National Metal Stampings, Inc.

Quality System Manual

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Quality System Manual

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"C":	03/01/09	WRITTEN TO ISO 9001:2008 AND UPGRADED TO INCLUDE APPLICABLE AS9100 "B" REQUIREMENTS	

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Introduction

The purpose of this manual is to describe the Quality Assurance Program implemented by National Metal Stampings Inc. (hereafter referred to as NMS). NMS is a manufacturer of precision sheet metal products for the Aerospace and Commercial Industries. NMS is currently in compliance with ISO 9001:2008 (Design Activity Exemption 7.3 and Servicing 7.5.1.5), SAE AS9100 Rev. "B", and customer requirements. NMS strives to deliver the products and service that meets the customer's requirement. NMS commits to constant improvement by training its people, upgrading equipment, eliminating non-essential practices, and creating an environment of total quality consciousness. This policy is carried out and implemented at all levels in the organization. This Quality Policy applies to all phases of our operation, from Procurement of raw stock to delivery of Finished Product. This Quality System Manual and our customer's quality requirements become the focus for NMS's business plan into the future. Written procedures and work instructions for implementing the Quality Assurance Program are established as dictated by the complexity of the product design, the manufacturing techniques required and the need for instructions to maintain the required quality level. Quality Manager reviews the Quality System Manual Yearly for compliance to the requirements set forth in the latest revision of this document, and makes revisions to this manual as required. Product or documentation created prior to the implementation of this Quality System Manual may not show evidence of compliance to AS9100 Revision "B" requirements. Any change to this Quality System Manual will not be initiated until approved by NMS management and any affected customer.

1 SCOPE

1.1 General: The Quality Program assures that the specifications of ISO 9001:2008, AS9100 revision "B" and customer requirements are applied to all contracts requiring the assurance that all processes are in control, and that the acceptability of product and services through the detection and prevention of nonconformity. Additional customer requirements are applied per purchase order requests. The scope of the quality management system is to comply with AS9100 "B" and customer Quality Requirements with exemptions for Design Activity 7.3 and Servicing 7.5.1.5. The justification for these exclusions are that NMS only manufactures products to customer requirements, does not design any products, nor does it service any product it manufactures or performs a service function.

1.2 Application: The Quality Program is applicable when:

a) Product specifications are stated in terms of an established Manufacturer's specification from the customer or,

b) When product is specified by the customer for unique demands where no specification exists, but customer acceptance criteria has been delegated to NMS

2 NORMATIVE REFERENCE

Documents related to this policy document include:

All procedures referenced within the pages of this document, matrix or procedures manual.

All work instructions that directly or indirectly have impact on product or process.

All forms, reports, or data used in conjunction with this policy and the procedures and work instructions described in this manual or the procedures manual.

3 TERMS AND DEFINITIONS

See terms and definition on separate document.

When "Service" is used in this document, it's defined "As the task of producing a product to customer requirement and not as a function of installing, repairing, or supplying labor to perform customer required tasks".

4 QUALITY MANAGEMENT SYSTEM

4.1 General requirements

This quality management system has been created, is being maintained, is implemented and will be continually improved to achieve compliance with ISO 9001:2008, AS9100 revision "B" and customer requirements. NMS Executive Management has determined that outside professionals, in-house experts, and employees from all departments are part of the Quality Management System for all customer, supplier and internal quality issues. "Quality Management" is not limited to Quality Department Personnel.

a) NMS determines the process needed for the quality management and their applications. These consist of flow charts for required processes such as contract review, product realization, monitoring, and other quality functions,

b) The sequence of operations, inspections, and performance requirements are documented.

c) Work instructions are used for the determining the criteria and methods of ensuring that both the operations and controls of the processes are effective.

d) Management determines the required resources, information, and monitoring required to ensure the performance of the

required processes. The requirements are defined in documented procedures, work instructions, and or Quality data.
e) Management defines the method of monitoring , measuring where applicable and the analysis of the process based on the task, complexity, and requirements. The monitoring is documented on the data monitoring and analysis form, inspection data, or as required by the procedure for receiving, first article, in-process and final inspection governing the process.
f) Management achieves planned results by means of work instructions, flow charts, procedures, documented training and "as required" company documents.
g) Quality system requirements imposed by the applicable regulatory authorities.
h) Outsourcing of any process that affects product conformity with requirements, NMS ensures the type and extent of the control over such processes by documented Purchase orders, terms and condition data, documented Tender offers, and/or requirements for quality process verification at the suppliers or upon receipt at NMS. The criteria and methods for control of processes are found in internal procedures, inspection instructions and work instructions. The information necessary for the operation and monitoring of these processes is found within available controlled documents. Upon the completion of measurement and monitoring of the processes, appropriate action is taken to assured intentions are achieved and opportunities for improvement are acted on. When any process is outsourced to a supplier, management controls the acceptability and conformity to documented requirements.

4.2 Documentation requirements

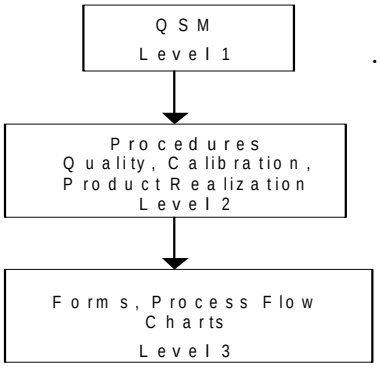
4.2.1 General: While considering the size of our organization, the complexity and interaction of the processes in our quality management system and the current workforce, we chose to include the following documents in our quality management system:
a) The documented statements of a quality policy and quality objectives.
b) A Quality System Manual.
c) Documented procedures and records required by AS9100 and ISO9001:2008
d) Documents including records determined by NMS to be necessary ensure the effective planning, operation and control of its processes.
e) Quality system requirements imposed by the applicable regulatory authorities; such as federal, state, or county, safety, regulatory, or legal authorities. NMS ensures that personnel have access to quality management system documentation and are aware of relevant procedures. This will be accomplished through training, meetings, and other company acceptable methods Customer and/or regulatory authorities' representatives have access to quality management system documentation.

4.2.2 Quality System Manual: NMS's Quality System Manual is maintained and reviewed yearly for its continued acceptability by the Quality Manager. The Quality System Manual includes;
a) The scope of the Quality Management system, including details of and justifications for any exclusion if applicable. 7.3 Engineering and 7.5.1.5 Servicing are the exclusions.
b) The relationship between the Quality System Manual and the referenced documents is identified in a Matrix attachment "A" all AS9100 "B" elements are identified in the matrix, with the corresponding procedures, and Quality System Manual section noted. For documentation traceability and ease of use, the documented Quality System Manual elements and corresponding procedures have the same control number as the specification element number. Additional procedures are noted in the matrix in the section of the specification where the specific procedures are relevant. When referencing the documented procedures, the relationship between the requirements of ISO 9001, AS9100 revision "B" or customer specifications, the documented procedure are clearly shown.
c) A description of the interaction between the processes of the quality management system is identified in Attachment "B". The interaction of process is controlled through the documentation process. The processes to manufacture product is controlled from the customer purchase order by the creation of work instructions from the contract review. All documentation and records of all processes are controlled as quality records by procedure 4.2.4. All supporting tasks, from inspection, training, supplier control, to facilities and equipment control are also controlled through procedures, work instructions and level 3 documents. Flow charts, procedures, and instructions describe the interactions specific to individual processes.

4.2.3 Control of Document

4.2.3.1 General: Document and Data Control Procedure, controls all documents and data that relate to the requirements of all customer quality system requirements including, to the extent applicable, documents of external origin such as standards and customer drawings. Relevant external documents and data are controlled and maintained to the latest version or revision level.
Note 1: Documents and data can be in the form of any type of media, such as hard copy or electronic media.
a) Internal documents and data are reviewed and approved for adequacy by authorized personnel before issue.
b) Documents and data are reviewed and updated as necessary and re-approved by authorized personnel.
c) Changes to documents and data are reviewed and approved by the same functions that performed the original review and approval, unless specifically designated otherwise. The designated functions have access to pertinent background information

upon which to base their review and approval. The review ensures the current status of the document is identified.
d) The pertinent issues of appropriate documents are available at all locations where operations essential to the effective functioning of the quality system are performed. This shall include applicable procedures and instructions.
e) To ensure that documents remain legible and readily identifiable
f) To ensure that documents of external origin determined by NMS to be necessary for planning and operation of the quality management system are identified and their distribution controlled, a master list, identifying the current revision status of all internal and relevant external and customer documents and data will be maintained and be readily available to preclude the use of invalid and/or obsolete documents.
g) Invalid and/or obsolete documents are promptly removed from all points of issue or use, or otherwise assured against unintended use. Any obsolete documents retained for legal and/or knowledge-preservation purposes are suitably identified.
h) The organization coordinates document changes with customers and/or regulatory authorities in accordance with contract or regulatory requirements.
i) Software used for quality or manufacturing is controlled by identifying the file with a combination of customer, part number, data, and/or revision. It will be backed up at least monthly and will be retained off premise or in a fireproof safe.
4.2.3.2 Documentation Structure: Internally generated Quality System documentation is structured to the following:



