

# **PRECISION GAGE & TOOL CO.**

## **Quality Manual**

Revision 20

3/1/2018

Conforms to ISO 9001:2015

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## 0.0 Revision History and Approval

Rev.	Nature of changes	Approval	Date
20	ISO 9001:2015	Vicki Waltz	3/1/2018

## 1.0 Welcome to Precision Gage & Tool Co.

### Vision Statement

**Precision Gage & Tool Co. is proud of our manufacturing heritage providing trust, reliability, and accuracy in all its standard and non-standard products. Now and in the years to come, we will continue to provide excellence in machining of all our manufactured products and services.**

### History

**1929** - Precision Gage & Tool Co. (PG&T) was founded and Incorporated by James Jacklin in Dayton, OH. The company was housed in an old grain mill built in the 1840's on the banks of the Erie Canal. In 1930, Mr. Jacklin worked closely with Bernard Hegman of Lowe Brothers Paint to develop what is now known as the Hegman Gage. PG&T became the leadership in the manufacturing of high-accuracy fineness of grind gages and film applicators for the worldwide paint and ink industries.

Precision Gage & Tool Co. will reference a gage as a measurement device. Most often the spelling **gage** has been used in the USA while **gauge** is used in other countries. In 1929, when PG&T was founded in Dayton, Ohio – USA, the decision was made for us.

**1958** - Victor O. Waltz purchased the company from James Jacklin. PG&T started manufacturing more complex and custom gaging. Then in 1960, Victor O. Waltz's son Victor R. Waltz and his wife Gwendolyn J. Waltz joined the staff at PG&T. By 1966, Victor O. Waltz and his son Victor R. Waltz became business partners.

**1970** - Precision Gage & Tool Co. added the railroad gaging product line. PG&T became a major manufacturer of railroad gaging in the United States. PG&T does the certification for many large rail manufacturers and railroads.

**1987** - Victor and Gwendolyn's daughter Vicki Waltz joined the firm. Vicki is now President of Precision Gage & Tool Co. Over the years, PG&T added to its capability a line of specialized gaging equipment for railroads, and a wide variety of custom gages and fixtures for a broad range of industrial applications.

**1998** – Precision Gage & Tool Co. acquired the complete line of world-renowned Sheffield gages, including Precisionaire®, Micronaire® and related air gage tooling and accessories. In addition, PG&T has added the P-400 Metrology Interface to its line of air gaging products.

Precision Gage & Tool Co. is a Woman owned company and is certified with WBENC (Women's Business Enterprise National Council). PG&T is very proud of its heritage and has participated with a non-profit organization called "Project Peanut Butter" who targets global starvation primarily in Africa. PG&T made a custom gage and trained those involved for "Ready to Use Therapeutic Foods" (RUTF). The RUTF was quite successful and became the standard of care for severely malnourished children worldwide. PG&T has also been awarded by the House of Representatives presenting Precision Gage & Tool Co. with the Goering Center of Family & Private Business Award for being in business 50+ years. Precision Gage & Tool Co. does not limit its expertise in manufacturing. We will continue to advance our skills and continue to offer manufacturing services for standard and non-standard products.

## **2.0 Quality Policy**

Management Team has developed the following Quality Policy which governs day-to-day operations to ensure quality. The Quality Policy is communicated and implemented throughout the organization.

The Quality Policy of PG&T is as follows:

The policy statement was established by our management and defines the management's commitment to quality and continual improvement of our products, services and ISO quality management systems (QMS).

Communication of our Quality Policy is part of the new employee induction process and is prominently displayed throughout the company.

This Policy reflects our organizational commitment to meeting our customer's needs. PG&T's management will periodically review and will assure that this policy is understood, implemented, and maintained at all levels of the company.

### **Quality Policy**

**PG&T Quality Policy is that as a team, we will focus on enhancing customer satisfaction by providing:**

- a) **Quality products that meet or exceed our customer's and legal requirements**
- b) **Products delivered on time without defects**
- c) **Continuous improvement of processes and performance to offer quality products at cost effective prices**

d)

PG&T will use the Plan, Do, Check, Act Cycle (PDCA) and risk based thinking to establish and review our quality objectives and improve our ISO Quality Management Systems.

