as specified in the procedure;
- Collected and stored as either hard or electronically;
- Accessible by personnel who have a need to access the records. The owner determines access to records;
- Maintained by the owner or department; and,
- Dispositioned by the owner. The owner deletes records from the system (soft copy), discards records (hard-copy) from files, or appropriately archives records when retention time has been reached.

**OIL CITY IRON WORKS, INC.  
QUALITY MANUAL**

| Section       | Issue Date |
|---------------|------------|
| 6.0           | 7-27-09    |
| Page          | Revision   |
| Page 10 of 32 | 9          |

**Interaction of Processes**



|   |               |            |
|---|---------------|------------|
| <b>OIL CITY IRON WORKS, INC.<br/>QUALITY MANUAL</b> | Section       | Issue Date |
|   | 6.0           | 7-27-09    |
|   | Page          | Revision   |
|   | Page 11 of 32 | 9          |

## **5.0 Management Responsibility**

### **Scope and Purpose**

The quality system described in this section of the Quality Manual complies with the requirements of ISO 9001:2008 Section 5 - Management Responsibility. This policy defines the corporate commitment to quality with respect to Management Commitment, Customer Focus, Establishment of the Quality Policy and Policy Objectives, Planning of the Quality Management System, and Communication.

### **Responsibility and Authority (R&A)**

The R&A for Management Responsibility activities belongs to top management of **OIL CITY IRON WORKS, INC.** Top management includes the President, the Vice-President of Manufacturing, the Engineering Manager, the Controller, the Quality Assurance Manager, the Vice President of Human Resources, the Vice President of Sales and the Safety and Training Director/MR.

### **Management Responsibility**

#### **5.1 Management Commitment**

Top management has provided evidence of its commitment to the development and implementation of the quality management system and continually improving its effectiveness by:

- Communicating to all employees of **OIL CITY IRON WORKS, INC.** the importance of meeting customer as well as statutory and regulatory requirements;
- Establishing the quality policy;
- Ensuring that quality objectives are established;
- Conducting management reviews; and,
- Ensuring the availability of resources.

#### **5.2 Customer Focus**

Top Management has ensured that customer requirements are determined and fulfilled with the aim of enhancing customer satisfaction.

#### **5.3 Quality Policy**

|   |               |            |
|---|---------------|------------|
| <b>OIL CITY IRON WORKS, INC.<br/>QUALITY MANUAL</b> | Section       | Issue Date |
|   | 6.0           | 7-27-09    |
|   | Page          | Revision   |
|   | Page 12 of 32 | 9          |

Top management has ensured that the quality policy is:

- Appropriate to the purpose of **OIL CITY IRON WORKS, INC.**;
- Includes a commitment to comply with requirements and continually improve the effectiveness of the quality management system;
- Provides a framework for establishing and reviewing quality objectives;
- Communicated and understood within **OIL CITY IRON WORKS, INC.**; and,
- Reviewed for continuing suitability.

### **Quality Policy**

Top management of **OIL CITY IRON WORKS, INC.** has defined and documented the following Quality Policy:

**OIL CITY IRON WORKS, INC.** is committed to complying with customer requirements and to the continuous improvement of our quality management system.

#### **5.4 Planning**

##### 5.4.1 Quality Objectives

**OIL CITY IRON WORKS, INC.** utilizes the Quality Management System to drive performance to our quality objectives, while focusing on customer expectations and needs, a commitment to comply with all applicable legal and regulatory requirements and continual improvement of the system.

Top management has ensured that quality objectives, including those needed to meet requirements for product, are established at relevant functions and levels within **OIL CITY IRON WORKS, INC.** The quality objectives are measurable and consistent with the quality policy.

|   |               |            |
|---|---------------|------------|
| <b>OIL CITY IRON WORKS, INC.<br/>QUALITY MANUAL</b> | Section       | Issue Date |
|   | 6.0           | 7-27-09    |
|   | Page          | Revision   |
|   | Page 13 of 32 | 9          |

### Quality Objectives

- Average <1% Customer Returns on yearly basis;
- Foundry scrap rate <4.5% on yearly basis; and,
- Average 98% on time delivery annually.

Quality Objectives are reviewed at least annually during Management Review Meeting to determine whether they are being met and if new objectives need to be implemented as per OCIW-QP5.1, Management Review Procedure.