QUALITY SYSTEM MANUAL

- Answers "whats" needed to implement the Quality System

PROCEDURES

- Answers "how to" implement requirements of QSM

4.2.4 Control of Records: The Control of Quality Records Procedure defines the requirements for identification, collection, indexing, access, filing, storage, maintenance and disposition of quality records. Quality records shall be controlled to demonstrate conformance to specified requirements and the effective operation of the quality system. Pertinent quality records from the subcontractor are part of our quality record system. All quality records are legible, readily identifiable, retrievable and are stored and retained in such a way that they are readily retrievable in facilities that provide a suitable environment to prevent damage or deterioration and to prevent loss. Retention times of quality records are per customer requirement with a minimum of 10 years. The disposition of records is accomplished by reviewing customer retention period, and after that period either shredding the unneeded records, or archiving in a manner that will retain traceability and prevent damage either through electronic or hard copy storage as determined acceptable by the Quality Manager. Where agreed contractually, quality records are made available for evaluation by the customer or the customer's representative for an agreed period. The method for controlling records that are created by and/or retained by suppliers will be as follows: All supplier quality records concerning NMS product including material and processing certifications will be retained for 10 years. Note: Records may be in the form of any type of media, such as hard copy or electronic media.
4.2.4.1 Record Retention and Availability: NMS retains quality records for a minimum of 10 years from end of contract, unless specified otherwise by contract. Records are readily available for review by the customer or regulatory agencies. Records dated prior to the implementation of this manual may not show compliance to AS9100 Rev. B.
4.3 Configuration Management: NMS establishes documents and maintains a configuration management process appropriate to the product. The following are elements that are controlled as required by the complexity and appropriateness of the product. *Configuration Identification:* This is the process of defining and identifying every element of the product. *Configuration Control*: this is a series of actions, which manages a design change from the time of the original proposal for change through implementation of approved changes. *Configuration Accounting;* This is the process of recording the status of proposed changes and the implementation status of approved changes. When customer changes are submitted, they are incorporated and controlled after agreement by NMS and the customer as to implementation date.

5 MANAGEMENT RESPONSIBILITY

5.1 Management commitment: The following are expressions of NMS management commitment to develop and improve the quality management system:

a) Communication occurs throughout the company about the importance of fulfilling customer, legal and regulatory requirements. That communication happens through the use of:

General and product or service specific training, retraining when and where shortfalls appear, Displays and postings in high traffic areas of the facilities, Communication meetings, Specific emphasis in provided documentation

b) The quality policy (see 5.3)

c) The quality objectives (see 5.4.1)

d) The management review records

e) Ensuring the availability of resource as required by customer requirements (as determined through contract review), company policies, or AS9100 "B" requirements.

5.2 Customer Focus: The Quality Manager assures that customer needs and expectations are reviewed by reviewing contracts, rejection data, customer correspondence, delivery data and customer corrective action request. All customer correspondence or data showing a customer expectation that was not met are reviewed by the Quality Manager, or required manager for resolution, continuous improvement or corrective action. The Quality Manager reviews customer feedback and correspondence, rejection data, delivery data, and contract review data for verification that the customer focus was met and for trends or improvement opportunities. .

5.3 Quality Policy: Having given due consideration to the following:

a) The purpose of NMS

b) A commitment to meeting requirements and continually improve the effectiveness of the quality management system

c) Provide a framework for establishing and reviewing quality objectives

d) Is communicated and understood within the organization and

e) Is reviewed for continuing compatibility with quality objectives.

A quality policy statement that has been formulated by the highest level of management can be found with the President's endorsement throughout the company premise. It is implemented at levels in the organization. The quality policy reads as follows:

Quality Policy

National Metal Stamping will strive to deliver the service and value that meet or exceed the customer's requirements. NMS will commit to comply with all applicable requirements and to constant improvement by training its people, upgrading equipment and eliminating nonessential practices. NMS will monitor measure and analyze its processes for continuous improvement of its Management System throughout the year. Management will review all monitoring data during its Management Review for continuing suitability and effectiveness of the Quality Management System. This Quality Policy is carried out and implemented at all levels in the organization. All NMS training will begin with review of Quality Policy.

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5.4 Planning

5.4.1 Quality objectives: Top management ensures that quality objectives are established through the process and communicated to the employees. Quality objectives are established at relevant functions through out the manufacturing, quality, documentation, purchasing, and administrative functions. The quality objectives are measurable by the acceptance of product and by the satisfaction of our customers. The quality objectives are consistent with the company policy.

5.4.2 Quality Management System Planning: Having created sound measurable quality objectives, each level is required to consider the following as they create quality plans:

a) The planning of the quality management system relevant to meet the requirements given in 4.1, by means of work instructions, procedures, and documented training.

b) The integrity of the quality management system is maintained when changes to the quality management system are planned and implemented. This is accomplished by having documented procedures and instructions for all quality related tasks, and by having cross training of key quality tasks to more than one employee. Configuration management through revision control ensures control of documentation.

5.5 Responsibility, Authority, and Communication

5.5.1 Responsibility and authority: The responsibility and authority of personnel, who manage, perform and verify work affecting quality, is documented, particularly for personnel who need the organizational freedom to:

a) Initiate preventive actions relating to product, prices and quality system.

b) Identify and record any problems relating to product, prices and quality system.

c) Initiate or recommend solutions through designated channels.
d) Verify implementation of corrective or preventive actions.
e) Control further processing, delivery or installation of nonconforming product until deficiencies can be resolved.
f) Nonconforming product is returned to customer requirement/type design, or is disposition through authorized MRB actions, and/or per customer disposition authority, before further processing, delivery or installation. NMS defines all jobs that affect quality in the form of job descriptions that include position/job title, department, main job responsibilities, and basic job qualifications. Job Descriptions of personnel who manage, perform, or verify Quality activities are maintained in their personnel file, or training files controlled by the Quality Manager or Department Manager. NMS provides adequate resources, including trained personnel, for management, performance and verification of all quality system activities including internal quality audits. As needed, additional resources are obtained in accordance to applicable company procedure.
5.5.2 Management Representative: The President has appointed the Quality Manager as "Management Representative" with the responsibility and authority for:
a) Ensuring that processes for the quality management system are established, implemented, and maintained.
b) Reporting the performance and or any need for improvement of the quality management system to the highest level of management. Overseeing the maintenance of the quality system in accordance with ISO 9001:2008, AS9100 revision "B", Customer, Regulatory requirements
c) Ensuring the promotion of awareness, encouraging and assisting in extending the understanding of customer requirements to the degree necessary throughout the organization.
d) The organizational freedom to resolve matters pertaining to quality.
5.5.3 Internal communication: Data indicative of the performance of the quality management system is shared throughout NMS in following ways:
a) Monthly (minimum) updated production schedules with customer priority by the Management for product status.
b) As required, meetings or memos will be generated for specific or general topics concerning the quality management system.
c) Accessibility of corrective and preventive action statuses for all employees concerned.
5.6 Management Review
5.6.1 General: NMS management with executive responsibility review the quality system at defined intervals, at least once per year, sufficient to ensure its continuing suitability and effectiveness in satisfying customer quality system requirements and the company's stated quality policy and objectives. Records of such reviews are maintained (see 4.2.4). NMS operating procedure explains the Management Review process in greater detail.
5.6.2 Review Input
Quality performance and opportunities for improvement are determined by reviewing the following:
a) Audit results (internal audits, 3rd party audits, Customer audits, Regulatory audits, Etc.)
b) Customer feedback, Customer surveys, Customer complaints.
c) Process performance and product conformance, (Quality, Inspection, Monitoring and Work Order data).
d) Preventive and corrective action status (Internal, Customers, Supplier)
e) Carryover follow-up action item from prior management reviews
f) Quality management system changes from prior quality data
g) Recommendations for improvement
5.6.3 Review Output: Actions associated with the following are included in the output from management review and include;
a) Improvement of the effectiveness and processes of the quality management system.
b) Improvements of product and services associated with customer requirements.
c) Resources needs.
Management review records are maintained.
6 RESOURCE MANAGEMENT
6.1 Provision of Resources: Resources for the following purpose are provided:
a) To implement and maintain the quality management system and continually improve its effectiveness by review of quality data for opportunity to improve quality management system processes
b) To ensure customer satisfaction and requirements by documenting those requirements on contract review forms, work instructions and verifying their completion through Inspection, and quality documentation review
6.2 Human Resources
6.2.1 General: Personnel at NMS performing work affecting conformity to product requirements associated with any of the processes of the quality management system must be competent through education, skills, training and experience as necessary. Requirements for education, skills, training and experience can be found in the employee personnel file and/or job descriptions maintained by Human Resources.