### 3.0 Context of the PG&T Organization

PG&T has reviewed and analyzed key aspects of itself and its stakeholders to determine the strategic direction of the company. This requires understanding internal and external issues that are of concern to PG&T and its interested parties; the interested parties are identified per the document **Context of the Organization**.

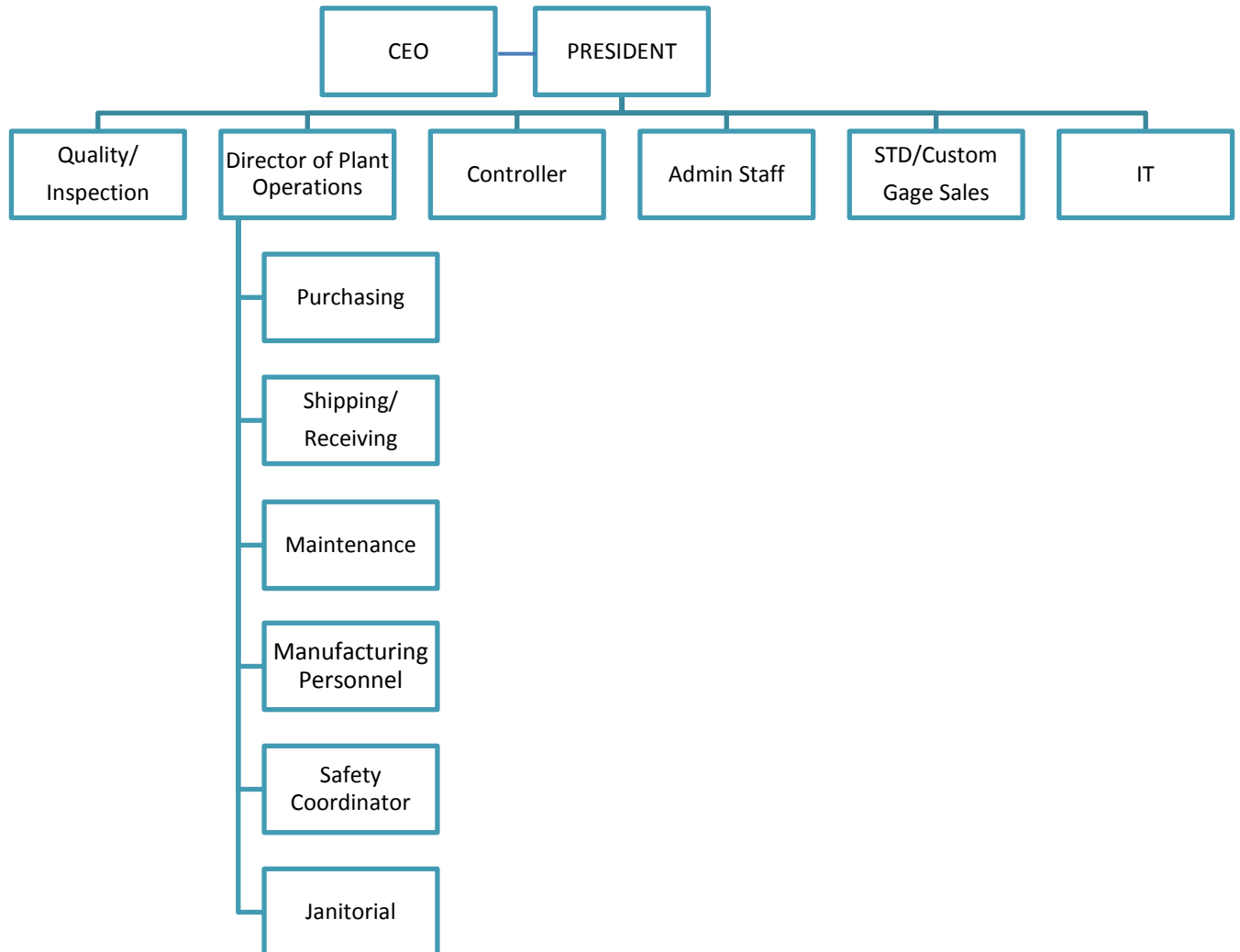
Such issues are monitored and updated as appropriate, and discussed as part of management reviews.

