

NELSON NAMEPLATE

QUALITY MANUAL

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SECTION 1: REVISION HISTORY

<u>REVISION</u>	<u>DATE</u>	<u>DESCRIPTION OF CHANGE</u>
N/C	10/10/79	Initial release of documented inspection system
A	07/22/80	Deleted Chief Inspector from Executive Staff
B	10/01/84	Changes made in Executive Staff
C	01/10/87	Completely rewritten
D	01/17/89	Completely rewritten
E	07/14/92	Completely rewritten
F	05/07/98	Rewritten to reflect NNP's Quality Improvement Process (QIP) and Systems
G	8/10/99	Process revisions made to Sections: 1, 2, 4, & 11; Deleted Section 15 and renumbered the following sections
H	7/31/00	Rewritten to comply with ISO 9002
I	10/20/00	Section 8: "Substrates" to "Metal and adhesives." Page VI: "...all existing & new employees." to "... all employees." Section 1: "15 steps" to "14 steps" APPENDIX A: Deleted

SECTION 1: REVISION HISTORY (CONT.)

<u>REVISION</u>	<u>DATE</u>	<u>DESCRIPTION OF CHANGE</u>
J	03/14/01	Quality Policy: Added “during” to training description. Section 2: Clarified scope of quality system. Section 9: Added Mil-A-8625 Type II compliance to special processes. Section 11: Clarified calibration source approval requirements. Section 17: Changed assessment schedule release period from July to the first quarter of each year. Section 18: Change “Personnel” to “Human Resources.”
K	11/19/01	Revised to comply with AS9100.
L	10/27/03	Revised to comply with ISO 9001:2000 and AS9100 Revision A
M	06/05/06	Changed “ECR” to “OFI”. Added exclusions to the Scope of the Quality System as recommended by the 2004 TUV audit report (Opportunity for Improvement) – page 7.

SECTION 2: APPROVAL

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APPROVAL:

David Lazier, Co-President

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SECTION 3: INTRODUCTION

Nelson Nameplate is proud of its more than fifty year history of quality and service. We are committed to a management system focused on satisfying our customers' requirements and continually improving our processes. Our system is based on Philip Crosby's quality improvement concepts and meets ISO 9001:2000 as well as AS9100 Revision A with exclusions taken for "Design and Development" (Section 7.3) and "Production and Service Provision" (Section 7.5).

Unless contrary to contractual requirements, the scope of our Quality System applies to all product manufactured at 2800 Casitas Avenue, Los Angeles, California.

This manual is divided into 8 sections. At the end of each section, supporting second level procedures are listed. The purposes of this manual are to:

1. Document the company's quality system.
2. Inform our customers of the controls in place to ensure product quality.
3. Instruct and guide our employees whose actions affect product quality and ultimately CUSTOMER SATISFACTION.

SECTION 4: QUALITY MANAGEMENT SYSTEM

- 4.1 General Requirements: Nelson Nameplate has established, documented, implemented and maintained a Quality Management System (QMS) and is committed to continually improving the system's effectiveness. Nelson Nameplate has:
 - 4.1.1 Identified processes needed throughout the Quality Management System and their application. A description of these processes and their interactions is described in Section 4.2 of this Quality Manual.
 - 4.1.2 Defined the criteria and methods needed to ensure that our processes are controlled and effective. These processes are measured and these metrics are defined through processes associated with Section 5.4 of this Quality Manual.
 - 4.1.3 Determined the sequence and interaction of these processes as depicted in Section 4.2.2.3. of this Quality Manual.
 - 4.1.4 Ensured the availability of resources and information necessary to support the operation and monitoring of our processes. These processes are described in Section 6 of this Quality Manual.
 - 4.1.5 Established processes to measure, analyze and take action thus ensuring that our processes are effective and based on continuous improvement. These processes are described in Sections 5.4, 8.2, 8.4 and 8.5 of this Quality Manual.
 - 4.1.6 Identified processes, as defined in this Quality Manual, to manage in accordance with ISO 9001:2000 and AS9100 Revision A (See [PR-QUA-030](#)).
 - 4.1.7 Ensured that any outsourced activities materially affecting product quality are sufficiently controlled to ensure customer requirements are met. The process for supplier management is described in Section 7.4 of this Quality Manual.
- 4.2 Documentation Requirements:
 - 4.2.1 General: Nelson Nameplate's Quality Management System documentation consists of the following:
 - 4.2.1.1 ISO9001:2000 and AS9100
 - 4.2.1.2 ISO 9000:2000 QMS Fundamentals and Vocabulary
 - 4.2.1.3 A Quality Policy and resulting objectives (See Section 5.3).
 - 4.2.1.4 This Quality Manual.
 - 4.2.1.5 Documented procedures required by ISO 9001:2000 and AS9100 Revision A.
 - 4.2.1.6 Documents used by Nelson Nameplate to ensure effective planning, operation and control of its processes. Such documents are considered supporting procedures. They are listed at the end of each applicable section of this manual and are controlled consistent with Section 4.2.3.
 - 4.2.1.7 Records required by ISO 9001:2000 and AS9100 Revision A as referenced in the "Records" Section of each required document.
 - 4.2.1.8 Quality System requirements imposed by the applicable regulatory authorities are included or referenced in the applicable Quality System documentation and/or the order job jacket.