6.2.2 Competence, Training and Awareness: The Training Procedure describes the method for identifying training needs and then planning and delivering training for all personnel performing quality activities. Personnel performing specific tasks are qualified based on appropriate education, training and/or experience, as required. Appropriate records of training are maintained (see 4.2.4).

a) Management is responsible for the determination of the necessary competency for personnel performing work affecting conformity to product requirements.

b) Where applicable training will be provided, or NMS management will take other actions to achieve the necessary competence.

c) Effectiveness of the training is evaluated by one or more of the following:

Testing on the material presented during training, operator certification when required, certificates of completion for externally provided training, monitoring process outcomes before and after training, or employee job assessments.

d) Monitoring the rejection rate as an indicator of continual improvement (training contributes to continual improvement), and to ensure our personnel are aware of the relevance and importance of their activities and how they contribute to the overall quality objectives.

e) Any employee assigned to perform an inspection or quality task must know the acceptance criteria and how that task contributes to the attainment of the quality objectives. If the affected employee does not understand the importance of his/her work to the objective, an explanation should be provided by the Quality Manager or his designee

f) Human Resources are responsible for keeping records of education, experience, training and qualifications.

6.3 Infrastructure: The Quality Manager (with input and assistance from his staff) determines, provides, and delegates the maintenance to the Maintenance department to maintain the infrastructure needed to achieve conformity to product requirements. Consideration is given to the following:

a) Workspace, size, layout and facilities associated with workspace. HVAC, water, lighting, electricity, telephone systems, data lines, compressed air lines, machine specific requirements etc.

b) Equipment, hardware, furniture, workbenches, storage racks, tools, gages, machines, vehicles, other office equipment etc.

c) Supporting Services such as transportation, preventive maintenance, calibration, information systems, facilities etc.

When any change or improvement is identified, it is the responsibility of the Quality Manager to approve those necessary for the achievement of product and/or service requirements.

6.4 Work environment: NMS considers and addresses many different aspects of the work environment. Most significant among them are: Facilities, Health and safety, Housekeeping, Work ethics, all managed by the Quality Manager and his designees.

7 PRODUCT REALIZATION

7.1 Planning of Product Realization: As NMS plans and prepares for a new product, project or contract, the processes required, and the requirements of other quality system processes, the following are determined and as applicable shall be established:

a) Specific quality objectives and requirements for the products

b) Specific processes and documents, and to provide resources specific for the product or service required

c) Verification activities required, validation activities required, monitoring, measurement, inspection, and test activities specific to the product and the criteria for product acceptance.

d) Records required to provide evidence that the realization processes and resulting product meet requirements.

e) The identification of resources to support operation and maintenance of the product.

7.1.1 Process Control: NMS identifies and plans the production, which directly affect quality and ensures that these processes are carried out under controlled conditions. Controlled conditions include those noted in section 7.5.1:

a) Documented procedures for work orders define the manner of production where the absence of such procedures could adversely affect quality, including process control plans, workmanship standards;

-The preparation, maintenance and monitoring of manufacturing plans (work orders or traveler) that contain clear, concise and complete instructions for work that affects product quality, including references to applicable specifications on manufacturing plans;

-Quality planning requirements, including references to applicable specifications on manufacturing plans;

- A production planning system that includes tracking when a part is initially manufactured and that provides a schedule for the following: raw materials; tool fabrication; purchased or fabricated parts; and finishing, assembly, inspection and shipping operations.

b) Use of suitable production equipment, and a suitable working environment.

c) Compliance with reference standards/codes, quality plans and/or documented procedures specified drawings, specifications and other requirements.
d) Monitoring and control of suitable process parameters and key product characteristics.
e) The approval of processes and equipment, as appropriate.
f) Criteria for workmanship, which are stipulated in the clearest practical manner (e.g., written standards, representative samples or illustrations).
g) Suitable maintenance of equipment to ensure continuing process capability.
h) Accountability for all product and evidence that all manufacturing and inspection operations have been completed in sequence, as planned, or as otherwise documented and authorized. Where the results of processes cannot be fully verified by subsequent inspection and testing of the product and where, for example, processing deficiencies may become apparent only after the product is in use, the processes are carried out by qualified operators and/or require continuous monitoring and control of process parameters to ensure that the specified requirements are met. The requirements for any qualification of process operations, including associated equipment and personnel (see 6.2.2), are specified. Note: Such processes requiring pre-qualification of their process capability is frequently referred to as special processes. Records are maintained for qualified processes, equipment and personnel, as appropriate (see 4.2.4).
7.1.2 Process Control Elements: NMS addresses the following specific requirements of Process Control Elements in Standard Operating Procedure as applicable: Adequate manufacturing plan, Drawing configuration control, Part accountability, Quality requirements approval, Production Schedule, In-process delays, Lot tracking, Suitable equipment available, Suitable work environment, Preventive maintenance, Workmanship standards, Sequence of operations, Evidence of completion, Split orders, Special process approval, Monitoring process specification requirements, Process control methods NMS addresses the following specific requirements of Process Control Elements relating to tooling in the procedure for Tooling Control.
7.1.3 Process Specification Requirements: Where process specification requirements exist, NMS monitors and controls those processes on a scheduled basis. When special processes requiring customer approval are required by drawing, specification or contract NMS obtains qualification prior to processing or subcontract the process to a customer-approved source. These records include as applicable accurate identification of documents required, and the identification of required tooling and inspection tools.
7.2 Customer-related processes
7.2.1 Determination of Requirements Related to the Product: In an effort to thoroughly identify all customer requirements, the following are considered by Quality or Contracts or Manufacturing and Engineering as they interface with the customer and as the product or service development takes place:
a) Product and or service performance requirements provided by the customer including the requirements for delivery and post-delivery activities
b) Requirements not stated by the customer, but necessary for specific or intended use, where known determination of application related requirements, if not provided by the customer such as: temperature requirements-humidity requirements-duty cycle-product life
c) Determination of statutory and regulatory requirements if any applicable to the product or service such as FDA, FAA, EPA, other federal, state, local or customer imposed (for example, a customer requirement to be ISO 14000 compliant).
d) Determination of any additional requirements considered necessary by NMS or requirements of the customers.
7.2.2 Review of Requirements Related to the Product: NMS reviews all identified customer requirements and other identified requirements for new business acceptance, changes or amendments to current contract in accordance with Contract Review procedures. This procedure addresses:
a) Definition of requirements, their documentation and resolution if not understood.
b) Contract or order requirements differing from those previously expressed are resolved, requirements that change after the quote process has begun are addresses prior to work being performed. NMS ensures that relevant documents are amended and verified as correct by quality personnel, and that the relevant personnel are made aware of the changes required. Changes are documented on amended work instructions, quality records, or on quality memos.
c) The determination of NMS ability to meet the requirements.
d) Risk (e.g., new technology, short delivery time scale) have been evaluated. Where the customer provides no documented statement of requirement, the customer requirements are confirmed by the organization before acceptance. Where product requirements are changed, the organization ensures that relevant documents are amended and that relevant personnel are made aware of the changed requirements.
7.2.2.1 Contract Review: NMS Contract Review Procedure defines the requirements for contract review and for the coordination of all related activities. Before submission of a tender, or the acceptance of a contract or order (statement of requirement), the tender, contract or order are reviewed by NMS to ensure that: The requirements are adequately defined and

documented; where no written statement of requirement is available for an order received by verbal means, NMS ensures that the order requirements are agreed before their acceptance. Any differences between the contract or order requirements and those in the tender are resolved. NMS has the capability to meet the contract or order requirements. Quality planning is an integral part of the contract review process. Customer requirements that modify the engineering definitions are controlled and implemented.

7.2.2.2 Amendment to a Contract: NMS identifies how an amendment to a contract is made and correctly transferred to the functions concerned within NMS organization. Management determines the required dates, configuration, quantity, and other customer requirements. If NMS cannot meet the requirements, the Quality Manager notifies the customer and arrangements or concessions are made and documented.

7.2.2.3 Records: Records of contract reviews are maintained (see 4.2.4). The customer purchase order are reviewed and approved by trained personnel, and the evidence of review is the signing, initialing or stamping of the customer purchase order. Customer requirements are noted or referenced on the traveler. Records of requirements reviews and follow-on actions are maintained as Quality Records in the customer file and or the part number file. When customer requirements have been provided verbally NMS must receive a copy (hard copy or electronic copy) of the purchase order prior to initiating work.

7.2.3 Customer Communication: There are several scenarios where communication occurs between NMS and its customers. The first contact often occurs through some form of advertising provided by the company. Enquiring potential customers are provided with any further information by the Marketing/Sales department.

a) Contact required by the customer with other functions, is coordinated by the Quality Manager or his designee. Customer service is a primary contact for customer communications.

b) The Quality department coordinates customer feedback and to customer complaints through the use of Corrective and Preventive Action when required, or by means of reports, or memos noting the customer concern and the NMS action required.

c) Customer feedback, including customer complaints.

