



QUALITY MANUAL

QM-422

Approved By _____

Date _____

Controlled Document QM-001, Quality Assurance

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Introduction

Usher Precision Manufacturing has developed and implemented a Quality Management System (QMS) in order to document the company's best business practices, better satisfy the requirements and expectations of our customers, and improve the overall management of the company.

The Quality Management System of Usher Precision Manufacturing is intended to address all applicable and current requirements of the International Quality Management System Standards ISO 9001:2000 and AS9100.

Usher is keenly focused on our customers and their ultimate satisfaction. This is accomplished through the discipline and control of the QMS, continually improving processes, and by the commitment of all employees of Usher.

This manual and all quality system documents are controlled, maintained and issued by the Director of Operations and Quality (appointed as the Quality Management Representative, QMR)) and are reviewed and approved by the appropriate staff and executive-level management.

Implementation of the Quality Management System is accomplished through:

- Process and quality plans related to projects, when required,
- Operating procedures,
- Process Specifications,
- Work instructions and,
- Records, forms and other related documents.

Usher is committed to maintain a quality management system in conformance with the current requirements of ISO9001:2000 and AS9100. The Management Team fully supports the quality statement and is committed that it be known to each and every employee. Usher has chosen to incorporate the company vision and mission into the quality statement to further describe the commitment of the company to our customers and employees.

Purpose

The purpose of this Quality Systems Manual is to:

- Document and provide guidance for consistency of the Quality Systems utilized throughout the organization,
- Communicate Usher's Quality Statement, Objectives, and commitment, to our customers and to our staff,
- Attain and maintain desired quality at optimum cost through planned and efficient utilization of available technology, personnel, and materiel resources and,
- Provide Customers with confidence that Usher can and will deliver products and services which satisfies their needs and requirements.

QUALITY OBJECTIVES AND QUALITY STATEMENT

Quality Objective

Usher Precision Manufacturing's quality objectives focus on our products and processes, are measurable, reviewed regularly, and communicated to our employees.

Quality Policy

Usher Precision Manufacturing is committed to providing the highest level of quality by:

- Offering exceptional products and services and striving to exceed the requirements and expectations of our customers.
- Providing employee education and training that optimizes performance in the quality and delivery of our products.
- Fostering an atmosphere of continuous improvement and problem solving.
- Empowering employees so that they can help improve the processes and systems that affect their work.
- Developing relationships with our suppliers that emphasize continuous improvement in product quality, service and support.
- Providing an environment that supports teamwork.
- Maintaining a formal quality management system that meets all ISO9001:2000 and AS9100 standards and continuously improving the effectiveness of the quality management system.
- Establishing clear communication channels to our customers, employees and suppliers.

President: _____

The Vision, Mission and Quality Statement of **Usher Precision Manufacturing** has been explained and discussed at the general orientation training given to all new employees and has been reviewed with all current employees. All employees are expected to know what the quality policy means to them as it affects their job or position within the company. The policy is posted in prominent locations throughout the facility.