#### 5.4.2 Quality Management System Planning

Top management has ensured that:

- The planning of the quality management system is carried out in order to meet applicable requirements of the ISO 9001:2008 international standards; and,
- The integrity of the quality management system is maintained when changes are planned and implemented.

### **5.5 Responsibility, Authority and Communication**

#### 5.5.1 Responsibility and Authority

Top management of **OIL CITY IRON WORKS, INC.** has ensured that the responsibility and authority and the interrelation of personnel who manage, perform and verify work affecting quality have been defined in both quality system documentation and job descriptions.

The interrelation of all personnel who manage, perform and verify work that affects quality are shown in the organization chart. Further outline of interrelationships are found in quality flow charts within the Quality Procedures Manual.

All employees are encouraged to initiate action to prevent occurrence of any nonconformity relating to product, process, and the quality system. They are trained in how to respond to and identify nonconformities if they do happen, in order to keep nonconforming product from being shipped to the customer.

|   |               |            |
|---|---------------|------------|
| <b>OIL CITY IRON WORKS, INC.<br/>QUALITY MANUAL</b> | Section       | Issue Date |
|   | 6.0           | 7-27-09    |
|   | Page          | Revision   |
|   | Page 14 of 32 | 9          |

All department managers are responsible for identifying and recording problems relating to product, process, and the quality management system and identifying training needs.

The QA Manager, Vice President of Manufacturing, President, Safety and Training Director/MR or relevant department managers are responsible for making recommendations for corrective action to deal with any non-conformities. The department manager is responsible for implementing corrective actions.

The QA Manager, Vice President of Manufacturing, President and the Safety and Training Director/MR are responsible for verifying that corrective actions are appropriate and effective.

The QA Manager, Vice President of Manufacturing, President or the Safety and Training Director/MR has the authority to control further processing or delivery of nonconforming products until the deficiency or unsatisfactory conditions have been corrected.

#### 5.5.2 Management Representative

Top management has appointed a member of management, the Safety and Training Director, to the role of Management Representative (MR). Irrespective of other responsibilities, the MR has responsibility and authority that includes:

- Ensuring that processes needed for the quality management system are established, implemented and maintained;
- Reporting to top management on the performance of the quality management system and any need for improvement;
- Ensuring the promotion of awareness of customer requirements throughout **OIL CITY IRON WORKS, INC.**; and,
- Acting as liaison with external parties on matters relating to the quality system, as appropriate.

During any assessment or audit, the Management Representative is responsible for the following:

- Coordination of the audit; and,

|   |               |            |
|---|---------------|------------|
| <b>OIL CITY IRON WORKS, INC.<br/>QUALITY MANUAL</b> | Section       | Issue Date |
|   | 6.0           | 7-27-09    |
|   | Page          | Revision   |
|   | Page 15 of 32 | 9          |

- Being present throughout the audit.
- Acknowledgement and follow-up on corrective action of all non-compliances identified to ensure adequate implementation.

### 5.5.3 Internal Communication

Top management of **OIL CITY IRON WORKS, INC.** has ensured that appropriate communication processes are established within the organization and that communication takes place regarding the effectiveness of the quality management system.

## 5.6 Management Review

### 5.6.1 General

**OIL CITY IRON WORKS, INC.** drives attainment of objectives and continuous improvement via the Quality Management System. Management Review is a critical part of the review system that ensures continued suitability and effectiveness of the QMS in satisfying the requirements of the ISO 9001:2008 International Standard as well as the quality policy and objectives. OCIW-QP5.1, Management Review Procedure, outlines the procedures, input and output requirements for Management Review meetings.

Top Management has overall authority for Management Review activities.

### 5.6.2 Management Review Input

Management Reviews are scheduled at least twice a year from the date of implementation of the ISO 9001:2008 standard at **OIL CITY IRON WORKS, INC.**

The MR defines and documents the Management Review Agenda, which outlines the inputs for each Management Review Meeting. Management Review input includes:

- Results of audits;
- Customer feedback, including complaints;
- Process performance and product conformity;

|   |               |            |
|---|---------------|------------|
| <b>OIL CITY IRON WORKS, INC.<br/>QUALITY MANUAL</b> | Section       | Issue Date |
|   | 6.0           | 7-27-09    |
|   | Page          | Revision   |
|   | Page 16 of 32 | 9          |

- Status of Preventive and Corrective actions, including supplier corrective actions;
- Review of any outstanding items from previous Management Review meetings;
- Changes that could affect the quality management system;
- Recommendations for improvement; and,
- Review of the Quality Policy and Objectives of **OIL CITY IRON WORKS, INC.**

#### 5.6.3 Management Review Output

Output from **OIL CITY IRON WORKS, INC.** management review 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 requirements.