7.3 Design and/or Development: NMS does not design products as part of its normal business operations. The requirements of AS9100 have been noted and considered as not applicable at this time. NMS assists customers in any design function required, but as an aid to the customer and under the customer direction.

7.4 Purchasing

7.4.1 Purchasing Process: The Purchasing Procedure defines the requirements for purchased product to conform to specified requirements.

7.4.1.1 Responsibility: NMS assumes the responsibility for the quality of all materials, articles, software and services purchased from subcontractors, including customer-designated sources. Purchasing makes subcontractor selection with approval of Quality Assurance. Quality Assurance includes one or more of the following evaluation methods: Surveys, Past History, Customer approval, Product Appraisal, Accreditation

The application of the above approval methods may be changed based on the product purchased impact on the NMS product supplied to the customer. The Quality Manager makes this determination. All suppliers that have a direct quality impact on the products NMS supplies to the customer are evaluated every 2 years for quality and delivery data. Supplier quality requirements are documented in the Purchasing procedure for continuation on the NMS approved supplier list. NMS:

a) Maintains a register of approved suppliers that includes the scope of the approval;

b) Review supplier performance records at least every 2 years, these reviews are used as a basis for establishing the level of control to be implemented;

c) Defines the necessary actions to take when dealing with suppliers that do not meet requirements;

d) Ensures where required that both the organization and all suppliers use customer approved sources;

e) Ensures that the function having responsibility for approving supplier quality systems has the authority to disapprove the use of sources

7.4.1.2 Evaluation of Subcontractors: NMS will:

a) Evaluate and select subcontractors based on their ability to meet subcontract requirements including the quality system and any specific quality assurance requirements.

b) Define the type and extent of control exercised by NMS over subcontractors, depending on:

- The type of product.
- The impact of subcontracted product on final product quality.
- Where applicable, on the quality audit reports and/or quality records of the previously demonstrated capability and performance of subcontractors.

c) Include a review of such factors as product complexity, subcontractor's demonstrated process control, and NMS ability to inspect product upon receipt;

d) Establish and maintain quality records of acceptable subcontractors (see section 4.2.4), and establish and maintain an Approved Supplier List that notes the "scope of approval" for all sub-tiers that provide purchased hardware used on customer products.
e) Ensure that all subcontractors and their subcontractors are customer-approved special processors and manufacturers' authorized distributors, as required and listed in customers' approved sources documents, unless otherwise specified in the contract.
f) Ensure that the organization having responsibility for approving subcontractor quality systems has the authority to disapprove the use of sources that do not have a satisfactory quality system or product history.
g) Review and assess subcontractor performance. Records of these evaluations are maintained and used as a basis for establishing the frequency of subcontractor audits and product inspections. The records are also used for determining whether to offer future bid opportunities.
h) Maintain procedures that define the necessary corrective actions to take when doing business with an unsatisfactory subcontractor. These procedures may include providing technical and training assistance.
7.4.1.3 Re-Evaluation of Subcontractors: Re-evaluation will be based on 7.4.1.2 a-f
7.4.2 Purchasing Information: Purchasing documents contain the information and data clearly describing the product ordered, including where applicable:
a) Approval/qualification requirements including as appropriate:
-Precise identification of product or service ordered
-Positively identified specifications, drawings, pertinent standards and codes or other technical documents required to establish full acceptability specialized equipment.
b) Uniquely qualified personnel
c) Quality management system requirements
d) The name or other positive identification, and applicable issues of specifications,
e) Drawings, process requirements, inspection instructions and other relevant technical data;
f) Requirements for design, test, examination, inspection and related instructions for acceptance by the organization;
g) Requirements for test specimens (e.g., production method, number, storage conditions) for design approval, inspection, investigation or auditing;
h) Requirements relative to-supplier notification to organization of nonconforming product and- arrangements for organization approval of supplier nonconforming material.
i) Requirements for the supplier to notify NMS of changes in product and/or process definition and, where required, obtain NMS approval;
j) Right of access by NMS, their customer, and regulatory authorities to all facilities involved in the order and to all applicable records, and;
k) Requirements for the supplier to flow down to sub-tier suppliers the applicable requirements in the purchasing documents, including key characteristics where required.
All NMS purchasing documents must be originated in the purchasing department. Each originator of purchasing documents must assure that specifications contained in the purchasing documents are adequate. NMS reviews and approve purchasing documents for adequacy of the specified requirements before release.
7.4.3 Verification of Purchased Product: The processes for verification of purchased product or service are found in the specific quality plans for those products or services. The process selected and included in the quality plans depends on the critically of the purchased product and the performance history of the supplier. The processes for incoming material acceptance include:
a) obtaining objective evidence of the quality of the product from suppliers (e.g., accompanying documentation, certificate of conformity, test reports, statistical records, process control),
b) inspection and audit at supplier's premises,
c) review of the required documentation,
d) inspection of products upon receipt, and
e) delegation of verification to the supplier, or supplier certification. Purchased product shall not be used or processed until it has been verified as conforming to specified requirements, unless it is released under positive recall instructions. Where NMS utilizes test reports to verify purchased product, the data in those reports shall be acceptable per applicable specifications. NMS shall validate test reports for raw material yearly. Raw material certification(s) submitted for sample verification are based on a random sample of the material and/or material supplier that is used the most by NMS. Where NMS delegates verification activities to the supplier, the requirements for delegation shall be defined in the Purchase Order to the supplier and a register of delegations maintained. Verification by customers shall not be used by NMS as evidence of effective control of quality by the

supplier, nor shall it preclude subsequent rejection by the customer. When NMS stipulates in any contract that purchased product or service is subject to source inspection by NMS or NMS customer, the details for such inspection and subsequent release of accepted material is stated in the purchase agreement.

7.4.3.1 Verification at Subcontractor's Premises: Where NMS proposes to verify purchased product at the subcontractor's premises NMS specifies verification arrangements and the method of product release in the purchasing documents.

7.4.3.2 Customer Verification of Subcontracted Product: Where specified in the contract, NMS customer or customer's representative are afforded the right to verify at the subcontractor's premises and NMS premises that subcontracted product conforms to specified requirements. Such verification will not be used by NMS as evidence of effective control of quality by the subcontractor. Verification by customer will not absolve NMS of the responsibility to provide acceptable product, nor does it preclude subsequent rejection by the customer.

7.4.3.3 Delegation of Supplier Verification to Subcontractors: NMS defines the requirements for delegating verification of purchased product to subcontractors. Authority is not be delegated until the subcontractor has demonstrated a high level of system and product quality. NMS will not delegate authority without prior written approval of the customer quality representative. NMS will withdraw delegated product verification authority from the subcontractor when the level of system and product quality is no longer acceptable.

7.4.3.4 Right of Access: NMS shall ensure the right of access by NMS employees, their customer, and regulatory authorities to all suppliers involved in supplying service, material, or products and to all applicable records, and requirements for the supplier to flow down to sub-tier suppliers the applicable requirements in the purchasing documents, including key characteristics where required. This requirement shall be documented on NMS Terms and Conditions, or on purchase order(s) given to the supplier.

7.4.3.5 Requirements Flowdown: NMS flows down quality system requirements to subcontractors to the extent necessary to ensure that characteristics not verifiable upon receipt are adequately controlled by the subcontractor.

7.5 Production and Service Operations

7.5.1 Control of Production and Service Provision: The control of NMS production operations are assured by documented work instructions that address: as applicable, the establishment of process controls and development of control plans where key characteristics have been identified. The identification of in-process verification points when adequate verification of conformance cannot be performed at a later stage of realization. The designs, manufacture, and use of tooling so that variable measurements can be taken, particularly for key characteristics, and special processes. NMS plans and carries out production and service provision under controlled conditions. Controlled conditions include, as applicable:

a) The availability of information that describes the characteristics of the product,

b) The availability of work instructions, as necessary,

c) The use of suitable equipment,

d) The availability and use of monitoring and measuring equipment,

e) The implementation of monitoring and measurement,

f) The implementation of product release, delivery and post-delivery activities as required by customer contract,

g) Accountability for all products during manufacture (e.g., parts quantities, split orders, nonconforming product),

h) Evidence that all manufacturing and inspection operations have been completed as planned, or as otherwise documented and authorized,

i) Provision for the prevention, detection, and removal of foreign objects,

j) Monitoring and control of utilities and supplies such as water, compressed air, electricity and chemical products to the extent they affect product quality, and

k) Criteria for workmanship, which are stipulated in the clearest practical manner (e.g., written standards, representative samples or illustrations).

7.5.1.1 Production Documentation: Production operations are carried out in accordance with approved data. The production planning and the quality plan are implemented through the work order. This data contains as necessary:

a) drawings, parts lists, process flow charts including inspection operations, production documents (e.g., manufacturing plans, traveler, router, work order, process cards); and inspection documents (see 8.2.4.1), and

b) a list of specific or non-specific tools and numerical control (NC) machine programs required and any specific instructions associated with their use.