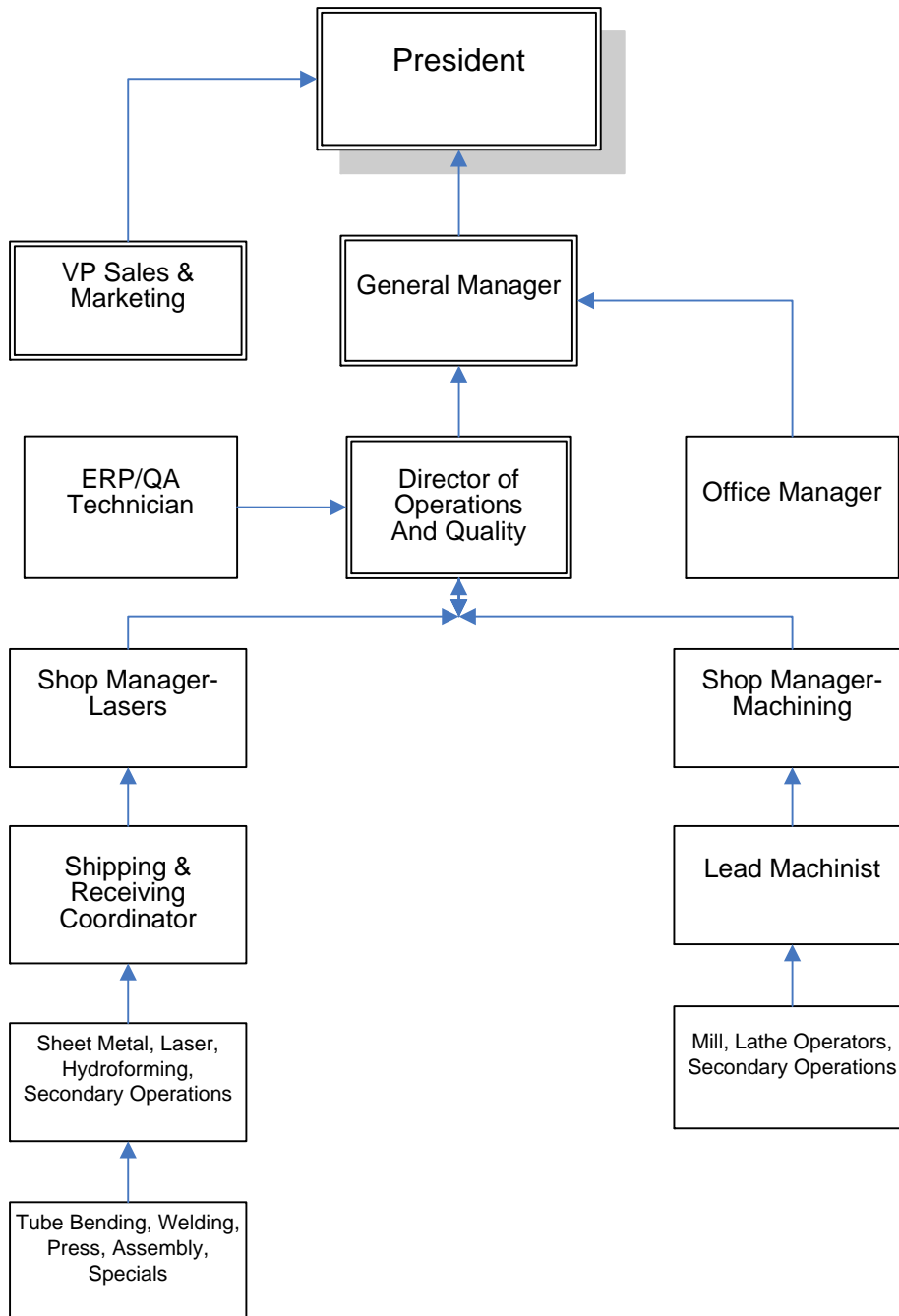
Administration of the QMS and the Quality Systems Manual

The Director of Operations and Quality will approve the Quality Systems Manual and its revisions and will assure that any revisions are in compliance with the current standards set forth in AS9100 and/or ISO 9001:2000.

The Director of Operations and Quality is responsible for controlling and maintaining the Quality Systems Manual and defining any controlled editions through a distribution list.

Interested parties outside the company that require a copy of the Quality Systems Manual will be issued either a controlled or uncontrolled version. Uncontrolled versions will be sent as general information and will not be updated with revisions. Controlled copies will have "CONTROLLED" printed on the title page along with the manual number, and will be followed up with revisions. Revisions to the Quality Systems Manual will be summarized and listed on the revision page of the manual.

Organizational Chart



SCOPE

Usher Precision Manufacturing provides contract machining, laser cutting, hydroforming, welding and assembly related to the aerospace industry and other industrial manufacturing segments.

The Quality System Manual outlines the policies, procedures and requirements of the Quality Management System of Usher Precision Manufacturing. The system is structured to comply with the conditions set forth in the International Standards ISO9001:2000 and AS 9100.

Usher Precision Manufacturing has determined that the following requirements are not applicable to the operations at this site and are documented as exclusions:

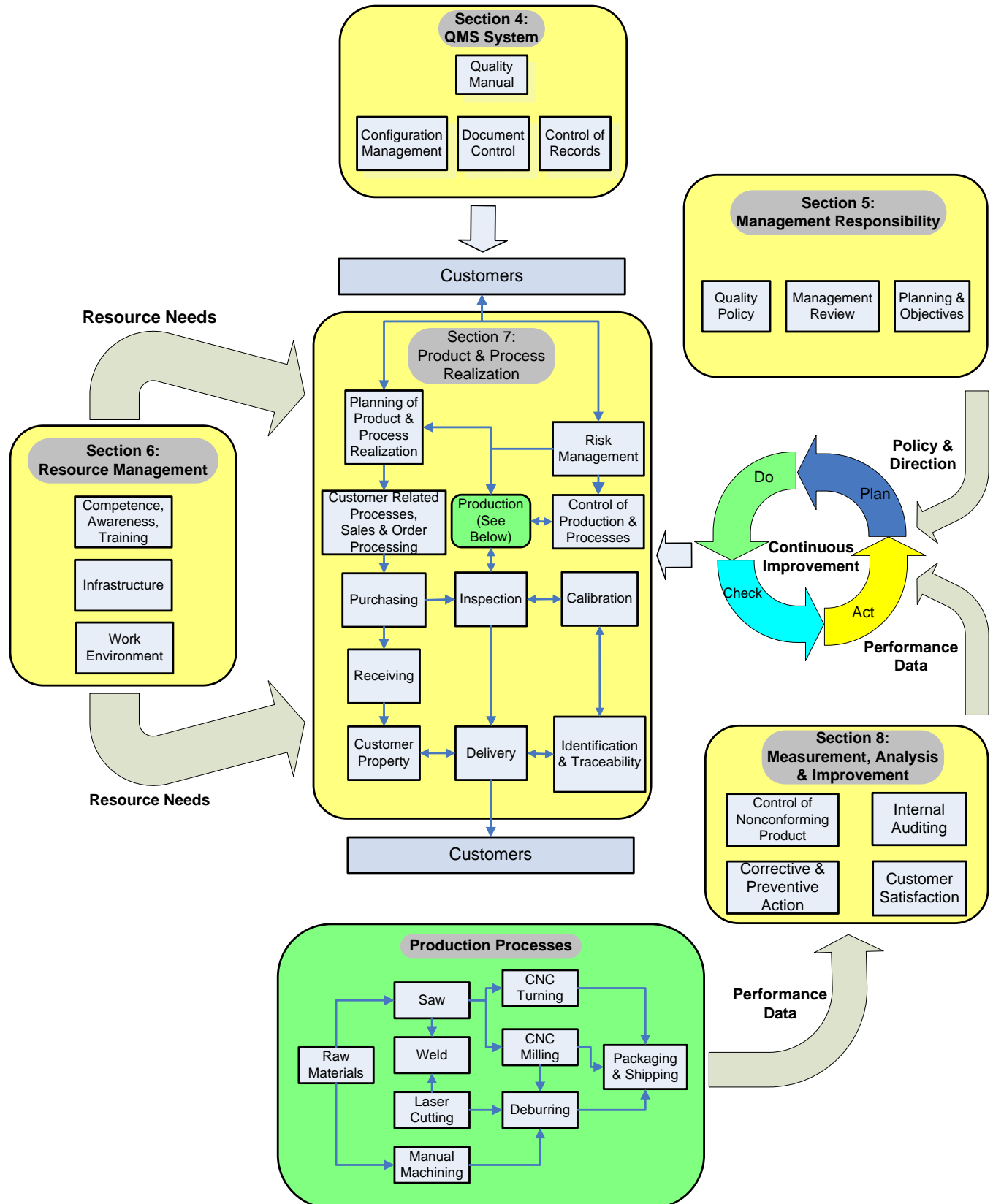
- Usher Precision Manufacturing does not perform design and development, therefore all sections of the standards relevant to design and/or the design process are excluded from the QMS system (Section 7.3 of the standards).
- Usher Precision Manufacturing does not perform servicing of its products nor is it asked to perform servicing by its customers and therefore has excluded Control of Service Operations from the QMS (Section 7.5.1.5 of the standard).

QUALITY MANAGEMENT SYSTEM REFERENCES

The following documents were used as reference during the preparation of the Quality Management System:

- American National Standard ANSI/AS 9001/ASQ Q9000-2000, Quality Management Systems - Vocabulary.
- American National Standard ANSI/AS 9001/ASQ Q9001-2000, Quality Management Systems – Requirements
- American National Standard ANSI/AS 9001/ASQ Q9004-2000, Quality Management Systems – Guidelines for performance Improvements
- Society of Automotive Engineers SAE AS 9100B - Quality Management Systems – Requirements

Usher Precision Manufacturing QMS Process Interaction



4. QUALITY MANAGEMENT SYSTEM REQUIREMENTS

4.1. General Requirements

Usher Precision Manufacturing has established, documented and implemented a Quality Management System (QMS) in accordance with the requirements of the current AS 9100 standard. The system is maintained and continually improved through the use of the quality policy, quality objectives, audit results, analysis of data, corrective and preventive action and management review.

To design and implement the QMS Usher Precision Manufacturing has:

- Identified the processes needed for the QMS; their sequence, interaction and application throughout the organization and documented them on the Process Interaction Diagram on the previous page.
- Determined criteria and methods needed to ensure that the operation and control of the processes are effective and documented them utilizing various planning tools.
- Ensured the continuing availability of resources and information necessary to achieve planned results and continual improvement of these processes.
- Established systems to monitor measure and analyze these processes.
- Established processes to identify and implement actions necessary to achieve planned results and continual improvement of these processes.

When Usher Precision Manufacturing chooses to outsource product or processes, controls are implemented to ensure compliance to requirements. These controls are outlined in **AP-740, Purchasing**.

4.2. Documentation Requirements

4.2.1. The QMS documentation includes:

- A documented Quality Statement and Quality Objectives.
- This Quality Systems Manual.
- Documented Procedures.
- Documents identified as needed for the effective planning, operation and control of processes, and
- Quality Records, and
- Records that may be required by regulatory authorities.
- Usher Precision Manufacturing ensures that personnel have access to quality management system documentation and are aware of relevant procedures. We also provide customer or regulatory authorities' access to the quality management system documentation when requested.