The MR is responsible for maintaining records of management review, in accordance with OCIW-QP4.2.4, Control of Records Procedure.

**OIL CITY IRON WORKS, INC.  
QUALITY MANUAL**

Section

Issue Date

6.0

7-27-09

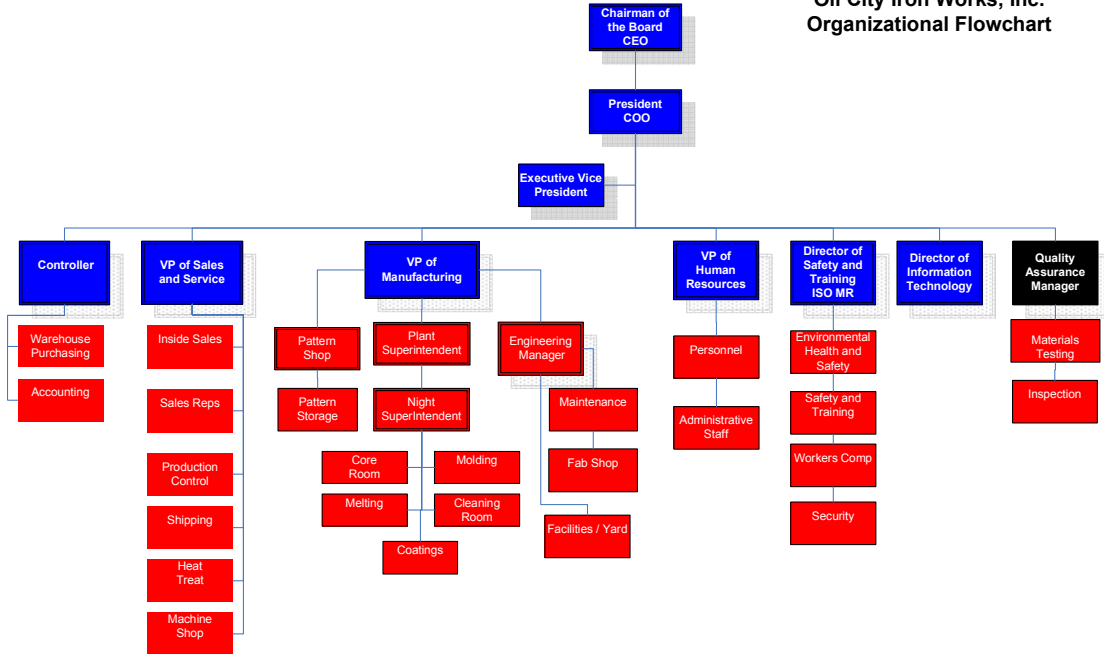
Page

Revision

Page 17 of 32

9

**Oil City Iron Works, Inc.  
Organizational Flowchart**



Revision 9 1/7/2010

ERM

|   |               |            |
|---|---------------|------------|
| <b>OIL CITY IRON WORKS, INC.<br/>QUALITY MANUAL</b> | Section       | Issue Date |
|   | 6.0           | 7-27-09    |
|   | Page          | Revision   |
|   | Page 18 of 32 | 9          |

## **6.0 Resource Management**

### **Scope and Purpose**

The quality system described in this section of the Quality Manual conforms to the requirements of ISO 9001:2008 Section 6 – Resource Management. This policy defines the corporate commitment to quality with respect to Resources, including Human Resources.

### **Responsibility and Authority (R&A)**

The R&A for overall administration of **OIL CITY IRON WORKS, INC.** quality activities related to Resource Management has been assigned to the Chairman of the Board, the President, the Vice President of Human Resources and the Safety and Training Director/MR.

#### **6.1 Provision of Resources**

**OIL CITY IRON WORKS, INC.** has determined and provided the resources needed to:

- Implement and maintain the QMS and continually improve its effectiveness; and,
- Enhance customer satisfaction by meeting customer requirements.