7.5.1.2 Control of Production Process Changes: Persons authorized to approve changes to production processes are as follows the President, General Manager and/or the Quality Manager. NMS identifies and obtains acceptance of changes that require customer and/or regulatory authority approval in accordance with contract or regulatory requirements. Changes affecting processes, equipment, tools and programs are documented. Procedures or work instructions are available to control their implementation. The results of changes to production processes are assessed to confirm that the desired effect has been

achieved without adverse effects to product quality.

7.5.1.3 Control of Production Equipment, Tools and Numerical Control (NC.) Machine Programs: Production equipment, tools and programs are validated prior to use and maintained and inspected at least yearly according to documented procedures (manufactures maintenance procedures). Validation prior to production use includes verification of the first article produced to the design data/specification or by software verification. Storage requirements, including at least every two years for preservation/condition checks, are established for production equipment or tooling in storage. The review is a visual inspection performed as a minimum every two years or prior to use for damage, missing parts, or obsolete requirements. The check need not be verified on a documented form.

7.5.1.4 Control of Work Transferred, on a Temporary Basis, Outside the Organization's Facilities: When planning to temporarily transfer work to a location outside the organization's facilities, the organization defines the process to control and validate the quality of the work on either a work order that defines the sequence of operations and the quality requirements, or on a purchase order with the quality requirements defined along with the company terms and conditions.

7.5.1.5 Control of Service Operations: NMS does not service any product as part of its normal business charter. Any servicing performed is per customer written instructions and must be agreed upon prior to the servicing being performed.

7.5.2 Validation of Processes for Production Provision: Where the results of processes cannot be fully verified by subsequent monitoring or measurement and as a consequence, deficiencies may become apparent only after the product is in use, or the service has been delivered, the processes are carried out by qualified operators and/or will require continuous monitoring and control of process parameters to ensure that the specified requirements are met.

a) The requirements for any qualification of process operations, including associated defined criteria for review and approval and qualification and approval of special processes prior to use.

b) Equipment and personnel are specified as required on the work instructions, purchase order, or engineering design data.

c) NMS controls applicable aspects of special processes, as defined by the process specifications; this includes special process changes; and defines the significant operations and parameters in the process to be controlled during production.

d) Records are maintained for qualified processes, equipment and personnel, as appropriate

e) The process is revalidated yearly by a review of quality records or upon process change, when the Quality Manager determines that the process can no longer meet customer acceptance criteria.

7.5.3 Identification and Traceability: Product Traceability and status is identified with respect to monitoring and measurement requirements throughout product realization by the use of work instructions, which document lot traceability, and serialization traceability as required by the customer design or NMS quality criteria. When traceability is lost, the product is controlled as nonconforming product until traceability and configuration is confirmed as acceptable. When Product Identification and Traceability is a requirement, NMS shall control the unique identification of the product and maintain records. Procedure 7.5.3 defines the means to identifying the product from receipt and through all stages of production and delivery;

a) All the products manufactured from the same batch of raw material or from the same manufacturing batch to be traced, as well as the destination (delivery, scrap) of all products of the same batch;

b) For an assembly, the identification of its components and those of the next higher assembly to be traced;

c) For a given product, a sequential record of its production (manufacture, assembly, inspection) to be retrieved;

d) It defines the requirement of handling parts as non- conforming material when traceability is lost.

e) When acceptance authority media are used (e.g., stamps, electronic signatures, passwords), the organization establishes and documents controls for the media. This is controlled by procedure 9.0. NMS also defines where and to the extent, that traceability is a specified requirement, procedures for unique identification of individual product or batches. This identification is kept as Quality Record (see 4.2.4).

7.5.4 Customer Property: Control of Customer Property Procedure, for the controls of verification, identification, storage and maintenance of customer property provided for incorporation into the supplies or for related activities. Any such product that is lost damaged or is otherwise unsuitable for use is reported to the customer, and records of such reports shall be maintained. These reports are kept as Quality Record (see 4.2.4) Verification by NMS does not absolve the customer of the responsibility to provide acceptable product. Customer property can include intellectual property and personal data.

7.5.4.1 Notification and Authorization: Supplier disposition of nonconforming customer-, customer's customer- or Government-furnished property requires authorization by the customer, or as otherwise provided in the contract.

7.5.4.2 Receiving Inspection: The receiving inspection process verifies that the received product meets the customer or supplier documented description. When NMS purchased product is received, it is verified against NMS purchase order requirements. All nonconforming received product is controlled per procedure 8.3 as applicable. The inspection records are maintained to give historical information of the material or the document's conformance.

7.5.4.3 Nonconforming Material: Material not meeting inspection specification requirements are rejected to the purchaser or submitted to a Material Review Board. In either case, the purchaser is to be notified.

7.5.4.4 Storage: NMS stores all customer furnished supplied product to preclude damage, in the stockroom, in bonded storage, in designated storage area, or per customer requirement.
7.5.5 Preservation of Product: NMS shall preserve the product during internal processing and delivery to the intended destination in order to maintain conformity to requirements. As applicable preservation shall include identification, handling, packaging, storage and protection. Preservation shall also apply to constituent, sub-assemblies, and components parts of a product.
7.5.5.1 Handling, Storage, Packaging, Preservation and Delivery: Preservation at NMS is the prevention of damage and deterioration during all phases of the manufacturing, handling, packaging, and delivery processes. Provisions for the following are addressed:
a) Cleaning, of manufacturing products is per customer requirements;
b) Prevention, detection and removal of foreign objects;
c) Special handling and packaging of manufacturing products is per customer requirements;
d) Marking and labeling of both the product and shipping containers including safety warnings;
e) Shelf life control as required and stock rotation;
f) Special handling, storage, packaging, and protection of hazardous material.
When contractually agreed upon NMS takes on the responsibility for product delivery without degradation of product quality. Product identification is per customer requirements. NMS ensures that documents required by the contract/order to accompany the product are present at delivery and are protected against loss and deterioration.
7.5.5.1.2 Handling: NMS provides methods of handling product that prevent damage or deterioration.
When appropriate, methods of handling product include provisions for the detection and removal of foreign objects.
7.5.5.1.3 Storage: NMS uses designated storage areas or stock rooms to prevent damage or deterioration of product, pending use or delivery. Appropriate methods for authorizing receipt to and dispatch from such areas are stipulated. In order to detect deterioration, the condition of product in stock is assessed at appropriate intervals. If ESDS materials are received, they are properly identified and evaluated in accordance with the specifications.
7.5.5.1.4 Configuration Control of Inventory: NMS has a system to ensure that product removed from inventory conforms to the appropriate revision level and to contract, drawing and specification requirements.
7.5.5.1.4.1 Control of Excess Inventory: NMS strictly controls all inventory of customer proprietary product that is in excess of contract quantity in order to prevent product from being sold or provided to any third party without prior written authorization from the customer.
7.5.5.1.5 Packaging: NMS controls, packing, packaging and marking processes (including materials used) to the extent necessary to ensure conformance to specified requirements.
7.5.5.1.6 Preservation: NMS applies appropriate methods for preservation and segregation of product when the product is under NMS control.
7.5.5.1.7 Delivery: NMS arranges for the protection of the quality of product after final inspection and test. Where contractually specified, this protection is extended to include delivery to destination.
7.5.5.17.1 Shipping Documents: NMS includes properly completed packing sheets and applicable quality documentation as defined by contract and/or specification.
7.6 Control of measuring and monitoring equipment: Control of Measuring and Monitoring Equipment Procedure, defines the requirements for control, calibration and maintenance of equipment (including test software) used to inspect/test conformance of product to specified requirements. NMS management determines the monitoring and measurements to be taken and the equipment needed to provide evidence of conformity of product to determine requirements. Inspection, measuring and test equipment is used in a manner, which ensures that the measurement uncertainty is known and is consistent with the required measurement capability. NMS maintains a register of these monitoring and measuring devices in a calibration equipment recall database. The process employed for their calibration is either in-house calibration by trained employees, or by outside calibration facilities approved by NMS or our customers. The calibration database includes equipment type, unique identification, location, frequency of checks, check method and acceptance criteria. Measuring equipment is;
a) Be calibrated or verified, or both at specific intervals or prior to use against measurement standards traceable to N.I.S.T.
b) When adjustments are made, they are made in accordance to the manufactures instructions or documented equipment calibration procedures
c) Have identification in order to determine and controlled its calibration status.
d) Utilizing safeguards for inappropriate adjustment. These may include tabs over adjustment screws, knobs, or levers, wax sealants, torque striping, mechanical locks, or appropriate methods determined by the Quality Manager
e) Handled and stored in such a manner as to prevent damage or deterioration.
f) Recalled to a defined method when requiring calibration.