4.2.2. Quality Systems Manual

This Quality Systems Manual has been prepared to describe Usher Precision Manufacturing's QMS. The scope and permissible exclusions of the QMS are described on page 7 of this manual. Each section of the manual references documented QMS procedures relating to the requirements outlined in that section. These procedures and all quality records are documented in a binder that is controlled.

The relationships between the ISO 9001:2000 and AS 9100 standard and documented procedures have been indicated by use of a numbering system that correlates to the international standards.

4.2.3. Control of documents

All of the QMS documents are controlled according to the Document Control Procedure that defines the process for:

- Approving documents for adequacy prior to issue.
- Reviewing and updating as necessary and re-approving documents.
- Ensuring that changes and current revision status of documents are identified.
- Ensuring that relevant versions of applicable documents are available at points of use.
- Ensuring that documents remain legible and readily identifiable.
- Ensuring that documents of external origin are identified and their distribution controlled.
- Preventing the unintended use of obsolete documents and applying suitable identification to them if they are retained for any purpose.
- Obtaining customer/regulatory agency approvals when required by contract or regulatory requirements.
- Coordinating document changes with customers or regulatory authorities in accordance with contract or regulatory requirements.

Reference QP-423 Document Control

4.2.4. Control of Records

Quality records are maintained to provide evidence of conformity to requirements and of the effective operation of the QMS. The records, including those created by or maintained by suppliers, are maintained according to the Control of Quality Records Procedure. This procedure requires that quality records remain legible, readily identifiable and retrievable. Records are available for review by customers and regulatory authorities in accordance with contract or regulatory requirements. The procedure defines the controls needed for identification, storage, protection, retrieval, retention time and disposition of quality records. Records are made available to customers/regulatory agencies when required by contract or regulatory requirements.

Reference QP-424 Control of Quality Records

4.3. Configuration Management

Usher Precision Manufacturing's customers control the configuration management aspect of their product; therefore, this process is not applicable. Usher Precision Manufacturing will control our customer's configuration management through the control of our documents, procedures, fixturing, tooling, and processes.

5. MANAGEMENT RESPONSIBILITY

5.1. Management Commitment

Usher Precision Manufacturing's management has been actively involved in the development and implementation of the quality management system. It has provided the vision, strategic direction and improvement activities for the QMS by:

- Communicating the importance of meeting customer, statutory, and regulatory requirements.
- Establishing the quality policy and objectives.
- Conducting quarterly management reviews and,
- Ensuring the availability of resources

5.2. Customer Focus

Usher Precision Manufacturing strives to identify current and future customer needs to meet requirements, exceed expectations and enhance customer satisfaction.

Top management ensures that customer requirements are understood and met by requiring compliance with documented customer communication procedures. Customer requirements are determined, converted into internal requirements, and communicated to the appropriate people in the organization.

5.3. Quality Policy

Management ensures that the quality policy is communicated to all employees. It is included in new employee training and training on the QMS. It is posted in prominent places throughout the facility to maintain high standards within our organization.

Management reviews the quality policy and objectives at each management review meeting, with the aim of improving the effectiveness of the QMS, and to ensure of the policy's continuing suitability for our organization.

5.4. Planning

- 5.4.1. Quality objectives are established to support our organization's efforts in achieving our quality policy and are reviewed for suitability. Objectives are established for products and processes, are measurable and reviewed against performance goals at each management review meeting. These objectives are posted throughout the facility as another means of communicating our goals and to enhance quality awareness.
- 5.4.2. Management plans the QMS not only to meet the current requirements of ISO900:2000 and AS9100, but to meet the established quality objectives. Quality planning takes place as changes that affect the quality system are planned and implemented. The overall integrity of the QMS is maintained when any change is implemented.

5.5. Responsibility, Authority and Communication

- 5.5.1. An organizational chart has been established to show the interrelation of personnel in the organization. Job descriptions define the responsibilities and authorities of each of the positions on the organizational chart. These documents are available throughout the organization to help employees understand responsibilities and authorities. An organizational chart is included in this manual.

- 5.5.2. The Director of Operations and Quality has been appointed by the company president as the management representative. The Director of Operations and Quality has the following responsibility and authority:
- To ensure that processes needed for the quality management system are established and implemented.
 - To report to top management on the performance of the quality management system and any needed improvements.
 - To promote awareness of customer requirements throughout the organization.
 - To act as a liaison with external parties such as customers or auditors on matters relating to the QMS.
 - Organizational freedom to resolve matters pertaining to quality.
 - Processes are established for communication within the organization. Methods of communicating the effectiveness of the QMS include:
 - Company email,
 - Department and management meetings,
 - Management review,
 - Circulation and/or bulleting board posting of meeting minutes, goals and objectives,
 - Internal audit reviews, and other routine business communication.