#### **6.2 Human Resources**

##### **6.2.1 General**

Personnel performing work affecting conformity to product requirements shall be competent on the basis of appropriate education, training, skills and experience. OCIW-QP6.2, Training and Certification Procedure, fully and clearly defines how **OIL CITY IRON WORKS, INC.** meets these requirements.

##### **6.2.2 Competence, Training and Awareness**

**OIL CITY IRON WORKS, INC.** has:

- Determined the necessary competence for personnel performing work affecting conformity to product requirements;

|   |               |            |
|---|---------------|------------|
| <b>OIL CITY IRON WORKS, INC.<br/>QUALITY MANUAL</b> | Section       | Issue Date |
|   | 6.0           | 7-27-09    |
|   | Page          | Revision   |
|   | Page 19 of 32 | 9          |

- Provided training or taken other actions to achieve the necessary competence;
- Evaluated the effectiveness of the actions taken;
- Ensured that its personnel are aware of the relevance and importance of their activities and how they contribute to the achievement of the quality objectives; and,
- Assigned the MR responsibility for maintaining appropriate records of QMS training, in accordance with OCIW-QP4.2.4, Control of Records Procedure.

### **6.3 Infrastructure**

Top Management of **OIL CITY IRON WORKS, INC.** has determined, provided and maintains the infrastructure needed to achieve conformity to product requirements. Infrastructure includes, as applicable:

- Buildings, workspace and associated utilities;
- Process equipment (both hardware and software); and,
- Supporting services (transport and communication or information systems).

Top Management discusses and makes decisions regarding infrastructure requirements during Management Review, as outlined in OCIW-QP5.1, Management Review Procedure.

### **6.4 Work Environment**

Top Management of **OIL CITY IRON WORKS, INC.** has determined and manages the work environment needed to achieve conformity to product requirements.

Top Management discusses and makes decisions regarding work environment requirements during Management Review, as outlined in OCIW-QP5.1, Management Review Procedure.

|   |               |            |
|---|---------------|------------|
| <b>OIL CITY IRON WORKS, INC.<br/>QUALITY MANUAL</b> | Section       | Issue Date |
|   | 7.0           | 7-27-09    |
|   | Page          | Revision   |
|   | Page 20 of 32 | 4          |

## **7.0 Product Realization**

### **Scope and Purpose**

The quality system described in this section of the Quality Manual conforms to the requirements of ISO 9001:2008 Section 7 – Product Realization. This policy defines the corporate commitment to quality with respect to Planning and Implementation of Product Realization processes, Contract Review, Customer Communication, Purchasing, and Control of Monitoring and Measuring Devices.

### **Responsibility and Authority (R&A)**

The R&A for overall administration of **OIL CITY IRON WORKS, INC.** quality activities related to Product Realization has been assigned to Top Management. Top management includes the Chairman of the Board, the President, the Vice-President of Manufacturing, the Engineering Manager, the Vice President of Sales, the Quality Assurance Manager and the Safety and Training Director/MR. Employees have been granted authority as required to support the quality management system.

#### **7.1 Planning of Product Realization**

**OIL CITY IRON WORKS, INC.** has determined the processes needed for product realization, ensured they are planned and developed, and are consistent with the requirements of the other processes of the quality management system. In planning product realization, the following has been determined, as appropriate:

- Quality objectives and requirements for the product;
- The need to establish processes and documents;
- The need to provide resources specific to the product;
- Required verification, validation, monitoring, measurement, inspection and test activities specific to the product and the criteria for product acceptance; and,
- Records needed to provide evidence that the realization processes and resulting product meet requirements.

Planning output is in a suitable form for the methods of operation of **OIL CITY IRON WORKS, INC.**

|   |               |            |
|---|---------------|------------|
| <b>OIL CITY IRON WORKS, INC.<br/>QUALITY MANUAL</b> | Section       | Issue Date |
|   | 7.0           | 7-27-09    |
|   | Page          | Revision   |
|   | Page 21 of 32 | 4          |

## **7.2 Customer Related Processes**

### **7.2.1 Determination of Requirements Related to the Product**

**OIL CITY IRON WORKS, INC.** has established and maintains OCIW-QP7.2, Contract Review Procedure, to document the steps taken to ensure quality throughout the process of receiving inquiries, determining our capability to meet requirements of the inquiry, offering quotes, reviewing and accepting customer purchase orders, reviewing and accepting amended customer purchase orders, and creating sales orders from customer specifications.