The issues determined above are identified through an analysis of risks facing PG&T and its interested parties. "Interested parties" are those stakeholders who receive our products and services, or who may be impacted by them, or those parties who may otherwise have a significant interest in our company. These parties are identified per the document **Context of the Organization**. Appendix C.

This information is then used by senior management to determine the company's strategic direction. This is defined in records of management review, and periodically updated as conditions and situations change.



## Organization Chart



## 4.0 Scope of the PG&T Quality Management System

Based on an analysis of the above issues of concern, interests of stakeholders, and in consideration of its products and services, PG&T has determined the scope of the management system as follows:

**The design, manufacture, distribution, repair, and certification of high precision inspection gages for multiple industries and machined parts. Product categories include: fineness of grind gages, railroad gages, custom and standard attribute, fixed, air and air/electronic gaging.**

The quality system applies to all processes, activities and employees within the company. The facility is located at:

375 Gargrave Rd.  
Dayton OH 45449

Phone: (937)866-9666  
Fax: (937)866-9661

Web: [www.pgtgage.com](http://www.pgtgage.com)

The company claims no exclusions from the ISO 9001 standard.

## 5.0 QMS Processes

PG&T has adopted a process approach for its management system. By identifying the top-level processes within the company, and then managing each of these discretely, this reduces the potential for nonconforming products and services discovered during final processes or after delivery. Instead, nonconformities and risks are identified in real time, by actions taken within each of the top-level processes.

*Note: not all activities are considered "processes" – the term "process" in this context indicates the activity has been elevated to a higher level of control and management oversight. The controls indicated herein are applicable only to the top-level processes identified.*

The following top-level processes have been identified for PG&T:



The sequence of interaction of these processes is illustrated in Appendix A.

*Note: Appendix A represents the typical sequence of processes, and may be altered depending on customer or regulatory requirements at the job or contract level, as needed.*

Additional QMS documented procedures have been developed to support the QMS and its processes; these are listed in Appendix B. This list only provides some top-level procedures, and may not reflect the entirety of all QMS documentation.

Each process has at least one objective established for it; this is a statement of the intent of the process. Each objective is then supported by at least one “metric” or key performance indicator (KPI) which is then measured to determine the process’ ability to meet the quality objective.

Throughout the year, metrics data is measured and gathered by process owners or other assigned managers, in order to present the data to Management Team. The data is then analyzed by Management Team in order that Management Team may set goals and make adjustments for the purposes of long-term continual improvement.

The specific quality objectives for each process are defined in the applicable **Process Definition**.

Metrics, along with current standings and goals for each objective, are recorded in records of management review.

When a process does not meet a goal, or an unexpected problem is encountered with a process, the corrective and preventive action process is implemented to research and resolve the issue. In addition, opportunities for improvement are sought and implemented, for the identified processes.

Any process performed by a third party is considered an “outsourced process” and must be controlled, as well. The company’s outsourced processes, and the control methods implemented for each, are defined in **Outsourced Processes**.

## Appendix A: Overall Process Sequence & Interaction

The key process circles (pg. 5) is the circular flow chart by which PG&T will be successful. At any point the customer could enter into any of the processes of the circular flow. The flow can go forward or backwards to achieve our three key PG&T objectives.

### Objectives

Company quality objectives are established by management and are documented. These objectives are measurable and reviewed on a regular basis during the management review.

Here's PG&T's A-B-C's

- A. Products will **meet or exceed** manufacturing expectations, customer specifications and legal requirements
- B. PG&T will **ship products in the time frame established** between PG&T and the customer
- C. PG&T will use **continuous improvements** on process management including QMS to provide quality products

These are the key performance indicators.