5.6. Management Review

- 5.6.1. Management reviews the QMS quarterly at management review meetings. This review assesses the continuing QMS suitability, adequacy and effectiveness, and identifies opportunities for improvement and needed changes. Records are maintained for each management review meeting.

The inputs to a management review include:

- Results of audits,
- Customer feedback and satisfaction,
- Process performance and product conformity and measurement,
- Supplier performance,
- Status of preventive and corrective actions,
- Follow-up actions from previous management reviews,
- Planned changes that could affect the quality management system,
- Recommendations for improvement and,
- Safety review

The outputs of the management review include:

- Improvement of the effectiveness of the QMS and processes,
- Improvement of product and processes related to customer requirements and,
- Resource requirement needs.

Reference AP-500 Management Responsibility

6. RESOURCE MANAGEMENT

6.1. Provision of Resources

Usher Precision Manufacturing has implemented a Quality Management System that was achieved with management commitment and with sufficient resources for the implementation. To effectively maintain and continually improve the system, management determines and provides necessary resources.

Resources are also determined and provided to enhance customer satisfaction by meeting customer requirements. This is accomplished through order review, planning of process and product realization, training, corrective and preventive action, and continual improvement activities.

6.2. Human Resources

6.2.1. To ensure competence of our personnel, job descriptions have been prepared identifying the qualifications required for each position that affects product quality. Qualifications include requirements for education, skills and experience. Appropriate qualifications, along with required training, provide the competence required for each position.

6.2.2. When determining the competence, awareness and training needs of our employees, Usher provides for the following resource requisites:

- Review of qualifications upon hire, when an employee changes positions or the requirements for a position change,
- A new employee orientation to ensure an understanding of their position and how it relates and interfaces with the QMS,
- Determines skill sets of employees,
- Provides training when skill deficiencies are known,
- Evaluates the effectiveness of any training given,
- The maintaining of all appropriate training records as well as records pertaining to employee education, experience and skill set.

Reference AP-622 Competence, Awareness and Training

6.3. Infrastructure

To meet quality objectives and product requirements Usher Precision Manufacturing has determined the infrastructure needed. The infrastructure includes buildings, workspace, utilities, process equipment and supporting services. Existing infrastructure is maintained to ensure product conformity. Maintenance requirements are documented in:

- A preventive maintenance schedule table and,
- Machine maintenance summary tables in which measurements of effectiveness are documented.

Reference AP-630 Infrastructure

6.4. Work Environment

A work environment suitable for achieving product conformance is maintained. All aspects of human and physical factors in the work environment that effect conformity of the product have been identified and are managed. These include the control of temperature, lighting, cleanliness, safety, and other issues likely to affect the conformity of the product.

Reference AP-640 Work Environment

7. PRODUCT REALIZATION

7.1. Planning of Product Realization

Usher Precision Manufacturing plans for the development of all new major processes for the realization of our customer's product. Process and product planning is required before new major processes or products are implemented. During the planning, management will identify:

- The quality objectives and requirements for the process and/or product,
- Processes, documentation and resources required,
- Verification, validation, monitoring, inspection and test requirements,
- Criteria for product/process acceptance and,
- Resources necessary to support operation and maintenance of the product or process.

The output of quality planning includes documented quality plans, processes, procedures, training requirements and resource needs.

Reference MP-710 Planning of Process/Product Realization

7.2. Customer Related Processes

7.2.1. Usher Precision Manufacturing determines customer requirements according to the Customer Related Processes Procedure before acceptance of an order and include those:

- Requested by the customer including those required for delivery and post-delivery activities,
- Not stated by the customer but necessary for specified use or known and intended use,
- Statutory and regulatory requirements related to the product and,
- Additional requirements determined by Usher Precision Manufacturing.

7.2.2. Usher Precision Manufacturing has a process in place for the review of requirements related to the product. The review takes place prior to acceptance and ensures that:

- Product requirements are defined,
- Contract or order requirements differing from those previously expressed are resolved,
- Usher Precision Manufacturing has the ability to meet the defined requirements and,
- Risks (e.g., new technology, short delivery time scale) have been evaluated.

Records are maintained that indicate the results and actions arising from the review.

Where a customer does not provide a documented statement of requirement, the customer requirements are confirmed before acceptance.

When product requirements are changed, Usher Precision Manufacturing communicates changes to relevant personnel and amends relevant documents.

Reference AP-722 Risk Management

7.2.3. Usher Precision Manufacturing has implemented a procedure for communicating with customers in relation to:

- Product Information.
- Enquiries, contracts and order handling, including amendments.
- Customer Feedback, including customer complaints.