**OIL CITY IRON WORKS, INC.** has processes in place to determine:

- Requirements specified by the customer, including requirements for delivery;
- Requirements not stated by the customer but necessary for specified or intended use, where known;
- Statutory and regulatory requirements applicable to the product; and,
- Any additional requirements considered necessary by **OIL CITY IRON WORKS, INC.**

### **7.2.2 Review of Requirements Related to the Product**

Requirements related to the product are reviewed. This review is conducted prior to committing to supply a product to customers, and ensures that:

- Product requirements are defined;
- Contract or order requirements differing from those previously expressed are resolved; and,
- **OIL CITY IRON WORKS, INC.** has the ability to meet the defined requirements.

Records of the results of review and actions arising from this review are maintained as per OCIW-QP4.2.4, Control of Records.

|   |               |            |
|---|---------------|------------|
| <b>OIL CITY IRON WORKS, INC.<br/>QUALITY MANUAL</b> | Section       | Issue Date |
|   | 7.0           | 7-27-09    |
|   | Page          | Revision   |
|   | Page 22 of 32 | 4          |

Where the customer provides no documented statement of requirements, **OIL CITY IRON WORKS, INC.** confirms customer requirements before acceptance.

Where product requirements are changed, **OIL CITY IRON WORKS, INC.** ensures that relevant documents are amended and that relevant personnel are made aware of the changed requirements.

### 7.2.3 Customer Communication

**OIL CITY IRON WORKS, INC.** has set up effective arrangements for communication with customers relating to the following:

- Product information;
- Inquiries, contracts or order handling, including amendments; and,
- Customer feedback, including customer complaints.

All customer complaints are forwarded to the President or the Quality Assurance Manager. The Quality Assurance Manager logs these complaints, tracks them to resolution as per OCIW-QP8.5, Corrective and Preventive Action Procedure, and provides information regarding customer complaints at Management Review, in accordance with OCIW-QP5.2, Management Review Procedure.

## 7.3 Design and Development

### 7.3.1 Design and Development Planning

**OIL CITY IRON WORKS, INC.**'s processes are to customer specifications and the company is not design-responsible.

## 7.4 Purchasing

### 7.4.1 Purchasing Process

Purchasing processes are controlled to ensure purchased product conforms to specified purchase requirements. OCIW-QP7.4, Purchasing Procedure outlines the procedure followed to maintain control over suppliers of key components and outsourced processes, and verification of purchased product.

|   |               |            |
|---|---------------|------------|
| <b>OIL CITY IRON WORKS, INC.<br/>QUALITY MANUAL</b> | Section       | Issue Date |
|   | 7.0           | 7-27-09    |
|   | Page          | Revision   |
|   | Page 23 of 32 | 4          |

- Suppliers of key components that can affect product quality are evaluated and selected based on their ability to supply product in accordance with requirements;
- Records are maintained of criteria for selection, evaluation and re-evaluation and any necessary actions arising from the evaluation;
- An Approved Suppliers List is maintained; and,
- Renewal reviews of approved suppliers takes place at least annually from the date of implementation of the QMS.

#### 7.4.2 Purchasing Information

Purchasing information describes the product to be purchased, including where appropriate:

- Requirements for approval of product, procedures, processes, and equipment;
- Requirements for Certificates of Compliance, if required by our customer;
- Requirements for qualification of personnel;
- Quality management system requirements; and,
- Applicable Industry Standards.

The adequacy of specified purchasing requirements prior to their communication to suppliers is ensured.

Control over outsourced processes is ensured through control of suppliers of such processes.

#### 7.4.3 Verification of Purchased Product

Inspection of purchased products includes:

- Verification of received items in comparison to purchase order;
- Verification of Purchased items by **OIL CITY IRON WORKS, INC.** at Suppliers' premises; and,

|   |               |            |
|---|---------------|------------|
| <b>OIL CITY IRON WORKS, INC.<br/>QUALITY MANUAL</b> | Section       | Issue Date |
|   | 7.0           | 7-27-09    |
|   | Page          | Revision   |
|   | Page 24 of 32 | 4          |

- Verification of Purchased items by **OIL CITY IRON WORKS, INC.** customer at Suppliers' premises.

Where verification of purchased product is intended at suppliers' premises, including customer verification of such product, the verification activity and the method of product release are stated in the purchasing information.

Quality Records of the purchasing process are maintained in accordance with OCIW-QP4.2.4, Control of Records Procedure.