Where test software or comparative references such as test hardware are used as suitable forms of inspection, they are checked to prove that they are capable of verifying the acceptability of product, prior to release for use during production, and are rechecked at prescribed intervals. NMS establishes the extent and frequency of such checks and maintains records as evidence of control. Where the availability of technical data pertaining to the inspection, measuring and test equipment is a specified requirement, such data is made available, when required by the customer or customer's representative, for verification that the inspection, measuring and test equipment is functionally adequate. Records of the results of the calibration and verification shall be maintained. Confirmation of the ability of computer software to satisfy the intended application will be performed as noted in the Product Assurance Software procedure using either a known "Artifact" or Equipment imbedded assurance software.

7.6.1 Definition: Inspection, measuring and test equipment includes all types of devices used by any NMS or subcontractor personnel to check materials, products, processes or other inspection, measuring and test equipment. This includes test hardware, test software, and plotters used to produce inspection media. It does not include personally owned equipment used for product acceptance. NMS has records of calibration that include the data from the prior calibration, the recall data, who, when, and using what method for the calibration of the equipment. Outside calibration facilities must have a quality system in compliance to ISO 17025 or ISO 10012.

7.6.2 Control Procedure: NMS:

a) Determines the measurements to be made and the accuracy required, and selects the appropriate inspection, measuring and test equipment that is capable of the necessary accuracy and precision.

b) Identify all inspection, measuring and test equipment that can affect product quality, and calibrate and adjust them at prescribed intervals, or before use, against certified equipment having a known valid relationship to internationally or nationally recognized standards. Where no such standards exist, the basis used for calibration will be documented. A system for recall of measuring devices that require re-certification will also be documented.

c) Define the process employed for the calibration of inspection, measuring and test equipment, including details of equipment type, unique identification, location, frequency of checks, check method, acceptance criteria and the action to be taken when results are unsatisfactory.

d) Identify inspection, measuring and test equipment with a suitable indicator or approved identification record to show the calibration status.

e) Maintain calibration records for inspection, measuring and test equipment

f) Assess and document the validity of previous inspection and test results when inspection, measuring or test equipment is found to be out of calibration. Recall product for re-inspection when this assessment indicates that the result may be nonconforming product.

g) Ensure that the environmental conditions are suitable for the calibrations, inspections, measurements and tests being carried out.

h) Ensure that the handling, preservation and storage of inspection, measuring and test equipment is such that the accuracy and fitness for use are maintained.

i) Safeguard inspection, measuring and test facilities, including both test hardware and test software, from adjustments, which would invalidate the calibration setting.

Ensure that subcontractors' inspection, measuring and test equipment conforms to the requirements of Section 7.6 of AS9100 revision B. Product quality plans (work orders, quality planning, customer quality data, or customer Engineering Design Data) identify the measurements to be made and the monitoring and measurement equipment required. Inclusion of a monitoring and measurement device into a quality plan requires that there be sufficient confidence that the error of the measurement system (device, documentation and operator) will not alter the measurement to be made. NMS accommodates this need by selecting measurement devices that can resolve one more decimal place than the number of decimal places in the tolerance of the measurement to be made. When these 10:1 criteria cannot be achieved or when there is reason to believe that other sources may interfere with obtaining a true reading,

To assure that measurement capability remains consistent NMS requires that measuring and monitoring devices:

a) Be calibrated prior to use or at least every two years to NIST traceable standards.

b) When adjustments are made, they will be made in accordance to documented equipment calibration procedures

c) Be identified and controlled to enable the calibration status to be determined against calibration records.

d) Utilize safeguards for inappropriate adjustment. These may include tabs over adjustment screws, knobs, or levers, wax sealants, torque striping, mechanical locks, or as appropriate methods as determined by Quality Management

e) Be handled and stored in such a manner as to prevent damage or deterioration.

f) Be recalled to a defined method when requiring calibration.

NMS will have records of calibration that include the data from the prior calibration, the recall data, who, when, and using what method for the calibration of the equipment. Outside calibration facilities must have a quality system in compliance to ISO 17025 or ISO 10012.

8 MEASUREMENT ANALYSIS and IMPROVEMENT

8.1 General

NMS product quality plans are used for planning and defining the necessary monitoring and measurement, analysis and improvement techniques, including statistical techniques (as applicable). When required by customers or determined by management, the following methods may be used to improve or monitor our product or processes. Statistical techniques may be used to support design verification (e.g., reliability, maintainability, safety), process control, selection and inspection of key characteristics, process capability measurements, statistical process control, design of experiment, inspection, matching sampling rate to the criticality of the product and to the process capability, failure mode and effect analysis. When any of the above methods are implemented, they are documented and the results reviewed by the Quality Manager or his designee for results and potential improvements. Implementation occurs according to the defined plans, the resulting data is analyzed and improvements are pursued. Inspection records of receiving inspection, in-process inspection, final inspection, first article inspection, supplier inspection records and test records are used to;

a) Demonstrate the conformity of the product requirements

b) Ensure conformity of the quality management system

c) To continually improve the effectiveness of the quality management system

8.2 Measuring and Monitoring

8.2.1 Customer Satisfaction: NMS Monitors and evaluates customer perception information using QMS information related to "On-Time-Delivery, Product Quality, and Customer Service performance". NMS then develops plans that address deficiencies as applicable. The information may include input from customer satisfaction surveys, customer quality and delivery data, customer opinion, rejection, corrective action data, lost business analysis, and actual customer comments. This information is reviewed and a report is created and determinations are made as to the response, corrections, changes required and as to whether customer requirements were met.

8.2.2 Internal Audit: A strategic system of planned and yearly audits is implemented to verify compliance with all applicable quality procedures and documentation as determined applicable by NMS management, including procedures, inspections training, process controls and certifications performed. The selection of auditors and conduct of audits shall ensure objectivity and impartiality of the audit process. Procedure 8.2.2 has been established to define the responsibilities and requirements for planning and conducting audits, establishing records and reporting results. Records of the audits and their results shall be maintained

a) The audits also verify customer Flowdown requirements to the operating instructions. Customer requirements include ISO and AS9100 revision "B" specifications and the requirements of the quality management system.

b) All applicable (as determined by management) procedures/processes to determine requirements are audited at least once each calendar year or more frequently as required by the importance or the need of the activity. The results of these audits form an integral part of NMS's management review process. Customer or certifying agency audits, when documented, serves to supplement information to management for overall quality system and product performance. Audits are performed in accordance with this written procedures and detail checklists that have been developed to incorporate customer and NMS requirements, by trained personnel not directly accountable to the function or area being audited. The management responsible for the area being audited ensures that any necessary corrections and corrective actions are taken without undue delay to eliminate detected nonconformities and their causes. Findings that can result in product or employee safety will be corrected when possible within 1 working day. Management may extend non-safety or non-product impact corrections for up to 60 days. Follow-up activities include the verification of the actions taken and the reporting of verification results When inspection, manufacturing, assembly departments are audited, re-inspection of work accepted, required documentation availability, operator familiarity with required documentation, evaluation of the adequacy of acceptance and rejection documents, and training records are part of the normal audit process. Documented objective evidence is part of the audit results. Concerns, findings and corrective action for audit items are reviewed. Recommendations are made to the management having direct responsibility for the area being audited. They are responsible for timely and effective corrective action. Quality Assurance management is responsible for the follow-up audits to ensure the effectiveness of the corrective action. Upper management reviews the results of the internal audits. Audit personnel are qualified by education and experience. A contract trained Quality auditor may be used for the internal audit process. Detailed checksheets are developed to support the audit process of the quality management system. The acceptability of the checksheets is measured against the effectiveness of the internal audit process and overall organization performance. Internal audits also meet contract and/or regulatory requirements.

8.2.3 Measurement and monitoring of processes: Specific product and/or service quality plans contain the monitoring and measurement processes to be applied to the realization processes necessary to achieve customer requirements. When planned results are not achieved, correction and corrective action shall be taken, as appropriate. The primary method of measurement is the work order. In each case suitable control can be attained at reasonable costs. In the event of process nonconformity, NMS:

a) Takes appropriate action to correct the nonconforming process,

b) Evaluates whether the process nonconformity has resulted in product nonconformity, and

c) Identifies and control the nonconforming product in accordance with clause 8.3.

8.2.4 Monitoring and Measurement of product: NMS shall monitor and measure the characteristics of the product to verify that product requirements have been met. The monitoring and measurements will be documented on work orders, inspection plans, and quality plans that are created in order to assure conformity to customer requirements, specific product and/or service quality plans . The monitoring and measurements of each product or service shall be performed at the appropriate stages of product realization process in accordance with the planned arrangements. Evidence of conformity with the acceptance criteria shall be maintained. The Quality Manager, inspectors, and trained employees identified on the signature or stamp log or their training records are authorized to release product for delivery to the customer or acceptance for further processing. Product release or service delivery to the customer must be preceded by successful completion of all required activities unless approved by the Quality Manager or his trained designees or as applicable the customer. When NMS uses sampling inspection as a means of product acceptance, the plan is statistically valid and appropriate for use with C=0. The plan precludes the acceptance of lots whose samples have known nonconformities. When required, the plan is submitted for customer approval. ANSI Z.1.4 may be used as a valid sampling plan. Product will not be used until it has been inspected or otherwise verified as conforming to specified requirements, except when product is released under positive-recall instructions pending completion of all required measurement and monitoring activities. When key characteristic have been identified, they are monitored and controlled. If any statistical inspections are to be used in the future, NMS submits the required information to our customer for its review and customer approval before use by the company. If sampling is to be used, it is statistically valid, and precludes the acceptance of lots whose samples have known nonconformities. In all cases, inspection requirements identified by engineering drawing or specification take precedence over the inspection options described here. It is understood that the Customer reserves the right to require 100% inspection for selected characteristics.