- A. **Products will meet or exceed our manufacturing expectations and customer specifications.**
  - 1. **WARRANTY** – A report is generated to look at orders that have come back to PG&T because of warranty.
    - a. **OPEN JOB** – A shop order will be opened to track information throughout the accounting system.
    - b. **DISCUSSION** - Director of Plant Operations will make an initial evaluation of the situation within one week of receiving the product here at PG&T and bring information to the Leadership.
      - i. Determine the root cause of the issue and what appropriate action will need to take place.
      - ii. If the customer needs to be contacted, the Director of Plant Operations will decide who the appropriate person is to talk with the customer and explain the action to be taken. The Director of Plant Operations and/or other Management will meet to determine if it is an isolated issue or a continuous issue. Action will be taken accordingly as decided by the Leadership upon evaluation of root cause and risk assessment.
    - c. **FINANCE** – Evaluate the product with labor, cost, and burden and gross margins with the Management Review Team.
    - d. **DOCUMENTATION**
      - i. Document any necessary information where needed, such as drawings, QuickBooks information, etc.



**B. We will ship products within the time frame established on order documentation.**

1. BACKLOG and SHIPPING REPORT - This objective will be measured by a weekly/monthly Backlog and Shipping Report reviewed by the CEO, President, and Director of Plant Operations.
  - a. VALIDATE weekly/monthly goals against shipments out the door. Careful consideration will be observed if shipments do not make their goals.
  - b. MANAGEMENT TEAM – If late shipments, management will determine whether it is a unique situation, a vendor that is used by PG&T, manufacturing issue, or whatever the reason is. Appropriate action will be evaluated.

**C. We will use continuous improvement on process management to provide quality products.**

1. To succeed in this improvement, the CEO and President will work in tandem with the appropriate people to evaluate our processes.
  - a. PURCHASING - Purchasing Agent
    - i. Review the Inventory Database report verifying inventory in stock and inventory needed for custom orders.
    - ii. For custom gages, review the customer drawing/print and determine stock items needed.
    - iii. Assess the best way to save money on material. This may include exploring our vendors and possible new vendors that will improve our on-time delivery and cost values.
    - iv. Discuss with Director of Plant Operations any necessary decisions/actions that may arise.
  - b. FINANCE - PG&T Controller
    - i. The Controller will run the Income Statement to review weekly/monthly expenses along with dollar sales/cost of goods sold.
    - ii. Monitor the Backlog report for all product lines not only to forecast billing and incoming revenue, but also improve financial forecasting.
    - iii. Monitor Accounts Receivable Aging Report and work closely with the Accounts Receivable employee taking the appropriate action if collection calls to customers are needed.
    - iv. Monitor Profitability looking at customer orders and bringing attention to the appropriate managers if gross margins are out of line and offer advice as needed.
    - v. Monitor in QuickBooks processes of billing, receivables, profit & loss reports, etc. and work with IT on improvements of adding data on reports.
    - vi. Update daily shipment amounts as a percent of MTD shipment goals.
  - c. MANUFACTURING – Director of Plant Operations
    - i. The Director of Plant Operations will work in conjunction with the CEO and President of PG&T.