- 4.2.1.9 Personnel have access to Quality Management System documentation and are aware of relevant procedures. Customer and/or regulatory authorities shall have access to Quality Management System documentation. Diagram #1 showing Nelson Nameplate's documentation structure is located in the Appendix Section of this manual.
- 4.2.2 Quality Manual: Our Quality Manual includes the following:
 - 4.2.2.1 The scope of the management system including details for any exclusion.
 - 4.2.2.2 Reference to our Level 2 documents or supporting procedures (Reference Diagram #1 for structure).
 - 4.2.2.3 The interaction between the processes of the Quality Management System as defined in Diagram #2 located in the Appendix Section of this manual.
- 4.2.3 Control of Documents: Documents required by the Quality Management System are controlled. [PR-QUA-001](#) details the controls in place that include the following requirements:
 - 4.2.3.1 Documents are reviewed and approved prior to use or revision.
 - 4.2.3.2 Documents are updated as necessary.
 - 4.2.3.3 Documents are identified with the current revision. When practical, reasons for document changes are recorded in the documents or attachments to clarify why the documents have changed.
 - 4.2.3.4 The correct revision of all applicable documents is available at points of use.
 - 4.2.3.5 Documents remain legible and readily identifiable.
 - 4.2.3.6 Documents of external origin are identified and their distribution is controlled.
 - 4.2.3.7 Obsolete documents retained for any purpose are identified to prevent unintended use.
 - 4.2.3.8 Document changes are coordinated with customers and/or regulatory authorities in accordance with contract and/or regulatory requirements.
- 4.2.4 Control of Records: Nelson Nameplate ensures that records relating to the execution of this Quality System are established and maintained. The records provide evidence of product conformity as well as system effectiveness. Records shall remain legible, identifiable and retrievable. A documented procedure, [PR-QUA-024](#), identifies the controls necessary for addressing:
 - 4.2.4.1 Identification.
 - 4.2.4.2 Storage.
 - 4.2.4.3 Protection.
 - 4.2.4.4 Retrieval.
 - 4.2.4.5 Retention time.
 - 4.2.4.6 Disposition of records.
 - 4.2.4.7 The method for controlling records created by and/or retained by a supplier.
 - 4.2.4.8 Availability of records to the customer and specified regulatory authorities when required by contract.
 - 4.2.4.9 Contract related documents that are generally kept in or with the job jacket as a permanent record. Permanent records are kept for seven (7) years from the date of the order or as required by contract.

- 4.3 Configuration Management: Configuration Management is controlled by customer supplied drawings. Internal control of such documents is addressed in [PR-QUA-008](#) (See Section 7.5.4.)

Applicable Procedures

[PR-QUA-001](#) Document and Data Approval

[PR-QUA-008](#) Control of Customer Supplied Property

[PR-QUA-024](#) Control of Quality Records Procedure

[PR-QUA-030](#) Special AS9100 Requirements

SECTION 5: MANAGEMENT RESPONSIBILITY

- 5.1 Management Commitment: Top management, the Steering Committee of Nelson Nameplate, is committed to the development, implementation and continuous improvement of the Quality Management System. This is accomplished by:
 - 5.1.1 Communicating to Nelson employees the importance of meeting customer, statutory and regulatory requirements (See [PR-QUA-036](#)).
 - 5.1.2 Establishing the quality policy (See Section 5.3).
 - 5.1.3 Establishing quality objectives (See Section 5.3.2).
 - 5.1.4 Conducting management reviews (See Section 5.6).
 - 5.1.5 Ensuring the availability of resources (See Section 6).
- 5.2 Customer Focus: Top management ensures that Nelson Nameplate focuses on our customers (See [PR-QUA-035](#)). This includes ensuring that our customer requirements are defined and documented (See Section 7.2) with the goal of enhancing customer satisfaction (See Section 8.2).
- 5.3 Quality Policy: The Nelson Nameplate Quality Policy is defined below:

Nelson Nameplate Company will provide our customers with defect free products delivered on time.

We are committed to achieving customer satisfaction through continuous improvement.