8.2.4.1 Inspection Documentation: Measurement requirements for product or service acceptance are documented. This documentation may be part of the production documentation, but includes as applicable:

a) Criteria for acceptance and/or rejection,

b) Where in the sequence measurement and testing operations are performed,

c) A record of the measurement results, and

d) Type of measurement instruments required and any specific instructions associated with their use.

Test records show actual test results data when required by specification or acceptance test plan. Where required to demonstrate product qualification the organization ensures that records provide evidence that the product meets the defined requirements.

8.2.4.2 First Article Inspection: NMS's system provides a process for the inspection, 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 result. NOTE See (AS) (EN) (SJAC) 9102 for guidance.

8.3 Control of Nonconforming Product: The Control of Nonconforming Product Procedure 8.3 has been established to define the controls and related responsibilities and authorities for dealing with nonconforming product, to ensure that product that does not conform to specified requirements is prevented from unintended use or installation. This control provides for identification, documentation, evaluation, segregation (when practical), disposition of nonconforming product, and for notification to the functions concerned. NMS ensures that product which does not conform to product requirements is identified and controlled to prevent its unintended use or delivery. *NOTE the term "nonconforming product" includes nonconforming product returned from a customer.* NMS defines the responsibility for review and authority for the disposition of nonconforming product and the process for approving personnel as follows: All parts are controlled per customer requirements. The Quality Manager or his trained designee has the authority and responsibility to disposition the nonconforming part. Procedures are established and maintained that prevent the unintended use of non-conforming parts. Quality Assurance operates the nonconforming material system with the participation of Manufacturing, and the customer if contractually required. Nonconforming material is defined as parts that do not meet Drawing specifications or Purchase Order requirements. Where applicable NMS shall deal with nonconforming product by one or more of the following ways.

a) NMS takes action to eliminate the detected nonconformities. Nonconforming material is identified and segregated. A discrepancy ticket or nonconforming material form is initiated to document and describe all discrepancies. A preliminary

disposition is made by the Quality Manager, which may include the input from the inspector, manufacturing personnel, or customer.
b) Nonconforming material may be used in cases when dictated by contract. The customer or the customer's purchasing representative is contacted to gain approval and to provide allowance for the nonconformity. A written description of the nonconformity is used to indicate the condition of the product with the nonconformity. This includes "use as is", and repair per customer approval.
c) NMS takes action as directed by the customer Engineering Department to preclude the original intended use or application. This action includes scrapping the product, or submitting the product to the customer with a concession NMS will not regrade or repair any product unless written authorization is received from the customer defining the exact process and method and only upon the customer's responsibility for the use and control of the regraded or repaired product.
d) NMS takes action appropriate to the effects, or potential effects, of the nonconformity when nonconforming product is detected after delivery or use has started. NMS promptly notifies the customer when it is discovered that a discrepant product has already been delivered. Notification includes a clear description of the nonconformity, which includes as necessary parts affected, customer and / or organization part numbers, quantity, and date(s) delivered.
e) The part can only be re-worked with work instructions that sufficiently detail all operations including processing and inspection required. When nonconforming product is corrected it shall be subject to re-verification to demonstrate conformity to the requirements. All rework is re-inspected per work instructions, and the quality plan. If a part is reworked and reprocessed or identified as a reworked part, NMS re-identifies and or re-certifies per customer requirements. All certifications identify the rework required per customer written requirements. Product dispositioned for scrap shall be conspicuously and permanently marked, or positively controlled, until physically rendered unusable. Customer Complaints are received through the Quality Department. NMS Quality Department initiates a rejection document that lists the customer, part number, quantity, customer concern, and may be channeled through the NMS corrective action system if required or corrected in accordance with procedure 8.3 and/or 8.5.2. Nonconforming material is internally rejected upon confirmation of the nonconformance when received from customers, or internally created by NMS.
Records of the nature of nonconformities and any subsequent action taken, including concessions obtained shall be maintained.
8.4 Analysis of data: In NMS, quality management system related data is recorded as indicated in the Quality Records procedure. This data is reviewed with the objectives below in mind and used to determine the suitability, effectiveness and opportunities for improvement of the quality management system. The data analysis objectives for NMS as a minimum are:
a) Assess customer satisfaction levels or to reveal customer dissatisfaction (8.2.1)
b) Conformity to product requirements (8.2.4)
c) Characteristics and trends of process and products, including opportunities for preventive action. (8.2.3 and 8.2.4)
d) Maintain awareness of the performance of suppliers. (7.4)
8.5 Improvement
8.5.1 Planning for Continual Improvement: NMS 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 data. The process for continual improvement is described within Continual Improvement, procedure.
8.5.2 Corrective Action: The Corrective Action Procedure defines the requirements for actions or activities taken to correct and/or prevent potential nonconformities. Any corrective or preventive action taken to eliminate the causes of nonconformities in order to prevent recurrence. Corrective actions shall be appropriate to the effects of the nonconformities encountered and the magnitude of problems and commensurate with the risks encountered. In order to avoid the recurrence of problems, appropriate corrective actions are taken. NMS Corrective Action Procedure provides a systematic approach to corrective action problems that includes:
a) The identification and review of nonconformities including customer complaints
b) The determination of causes of nonconformities
c) Assessing the need for actions to ensure that nonconformities do not recur

d) The determination and implementing of corrective actions needed
e) The implementation of determined corrective actions
f) Making records of the outcomes from actions taken
g) Reviewing the effectiveness of corrective actions taken. Review of the corrective action taken ensures that other nonconformity's do not occur due to the initial correction.
h) Flow down of the corrective action requirement to a supplier, when it is determined that the supplier is responsible for the root cause, and
i) Specific actions where timely and/or effective corrective actions are not achieved

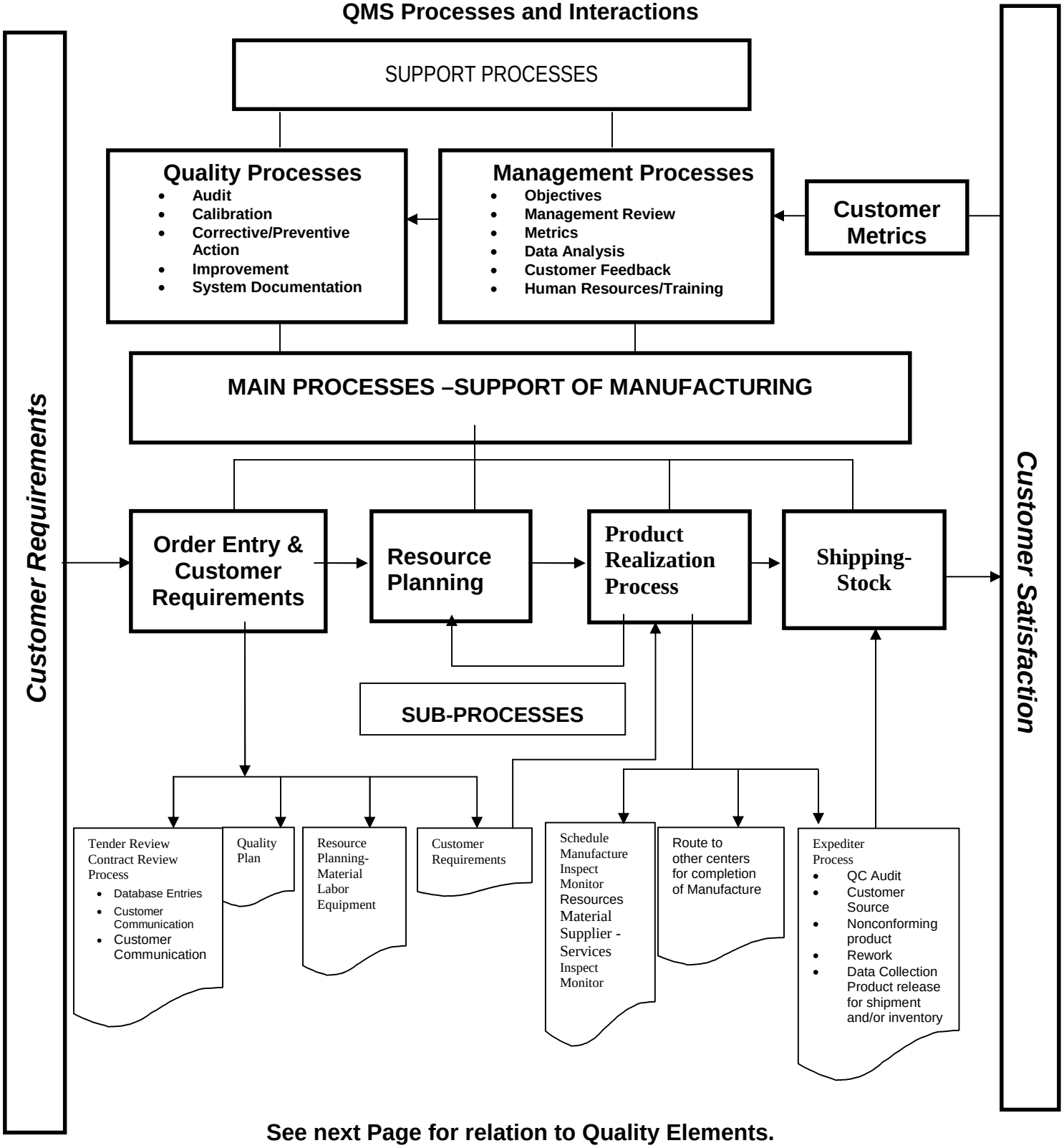
8.5.3 Preventive Action: In order to avoid the occurrence of potential problems, appropriate preventive actions are taken. Corrective Actions are reviewed for Preventive Action opportunity in other product, processes or systems.
NMS's Preventive Action procedure provides a systematic approach to preventive action problems that includes:
a) The identification of potential nonconformities and identification of causes of potential nonconformities from quality data, inspection records, customer, supplier or employee information
b) The determination of preventive actions needed based on data review, prior nonconformance, process or system data and review
c) The implementation and determining preventive actions to correct or prevent process, system or product nonconformance.
d) Making records of the outcomes from actions taken by documenting the action taken, the results expected, and the outcome of the preventive action. This may be documented on a Preventive action form, Quality report, or other "as required "document as determined by management.
e) Reviewing the effectiveness of the preventive actions taken.