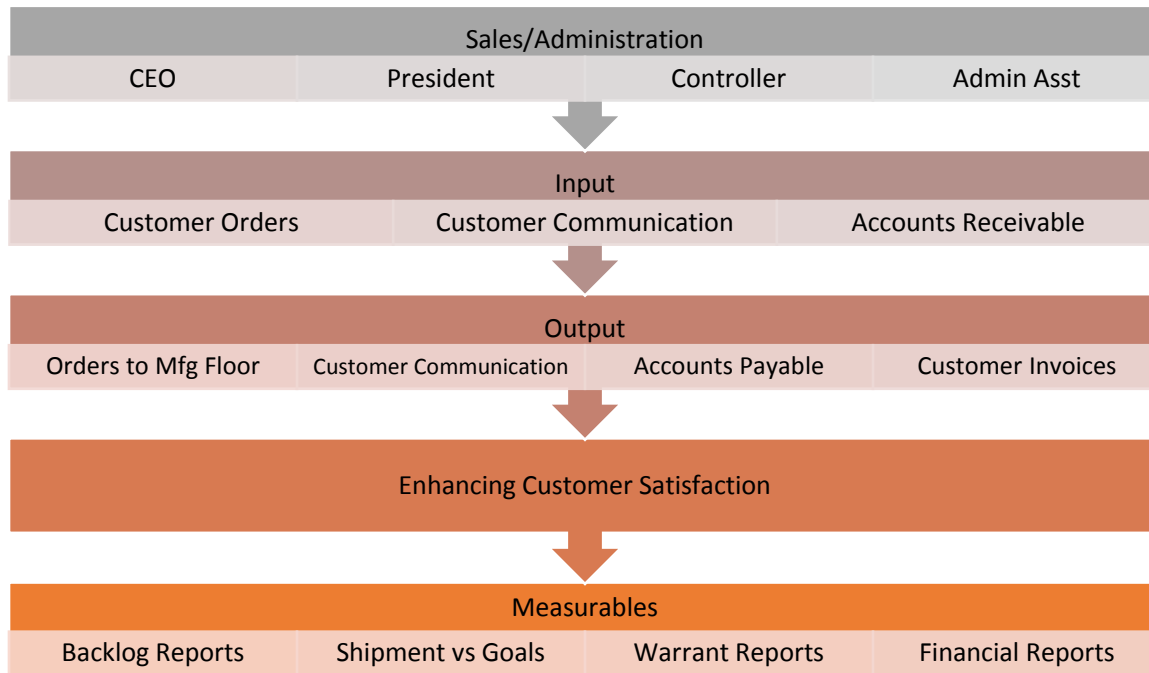
- ii. Work with the manufacturing staff to cross train employees and develop a culture of collective success – this will keep production going when an individual is out of the office.
  - iii. Work with the manufacturing staff to make sure the production line is not disrupted in any way. This will involve staff meetings and taking note to suggestions from the workers on how to move the production line faster.
  - iv. Director of Plant Operations will review the Backlog Report and assign an Expeditor to investigate why an order may not ship on the scheduled ship date. This action may involve discussions with either the manufacturing staff, purchasing agent, administrative assistant, or any employee(s) that would be involved with the customer's order, to determine why the order cannot ship on the scheduled ship date.
- d. QUALITY CONTROL – Quality Control Inspector
- i. Inspects in-house equipment making sure that all equipment is calibrated and up-to-date and in proper working condition. The Quality Control Inspector will also arrange for inspection with outside vendors.
  - ii. Validates the finished product against the customers' and/or PG&T drawing/print.
  - iii. Validates the certification of the finished gage making sure that all viable customer information is entered into the Gage Insite software program.
  - iv. Controls the non-conformance documentation.
- e. MANAGEMENT – CEO, President, Director of Plant Operations, Controller
- i. REPORTS – The appropriate representative will carefully observe the reports listed below
    - 1. Backlog – monitor orders in backlog
    - 2. Shipping Report – monitor shipments for on-time delivery
    - 3. Shipping Goals – monitor weekly shipments
    - 4. Accounts Receivable/Billing – monitor incoming revenue
    - 5. Profit & Loss – monitor expenses and costs
    - 6. Repair Orders – monitor on-time order entry
    - 7. Warranty Work – track the % of Warranty work
    - 8. Additional Reports – monitor what may be needed/created through QuickBooks or IT
    - 9. Discussions – Discuss with the appropriate management/employee(s) actions that may need to be taken.
- f. IT – Network Administrator
- 1. Leverage IT Infrastructure
  - 2. IT will track improvements on reports using QuickBooks.
  - 3. IT will create reports for shipping, production costs, anything that is related to reaching preset goals.

4. Management will advise IT new ideas/reports that will help increase production and/or profitability.
  5. Increase sales & profitability through PG&T's Website.
  6. Build and maintain the computer network and Web presence.
  7. Maintains in-house computers
- g. OPEN DISCUSSIONS - Management
1. Talk with the business office staff for suggestions on how to improve order entry, billing, collection, and/or concerns to help improve their jobs to speed up processes and improve profitability.
  2. Work with Administrative Assistants to insure that orders are put in QuickBooks in a timely manner.
    - a. BACKLOG REPORT - Repair orders are monitored by the date the order is logged in from manufacturing to when the order is entered into QuickBooks. Shop Orders can randomly be pulled to check correspondence on new orders also checking if entered in each process may be supported by other activities, such as tasks or sub-processes. Monitoring and control of top level processes ensures effective implementation and control of all subordinate tasks or sub-processes.