## **7.5 Production Provision**

### **7.5.1 Control of Production**

**OIL CITY IRON WORKS, INC.** plans and carries out production operations under controlled conditions, including, as applicable:

- The availability of information that describes the characteristics of the product;
- The availability of work instructions, as necessary;
- The use of suitable equipment;
- The availability and use of monitoring and measuring equipment;
- The implementation of monitoring and measurement; and,
- The implementation of product release and delivery activities.

Special customer requirements are defined and documented, and specified in work instructions for the specific product where applicable prior to implementation of production.

### **7.5.2 Validation of Processes for Production and Service Provision**

**OIL CITY IRON WORKS, INC.** does not have any processes where the resulting output cannot be verified for conformity by subsequent monitoring or measuring. Therefore, **OIL CITY IRON WORKS, INC.** is excluded from section 7.5.2 of the ISO 9001:2008 standard.

|   |               |            |
|---|---------------|------------|
| <b>OIL CITY IRON WORKS, INC.<br/>QUALITY MANUAL</b> | Section       | Issue Date |
|   | 7.0           | 7-27-09    |
|   | Page          | Revision   |
|   | Page 25 of 32 | 4          |

### 7.5.3 Identification and Traceability

**OIL CITY IRON WORKS, INC.** has established and maintained OCIW-QP7.5.3, Identification and Traceability Procedure, for identifying production items from specifications or other documents during all stages of process and delivery, if required by the customer.

- Product status is identified with respect to monitoring and measurement requirements throughout product realization;
- Products requiring traceability are traceable to a specified source and uniquely identified, records are maintained and,
- Incoming products are identified by the Supplier's part number or description and the **OIL CITY IRON WORKS, INC.** purchase order.

### 7.5.4 Customer Property

**OIL CITY IRON WORKS, INC.** does not control any customer property on its premises but in such case, **OIL CITY IRON WORKS, INC.** exercises care with customer property while it is under control or being used including verification, protection and safeguarding.

### 7.5.5 Preservation of Product

In order to maintain conformity to requirements the product is preserved during internal processing and delivery to the intended destination. This includes identification, handling, packaging, storage and protection. Preservation also applies to the constituent parts of a product.

## 7.6 Control of Monitoring and Measuring Equipment

OCIW-QP7.6, Control of Monitoring and Measuring Devices Procedure, outlines the controls **OIL CITY IRON WORKS, INC.** implemented to provide evidence of conformity of product to determined requirements.

No measuring and monitoring software is a part of the quality system. If any monitoring and measuring software becomes part of the **OIL CITY IRON WORKS, INC.**'s quality management system, the necessary documents will be updated to reflect the change.

The monitoring and measurements to be undertaken, and the monitoring and measuring equipment needed to assure product conformity to

|   |               |            |
|---|---------------|------------|
| <b>OIL CITY IRON WORKS, INC.<br/>QUALITY MANUAL</b> | Section       | Issue Date |
|   | 7.0           | 7-27-09    |
|   | Page          | Revision   |
|   | Page 26 of 32 | 4          |

requirements are determined. Processes are established to ensure that monitoring and measurement can be carried out and are carried out in a manner consistent with monitoring and measurement requirements. Where necessary to ensure valid results, measuring equipment is:

- 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 exist, the basis used for calibration is recorded;
- Adjusted or re-adjusted as necessary;
- Identified to determine its calibration status;
- Safeguarded from adjustments that would invalidate the measurement result; and,
- Protected from damage and deterioration during handling, maintenance and storage.

Records of the results of the calibration and verification are maintained as per OCIW-QP4.2.4, Control of Records Procedure.

|   |               |            |
|---|---------------|------------|
| <b>OIL CITY IRON WORKS, INC.<br/>QUALITY MANUAL</b> | Section       | Issue Date |
|   | 8.0           | 7-27-09    |
|   | Page          | Revision   |
|   | Page 27 of 32 | 4          |

## **8.0 Measurement, Analysis and Improvement**

### **Scope and Purpose**

The quality system described in this section of the Quality Manual conforms to the requirements of ISO 9001:2008 Section 8 – Measurement, Analysis and Improvement. This policy defines the corporate commitment to quality with respect to Monitoring and Measurement of the Quality Management System, Product and Processes; Control of Nonconforming Product; Data Analysis and Improvement Processes.