Reference SP-720 Customer Related Processes

7.3. Design and Development

As stated in the scope of this manual, Usher Precision Manufacturing does not design product and therefore has excluded all relevant processes and procedures related to design activities from the Quality Management System.

7.4. Purchasing

7.4.1. The purchasing process includes a documented procedure to ensure that purchased product conforms to the specified purchase requirements. The procedure outlines the extent of control required for suppliers. Suppliers are evaluated and selected based on their ability to supply product in accordance with requirements as outlined in the procedure and includes:

- A table of suppliers that have preferred, approved, or developmental status and the scope of the approval.
- Periodic review of supplier performance and the required controls necessary as well as needed actions for those suppliers that do not meet requirements,
- Assurance that customer approved special process sources are used when required and,
- Assuring that the function of approving suppliers also has the authority to disapprove the use of sources.

7.4.2. Purchasing information includes requirements that describe the product to be purchased, including where appropriate:

- Requirements for approval of product, processes and equipment,
- Requirements for qualification of personnel,
- Quality management system requirements,
- Identification of product or process requirements,
- Requirements for acceptance by Usher,
- Supplier notification and the required approval of nonconforming product by Usher prior to delivery,
- Supplier notification of changes to product and/or processes and prior approval of such,
- Right of access to supplier property and/or records by Usher, Usher's customers, or regulatory authorities and,
- The requirement of suppliers to flow to down to sub-tier suppliers all requirements of the purchasing documents.

The purchasing documents are reviewed and validated to ensure the adequacy of requirements before orders are placed with the supplier.

7.4.3. Verification of purchased product is assured by not processing purchased product until it has been verified as conforming to specified requirements. These verification activities may include:

- Certificates of conformity where required and other objective documentation,
- Inspections and audits at supplier facilities,
- Document review and,
- Incoming inspection.

Purchased product is not used until it has been verified as conforming to requirements unless it is released under a positive recall procedure.

When test reports are used to verify purchases product, the data in the reports are reviewed against applicable specifications. Test reports/certifications for raw material are periodically validated by an independent lab.

When verification activities are delegated to the supplier the requirements will be defined, and a register of delegations maintained.

If Usher Precision Manufacturing or the customer performs verification at the supplier's premises, the verification arrangements and method of product release are documented in the purchasing information.

Where specified in the purchase order or contract, the customer is given the right to verify at the suppliers facility and Usher's facility that product conforms to specified requirements.

Any verification by the customer is not to be used by Usher as evidence of effective control of quality by the supplier and is not to absolve Usher of the responsibility to provide acceptable product, nor will it preclude subsequent rejection by the customer.

Reference AP-740 Purchasing

7.5. Production and Service Provision

7.5.1. Control of Production and Service Provision

Usher Precision Manufacturing plans and carries out production and service provisions under controlled conditions according to documented procedures. Planning considers, as applicable:

- The establishment of process controls and development of control where key characteristics have been identified,
- Identification of in-process verification points when adequate verification of conformance cannot be performed at a later stage of production,
- The use of measurement equipment so that variable measurements can be taken, particularly for key characteristics, and
- Special processes.

Controlled conditions include:

- Instructions such as routings, work Instructions, test instructions and inspection directions are used when applicable to describe the product characteristics to of the product.
- Equipment and machinery that is best suited to perform the production process
- The availability and use of monitoring and measuring instruments,
- The use of monitoring and measuring,
- Product release, delivery and any post-delivery activities,
- Accountability of all product during manufacture,
- Evidence that all manufacturing and inspection operation have been completed as planned,
- A provision for the prevention, detection, and removal of foreign objects,
- The monitoring and control of utilities and supplies and,
- Criteria for workmanship

Production Documentation:

- Production operations are carried out in accordance with approved data including drawings, routings, inspection operations and documents, and applicable work instructions.
- Computer numerical controlled (CNC) machine programs that are required, along with instructions for use are maintained utilizing document control.

Control of Production Process Changes:

- Usher Precision Manufacturing has identified personnel who are authorized to approve changes to production processes.
- Changes affecting processes, equipment tools and programs are documented.
- The results of production process changes are assessed to confirm that the change has not adversely impacted product quality.

Control of Production Equipment, Tools and CNC Programs:

- Production equipment, tools and programs are validated prior to use, maintained, and inspected periodically.
- Validation prior to production may include the verification of the first article produced to the specifications.
- Any equipment and/or tooling kept in storage are periodically checked for condition.

Control of Work Transferred on a Temporary Basis Outside of the Organization's Facility:

- When work is transferred outside of Usher Precision Manufacturing, a control plan will be developed that will provide specific documented criteria for supplier performance and validation. Inspection and/or testing will be conducted as applicable

Control of Service Operations:

As stated in the scope of this manual, Usher Precision Manufacturing does not perform servicing of its products nor is it asked to perform servicing by its customers and therefore has excluded Control of Service Operations from the QMS.