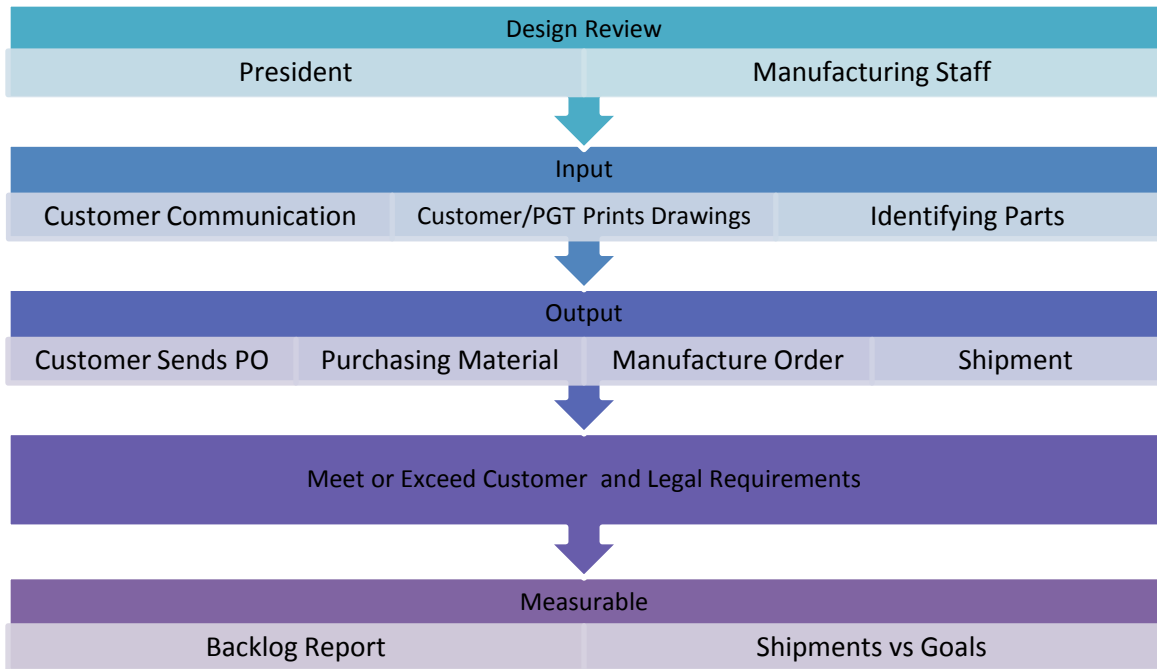
Each top-level process has a **Process Definition** document which defines:

- ALL employees have the objective to increase customer satisfaction
- applicable inputs and outputs
- process owner(s)
- applicable responsibilities and authorities
- applicable risks and opportunities
- critical and supporting resources
- criteria and methods employed to ensure the effectiveness of the process
- quality objectives related to that process