### **Responsibility and Authority (R&A)**

The R&A for overall administration of **OIL CITY IRON WORKS, INC.** quality activities related to Measurement, Analysis and Improvement has been assigned to Top Management. Top management includes the President, the Quality Assurance Manager, the Vice President of Sales, the Vice-President of Manufacturing, the Engineering Manager and the Safety and Training Director/MR. Employees have been granted authority as required to support the quality management system.

#### **8.1 General**

**OIL CITY IRON WORKS, INC.** plans and implements the monitoring, measurement, analysis and improvement processes needed to:

- Demonstrate conformity to product requirements;
- Ensure conformity of the quality management system; and,
- Continually improve the effectiveness of the quality management system.

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

Determination of monitoring, measuring and data analysis requirements takes place during Management Review, as outlined under OCIW-QP5.1, Management Review Procedure.

|   |               |            |
|---|---------------|------------|
| <b>OIL CITY IRON WORKS, INC.<br/>QUALITY MANUAL</b> | Section       | Issue Date |
|   | 8.0           | 7-27-09    |
|   | Page          | Revision   |
|   | Page 28 of 32 | 4          |

## **8.2 Monitoring and Measurement**

### **8.2.1 Customer Satisfaction**

**OIL CITY IRON WORKS, INC.** monitors information on customer satisfaction and/or dissatisfaction as one of the measurements of performance of the quality management system. The President, the Vice President of Manufacturing and the Vice President of Sales have responsibility and authority for determining the methods for obtaining and using this information.

Procedure OCIW-QP8.1, Customer Satisfaction Procedure, addresses the means by which **OIL CITY IRON WORKS, INC.** monitors and measures information relating to customer perception of how customer requirements are being met.

OCIW-QP8.5, Corrective and Preventive Action Process addresses the means by which **OIL CITY IRON WORKS, INC.** deals with customer complaints.

### **8.2.2 Internal Audit**

**OIL CITY IRON WORKS, INC.** has established, documented and implemented a program of internal quality audits to verify whether quality activities performed comply with planned arrangements and to determine the effectiveness of the Quality Management System.

To meet these requirements, OCIW-QP8.2.2, Internal Audit Procedure fully and clearly defines the following:

- The manner in which appropriate trained personnel, not directly responsible for the area being audited, ensuring objectivity and impartiality of the audit process, carry out internal audit activities. Procedures are used that identify essential characteristics of the processes that comprise the QMS of **OIL CITY IRON WORKS, INC.;**
- The responsibility for producing an audit schedule that addresses all elements of the system, the status and importance of the processes and areas being audited, and to adjust the audit schedule based on results of previous audits;

|   |               |            |
|---|---------------|------------|
| <b>OIL CITY IRON WORKS, INC.<br/>QUALITY MANUAL</b> | Section       | Issue Date |
|   | 8.0           | 7-27-09    |
|   | Page          | Revision   |
|   | Page 29 of 32 | 4          |

- All elements of the QMS are audited such that all are covered at least once annually from the date of implementation (June 3, 2004) of the ISO 9001:2008 standard at **OIL CITY IRON WORKS, INC.**;
- Results of audits are recorded and brought to the attention of applicable departments. Management for the department being audited shall ensure that any necessary corrections and corrective actions are taken without undue delay to eliminate detected nonconformities and their causes;
- Follow up audit activities verify and record the implementation and effectiveness of the corrective action taken; and,
- Records of Internal Audits are maintained in accordance with OCIW-QP4.2.4, Control of Records Procedure.

### 8.2.3 Monitoring and Measurement of Processes

**OIL CITY IRON WORKS, INC.** applies suitable methods for monitoring and, where applicable, measurement of quality management system processes. These methods demonstrate the ability of processes to achieve planned results. When planned results are not achieved, corrective action is taken, as appropriate, to ensure conformity to product requirements.

### 8.2.4 Monitoring and Measurement of Product

Procedure OCIW-QP8.2.4, Monitoring and Measurement of Product Procedure monitors and measures the characteristics of the product to verify that product requirements are fulfilled. This is carried out at appropriate stages of the product realization process in accordance with planned arrangements.

Evidence of conformance to acceptance criteria is maintained. Records indicate the person(s) authorizing release of product for delivery to the customer.

The release of product and delivery of service to the customer does not proceed until all planned arrangements have been satisfactorily completed, unless otherwise approved by a relevant authority and, where applicable, by the customer.