7.5.2. Validation of Processes for Production and Service Provision

- Processes where resulting output cannot be verified by subsequent monitoring or measurement are validated to demonstrate the ability of the process to achieve planned results
- For special processes, Usher has qualified and approved of these processes prior to use, has qualified the equipment and personnel, and has developed specific procedures for these processes.

Reference MP-750 Control of Production and Service Provision

7.5.3. Identification and Traceability

Usher Precision Manufacturing products are identified and traceability (if required) is provided through material receipt, production, and delivery by:

- Establishing product identification during the process development phase, to ensure traceability and maintenance of the configuration of the product,
- Establishing media control through the use of stamps and documenting the stamp owners on an identification table,
- Maintaining identification throughout the product life,
- Tracing of raw material,
- Maintaining the traceability of components of an assembly and those of the next higher level and by,
- Providing retrieval of the sequential record of a products production.

Reference MP-753 Identification and Traceability

7.5.4. Customer Property

Usher Precision Manufacturing exercises the necessary care with customer property while it is under Usher control, or while being used by Usher. Usher has identified, provides protection for, and safeguards customer property. If any customer property were to be lost, damaged, or found to be unsuitable for use, the customer is notified and records maintained of such.

Reference MP-754 Customer Property

7.5.5. Preservation of Property

Usher Precision Manufacturing has developed procedures for the process of preserving the conformity of materials, parts, and products during internal processing through to its intended destination. Preservation includes the identification, handling, packaging, storage and protection of product

Preservation of product may also include where applicable or required:

- Cleaning,
- The prevention, detection, and removal of foreign objects,
- Special handling needs,
- The marking and labeling,
- Shelf life control and stock inventory rotation,
- The handling of hazardous materials and,
- Ensuring that any required documents that are to accompany the product are present at delivery and are protected.

Reference MP-755 Preservation of Property

7.6. Control of Monitoring and Measuring Devices

Usher Precision Manufacturing has determined the monitoring and measurement to be undertaken and the monitoring and measuring devices needed to provide evidence of conformity of product to determined requirements.

A documented procedure outlines the process used to ensure that monitoring and measurement to be carried out are done so in a manner that is consistent with the monitoring and measurement requirements.

Usher has ensured that the environmental conditions are suitable for calibrations and inspections by providing for a quality laboratory in which conditions are maintained.

Where necessary to ensure valid results, measuring equipment is:

- Calibrated at specific intervals or prior to use against standards traceable to the National Institute of Standards and Technology (NIST).
- Adjusted and re-adjusted as necessary,
- Identified so that calibration status can be determined,
- Safeguarded from adjustments that would invalidate the measurement result,
- Protected from damage and deterioration during handling, maintenance and storage and is,
- Recalled to defined methods.

Usher Precision Manufacturing also assesses and records the validity of previous measuring results when equipment is found to be out of calibration. Equipment is pulled from use and re-calibrated and corrective action taken if product is found to be affected.

Reference QP-760 Control of Monitoring and Measuring Devices

8. MEASUREMENT, ANALYSIS AND IMPROVEMENT

8.1. General

Usher Precision Manufacturing plans and implements the monitoring, measurement, analysis, and improvement processes needed to:

- Demonstrate product conformity,
- Ensure conformity of the QMS and,
- Continually improve the effectiveness of the QMS. This is done by inspection of product, internal auditing, management reviews, corrective and preventive action, and continual improvement activities.

8.2. Monitoring and Measurement

8.2.1. Customer Satisfaction

Usher Precision Manufacturing monitors information on customer satisfaction as one of the measurements of performance of the quality management system. The methodologies for obtaining and using this information are documented.

Reference AP-821 Monitoring and Measurement of Customer Satisfaction

8.2.2. Internal Audit

Usher Precision Manufacturing Conducts internal audits at planned intervals to assess whether the Quality Management System:

- Conforms to planned arrangements,
- Conforms to the current ISO 9001:2000 and AS9100 requirements,
- Conforms to Usher's QMS requirements and,
- Is effectively implemented and maintained.

The audit procedure is documented to ensure that:

- Planning of audits take place,
- Auditors maintain objectivity and impartiality,
- Audit records are maintained,
- Detected nonconformities are eliminated with undo delay and,
- That audit tools and techniques have been developed to support the auditing process.

Reference QP-822 Internal Audits

8.2.3. Monitoring and Measurement of Processes

Usher Precision Manufacturing applies whenever possible, measuring and monitoring of quality system processes. These methods demonstrate the ability of Usher's processes to meet desired results. When planned results are not achieved, correction and corrective action are taken, as appropriate, to ensure product conformity.

In the event of process nonconformity, Usher:

- Takes appropriate action to correct the nonconforming process,
- Evaluates whether the nonconforming process has resulted in product nonconformity and,
- Identifies and controls the nonconforming product according to the Control of Nonconforming Product procedure.