ATTACHMENT "A"

AS9100"B" ISO9001:2008 Element.	Title	Procedure	QAM
4.1	Quality Management System Requirements		4.1
4.2.3	Control of Documents	4.2.3	4.2.3
4.2.4	Control of Records	4.2.4	4.2.4
5.6	Management Review	5.6	5.6
6.2.2	Competence, Training, and Awareness	6.2.2	6.2.2
7.0	**Product Realization and Implementation** Tooling Control Foreign Object Damage Prevention	7.0 11.0 12.0	7.0
7.1	Planning of Product Realization- (Work Order)	7.1	7.1
7.2	Customer Related Processes- (Contract Review)	7.2	7.2
7.3	Design		7.3
7.4	Purchasing	7.4	7.4
7.5.3	Identification and Traceability Inspection and Test Status	7.5.3	7.5.3
7.5.4	Customer-Property	7.5.4	7.5.4
7.5.5	Preservation of Product	7.5.5	7.5.5
7.6	Control of Inspection, Measuring, and Test Equipment	7.6	7.6
8.2	Monitoring and Measurement- (Receiving Inspection, In-Process Inspection, First Article Inspection, Final Inspection) Statistical Process Control	8.2, 8.2A, 8.2B, 8.2C 10.0	8.2
8.2.1	Customer Satisfaction	8.2.1	8.2.1
8.2.2	Internal Quality Audits	8.2.2	8.2.2
8.3	Control of Nonconforming Product (Customer Notification)	8.3, 8.3A	8.3
8.4	Analysis of Data	8.4	8.4
8.5.1	Continual Improvement	8.5.1	8.5.1
8.5.2	Corrective Action	8.5.2	8.5.2
8.5.3	Preventive Action	8.5.3	8.5.3

Attachment "B"

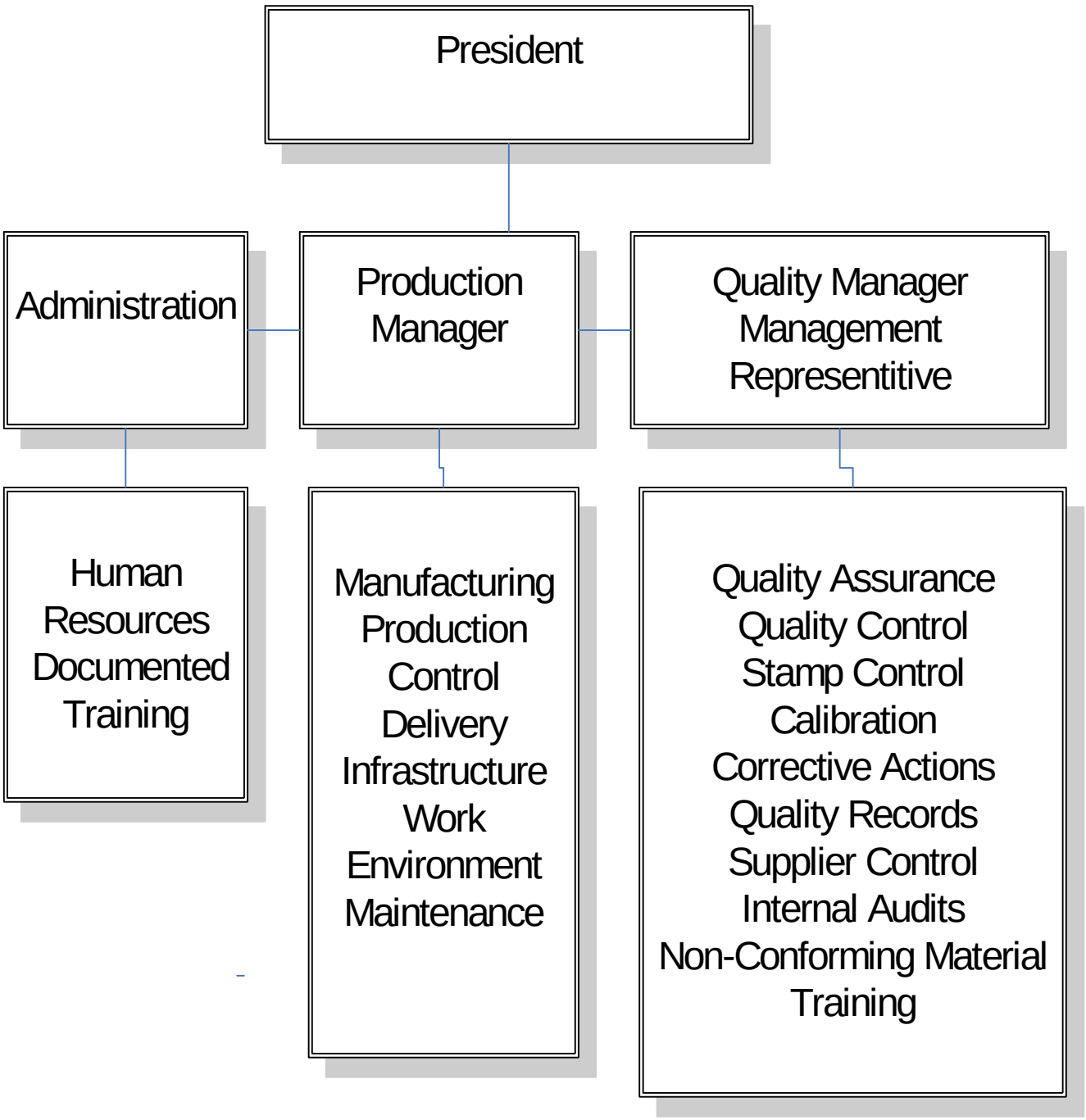
QMS Processes and Interactions



See next Page for relation to Quality Elements.

QMS Processes in Relation to Quality Elements

QMS Process	Applicable Quality Elements
Management Processes • Objectives • Monitoring • Data Analysis • Customer Feedback • Management Review • Human Resources/Training	4.1, 4.3, 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 6.1, 6.2, 6.3, 6.4, 7.1, 7.2.3, 8.1, 8.2.1, 8.2.3, 8.2.4, 8.4
Quality Processes • Audit • Calibration • Corrective/Preventive Action • Improvement • System Documentation	4.2, 7.6, 8.2.2, 8.3, 8.5
Customer Metrics	8.4
Order Entry & Customer Requirements	5.2, 7.2
Resource Planning	7.1, 7.2, 7.4, 7.5
Product Realization	7.5, 8.2, 8.3,
Shipping-Stock	7.5.3, 7.5.5, 8.2.4


President
Administration
Production Manager
Quality Manager Management Representitive
Human Resources Documented Training
Manufacturing Production Control Delivery Infrastructure Work Environment Maintenance
Quality Assurance Quality Control Stamp Control Calibration Corrective Actions Quality Records Supplier Control Internal Audits Non-Conforming Material Training