Inspection and test records are developed and maintained to track the progress and status of production activities, to provide evidence that the

|   |               |            |
|---|---------------|------------|
| <b>OIL CITY IRON WORKS, INC.<br/>QUALITY MANUAL</b> | Section       | Issue Date |
|   | 8.0           | 7-27-09    |
|   | Page          | Revision   |
|   | Page 30 of 32 | 4          |

product was acceptable and to provide data for general problem-solving activities.

### **8.3 Control of Non-conforming Product**

Non-conforming products discovered at any point during processing are identified, analyzed, and (if necessary) rejected. Production can be stopped if conditions warrant.

**OIL CITY IRON WORKS, INC.** takes action appropriate to the effects, or potential effects, of the non-conformity, when non-conforming product is detected after delivery or use has started.

OCIW-QP8.3, Control of Non-conforming Product Procedure documents what controls are in place to ensure that product that does not conform to specified requirements is prevented from unintended use. These controls include the following activities:

- Methods and practices used to identify and segregate non-conforming product;
- Methods used to document characteristics and conditions;
- Methods used to notify functional organizations affected;
- Methods used to evaluate and carry out disposition, including the following actions:
- Rework and re-inspection are carried out in accordance with documented instructions.

Adequate records, including records of customer concessions, clearly identifying the items/products and the nature of nonconformance are maintained in accordance with OCIW-QP4.2.4, Control of Records Procedure.

The system of control ensures that information concerning nonconformance is communicated to all personnel responsible for review.

### **8.4 Analysis of Data**

**OIL CITY IRON WORKS, INC.** determines, collects, and analyzes appropriate data, to demonstrate the suitability and effectiveness of the quality management system and to evaluate where continual improvement

|   |               |            |
|---|---------------|------------|
| <b>OIL CITY IRON WORKS, INC.<br/>QUALITY MANUAL</b> | Section       | Issue Date |
|   | 8.0           | 7-27-09    |
|   | Page          | Revision   |
|   | Page 31 of 32 | 4          |

of the effectiveness of the quality management system can be made. This includes data generated as a result of monitoring and measurement and from other relevant sources.

The analysis of data provides information relating to:

- Customer feedback, including customer complaints;
- Conformity to product requirements;
- Characteristics and trends of processes and products including opportunities for preventive action; and,
- Suppliers.

## **8.5 Improvement**

### **8.5.1 Continual Improvement**

**OIL CITY IRON WORKS, INC.** continually improves the effectiveness of the quality management system through the use of the quality policy, quality objectives, audit results, analysis of data, corrective and preventive actions, and management review meetings.

### **8.5.2 Corrective Action**

**OIL CITY IRON WORKS, INC.** has established and maintained documented procedures to provide for the recording of any corrective action, as part of a continuing process of detecting and eliminating causes of nonconformance in products and procedures.

OCIW-QP8.5, Corrective and Preventive Action Procedure, defines requirements for:

- Reviewing nonconformities (including customer complaints);
- Determining the causes of nonconformities;
- Evaluating the need for action to ensure that nonconformities do not recur;
- Determining and implementing action needed; and,
- Reviewing the effectiveness of the Corrective Action taken.

|   |               |            |
|---|---------------|------------|
| <b>OIL CITY IRON WORKS, INC.<br/>QUALITY MANUAL</b> | Section       | Issue Date |
|   | 8.0           | 7-27-09    |
|   | Page          | Revision   |
|   | Page 32 of 32 | 4          |

Records of the results of corrective action are maintained according to OCIW-QP4.2.4, Control of Records Procedure.

### 8.5.3 Preventive Action

**OIL CITY IRON WORKS, INC.** takes action to eliminate the cause of potential nonconformities in order to prevent their occurrence.

OCIW-QP8.5, Corrective and Preventive Action Procedure, defines the process for:

- Determining potential nonconformities and their causes;
- Evaluating the need for action to prevent occurrence of nonconformities;
- Determining and implementing action needed; and,
- Reviewing the effectiveness of the Preventive Action taken.

Any preventive action taken to eliminate causes of potential nonconformities is to a degree appropriate to the magnitude of the problem and commensurate with the risks encountered.

The objective of the preventive action process is to ensure significant preventive actions are effectively processed in a timely manner.

Records of the results of preventive action are maintained according to OCIW-QP4.2.4, Control of Records Procedure.