8.2.4. Monitoring and Measurement of Product

Usher Precision Manufacturing monitors and measures the characteristics of product during various stages of the product realization process to ensure that requirements are met. Documented procedures have been established for product inspection and ensure that:

- Key characteristics when identified, are monitored and controlled,
- Product is not used until it has been inspected or verified as conforming to requirements,
- Evidence of conformity with acceptance criteria is maintained with records of such maintained and,
- Product release does not proceed until all planned arrangements have been completed satisfactorily.

Measurement requirements for product acceptance are documented and include:

- Criteria for acceptance and/or rejection,
- Where measurements occur in the sequence of operations,
- Records of the measurement results and,
- The type of measurement instruments used and any specific instructions.

This information is typically found on customer drawings, routings, work instructions, inspection directions, and inspection documentation.

Usher Precision Manufacturing provides for a first article inspection process, to assure verification and documentation of a representative item from the first production run of a new part, or following any subsequent change that invalidates the previous first article inspection. The process is documented as part of the QMS.

Reference MP-824 Monitoring and Measurement of Processes & Product

Reference QP-824 Inspection Procedure

8.3. Control of Nonconforming Product

Usher Precision Manufacturing ensures that product which does not conform to requirements is identified and controlled to prevent unintended use or delivery. A documented procedure has been established to define control of nonconforming product.

Usher deals with nonconforming product by one or more of the following methods:

- By reworking product so that it meets specifications,
- By obtaining customer concession and authorization for product that can be repaired or used as is prior to delivery to the customer,
- By taking action to preclude use through the scrapping of product,
- By the conspicuous marking of nonconforming product prior to disposition to prevent unintended use or delivery to the customer,
- By re-verifying nonconforming product when it has been reworked or repaired,
- If nonconforming product is detected after delivery, action is taken that is appropriate to the effects of the nonconformity,
- The timely and clear reporting of nonconforming product that may affect reliability or safety.

Reference QP-830 Control of Nonconforming Product

8.4. Analysis of Data

Usher Precision Manufacturing determines, collects and analyses appropriate data to demonstrate the suitability and effectiveness of the QMS and to evaluate where improvement can be made. This data comes from a number of sources such as internal audits, management reviews, product verification, customer satisfaction, supplier performance and continual improvement activities.

When data analysis shows that Usher is not meeting the quality requirements, corrective action may take place to determine root cause and provide opportunities for preventive action.

8.5. Improvement

8.5.1. Continual Improvement

Usher Precision Manufacturing continually strives to improve the effectiveness of the QMS through the use of the Quality Policy, quality objectives, audit results, analysis of data, corrective and preventive action, and management review. Employees are actively encouraged to offer ideas for improvement of all processes including the QMS.

8.5.2. Corrective Action

Usher Precision Manufacturing actively pursues the elimination of nonconformities through a documented process of corrective action. The corrective action taken is dependant on the type and effects of the nonconformity for which the requirements may include:

- A review of all nonconformities including customer complaints,
- A determination of the causes of the nonconformities,
- An evaluation of the need for action and what type of action so that nonconformities do not recur,
- The determination and the implementation of the needed action,
- Recording the results of the of the action taken,
- Reviewing the corrective action,
- Flowing down of corrective action requirements to suppliers when it is their responsibility and,
- Taking specific actions where timely and/or effective corrective action has not been achieved.

Reference QP-852 Corrective Action Request

8.5.3. Preventive Action

Usher Precision Manufacturing is proactive in determining what is needed to eliminate the causes of potential nonconformities so as to prevent their occurrence. The actions taken are appropriate to the effects of the potential problem and are documented with requirements for:

- Determining potential nonconformities and their causes,
- Evaluating the need for action to prevent occurrence of nonconformities,
- The determination and implementation of action taken,
- The recording of the results taken and,
- A review of the preventive action taken.

Reference QP-853 Preventive Action Request

8.6. Quality Manual Revisions

Revision	Section	Sub-Section	Paragraph	Date	Authorized By
A	Original written	All	All	10/11/07	B. Bisceglia
B	Initial Release	All	All	05/12/08	B. Bisceglia
C	Vision, Mission & Quality statement	Page 4	Added continuously improvement of the QMS to the quality policy.	06/16/08	B. Bisceglia
	Section 4	4.3	Changed configuration management to including it in document control		
	All sections	As needed	Added references to QMS procedures and added the word "current" when referencing ISO 9001:2000 or AS 9100		
D	Quality Objectives and Policy, Organizational Chart	Page 4 & 6	Deleted names from organizational chart	07/28/09	B. Bisceglia
			Deleted Vision and Mission statements and added Quality Objective, Changed Quality Statement to Quality Policy		