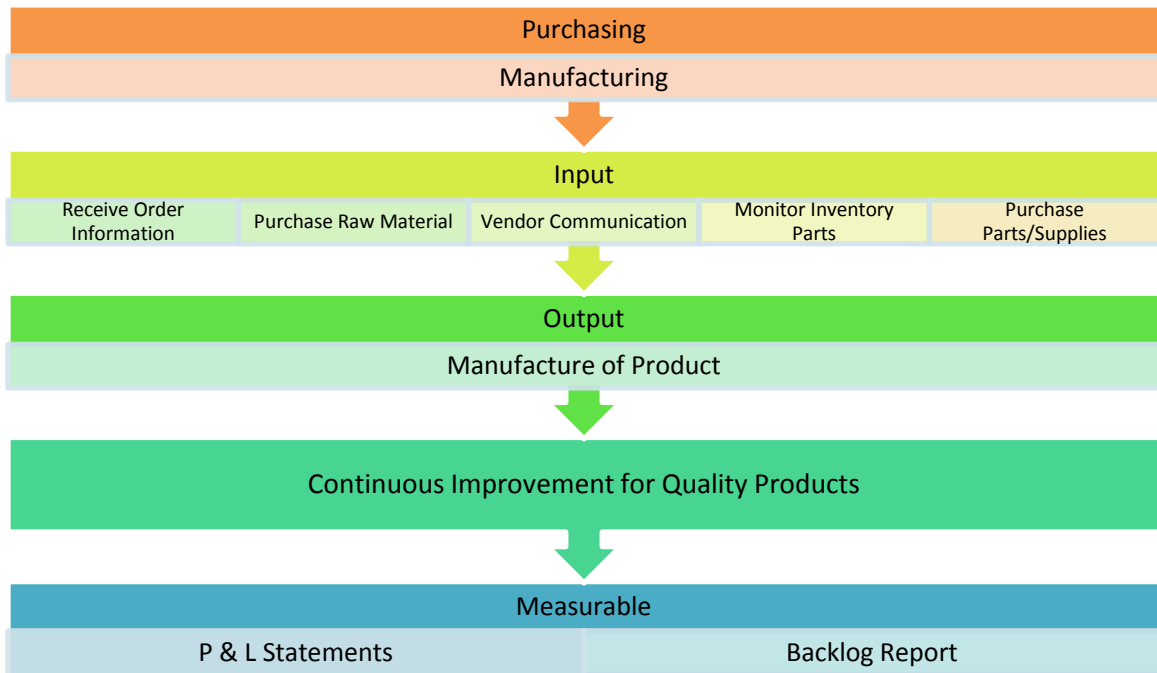
## Sales/Administration



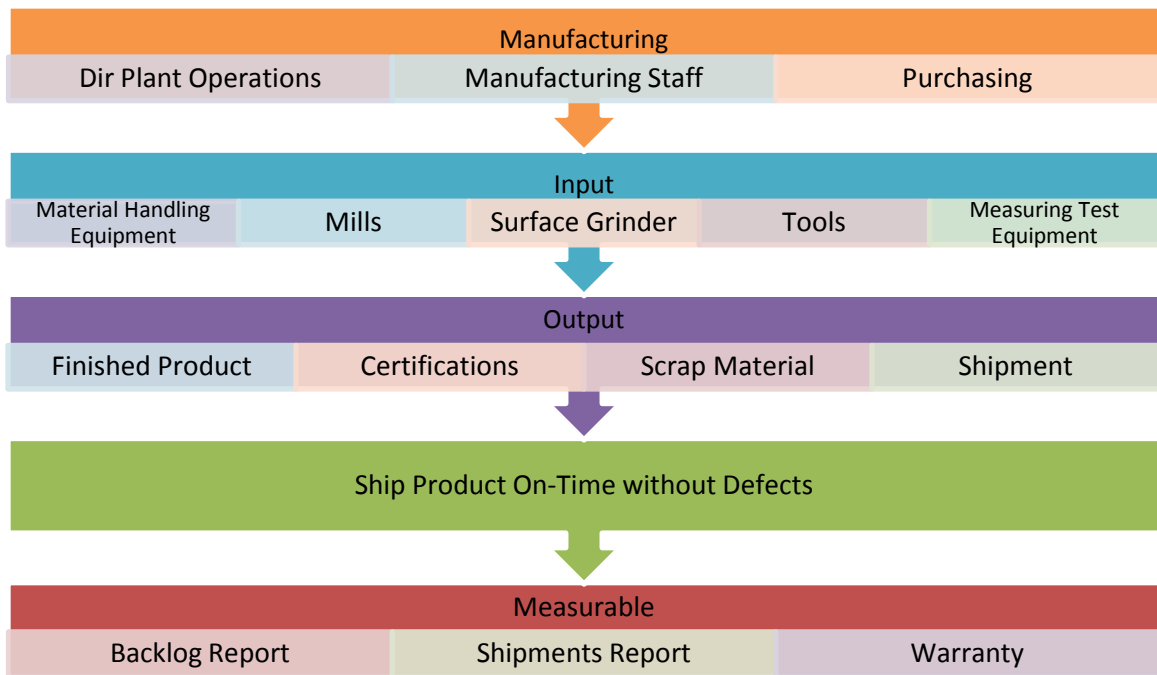
## Design Review



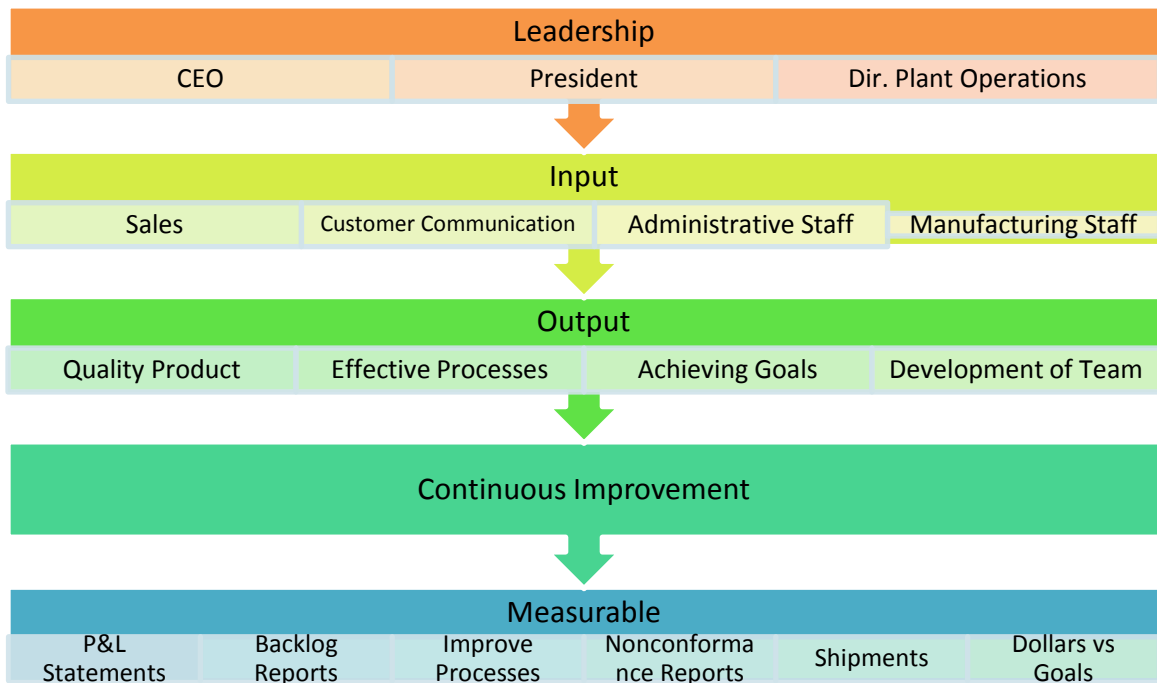
## Purchasing



## Manufacturing



## Leadership



## **Appendix B: Subordinate QMS Procedures**

- Calibration of Equipment – DP-11 Control of Measurement and Test Equipment
- Change Management – DP-01 Management Review
- Context of the Organization – Quality Manual
- Control of Documents – DP-05 Document and Data Control
- Control of Nonconforming Product – DP-12 Control Nonconforming Product and Corrective Action
- Control of Nonconforming Service – DP-10 Receiving and Inspection and Testing
- Control of Records – DP-05 Document and Data Control
- Corrective and Preventive Action – DP-12 Control Nonconforming Product and Corrective Action and DP-20 Preventative Action
- Control of Third-Party Property – DP-16 Customer Supplied Product-Repair and Servicing
- Design Control – DP-04 Design Control
- Validation of Equipment – DP-11 Control of Measurement and Test Equipment
- Identification and Traceability – DP-11 Control of Measurement and Test Equipment and DP-17 Calibration Service
- Internal Audits – DP-15 Internal Audits
- Management Review - DP-01 Management Review
- Outsourced Processes – DP-06 Purchasing and DP-10 Receiving Inspection and Testing
- Preservation of Product – DP-14 Quality Records
- Preventive Maintenance – DP-20 Preventive Actions
- Purchasing – DP-06 Purchasing
- Quoting and Order Acceptance – DP-03 Quotation and Contract Review
- Receiving - DP-10 Receiving Inspection and Testing
- Risk and Opportunity Management – DP-12 Control Nonconforming Product Corrective Action and DP-20 Preventive Action
- Special Processes - DP-06 Purchasing and DP-10 Receiving Inspection and Testing and DP-14 Quality Records
- Hiring and Training – DP-02 Training

## Appendix C: Interested Parties

Interested and  
External Parties  
include but not  
limited to

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Customers

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State Offices

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ASTM

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AAR

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Banks

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Subcontractors

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Employees

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Suppliers

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