- 5.3.1 The Co-Presidents of Nelson Nameplate wrote this policy. We explain and discuss the policy during employee orientation training.
- 5.3.2 The Quality Policy provides a framework for metrics and objectives for Nelson Nameplate. Our core objectives derived from the Quality Policy are:
 - 5.3.2.1 Provide defect free products by complying with requirements.
 - 5.3.2.2 Deliver products on time.
 - 5.3.2.3 Strive for customer satisfaction.
 - 5.3.2.4 Work on continuous improvement.
- 5.3.3 The Quality Policy is reviewed for continuing suitability at the Management Review meetings.

5.4 Planning

5.4.1 Quality Objectives: Nelson's Steering Committee ensures that quality objectives, including those for product conformance, are established at the appropriate levels and functions in the organization. The objectives are measurable and derived from the Quality Policy.

5.4.1.1 The Quality Improvement Team (QIT) is part of our Quality Improvement Process (QIP). The Steering Committee appoints members of the QIT. Each member chairs one or more of the 14 steps based on continuous quality improvement.

5.4.1.2 The QIT process is documented in [PR-QUA-017](#) and consists of the following 14 steps:

1. Management Commitment
2. Quality Improvement Team (QIT)
3. Measurement
4. Cost of Quality
5. Awareness
6. Corrective Action
7. Education
8. Zero Defects Celebration(s)
9. Lean Team
10. Opportunity For Improvement (OFI)
11. Recognition
12. Customer Focused Council
13. ISO 9001/AS9100
14. DO IT ALL OVER AGAIN!

5.4.2 Quality Management System Planning: Planning of the QMS is addressed in this Quality Manual. Our metrics and objectives are addressed in [PR-QUA-034](#). The goals are to:

5.4.2.1 Meet the requirements of our customers and Section 4.1.

5.4.2.2 Satisfy our QMS objectives.

5.4.2.3 Address when our system changes, as a result of continuous improvement and business need, that the integrity of our systems is maintained. This is accomplished through our review and approval process associated with our Document Control System and Management Review.

5.5 Responsibility, Authority and Communication: The Steering Committee ensures that the responsibilities and authorities are defined and communicated within Nelson Nameplate.

5.5.1 Responsibility and Authority: The interrelationship of personnel who manage, perform, and verify work affecting quality is defined through the organization chart as documented in [PR-QUA-016](#) and Section 6.2 of this manual. People performing quality activities have documented procedures, organizational freedom and training to perform those tasks.

- 5.5.2 Management Representative: Nelson Nameplate appoints the Quality Manager as the Management Representative. He or she has the authority and responsibility to:
 - 5.5.2.1 Ensure that the Quality System complies with the requirements of this manual and has the organizational freedom to resolve quality issues.
 - 5.5.2.2 Provide the Steering Committee with a report on the status of the Quality System and any need for improvement. This is presented at the Management Review meetings.
 - 5.5.2.3 Ensure the promotion and awareness of customer requirements throughout the organization.
 - 5.5.2.4 Resolve matters pertaining to quality.
 - 5.5.3 Internal Communication: Top management ensures that communications are established within Nelson Nameplate regarding the effectiveness of the Quality Management System.
- 5.6 Management Review
- 5.6.1 General: The Steering Committee holds a formal management review during the first month of each quarter to ensure the continuing suitability, adequacy and effectiveness of the Quality Management System. This process is documented in [PR-QUA-014](#). Records from Management Reviews are maintained.
 - 5.6.2 Review Inputs: At a minimum, the Management Review will include a review of the following:
 - 5.6.2.1 Quality objectives.
 - 5.6.2.2 Audits including Section 8.2.2.
 - 5.6.2.3 Customer feedback (Section 8.2.1).
 - 5.6.2.4 Process performance (Section 8.2.3).
 - 5.6.2.5 Product conformance (Section 8.2.4).
 - 5.6.2.6 The Corrective and Preventive Action systems (Section 8.5.2).
 - 5.6.2.7 Action items from the last Management Review meeting.
 - 5.6.2.8 Continued suitability of the Quality Policy (Section 5.3.3).
 - 5.6.2.9 Changes that could affect the Quality System.
 - 5.6.2.10 Recommendations for improvement.
 - 5.6.3 Review Outputs: This will include any decisions and actions related to:
 - 5.6.3.1. Improvements to the effectiveness of the Quality Management System.
 - 5.6.3.2. Improvements of product related to customer requirements.
 - 5.6.3.3. Resources needed to support actions.

Applicable Procedures

- [PR-QUA-014](#) Management Review Procedure
- [PR-QUA-016](#) Control of Organization Chart and Job Descriptions
- [PR-QUA-017](#) QIT Procedure
- [PR-QUA-034](#) Metrics and Objectives Procedure
- [PR-QUA-035](#) Customer Focus
- [PR-QUA-036](#) Process for Internal Communications with Employees

SECTION 6: RESOURCE MANAGEMENT

- 6.1 Provision of Resources: Nelson Nameplate will provide the resources necessary to implement, maintain and continually improve the Quality System. Customer requirements will be met to enhance the customer experience. The balance of this section outlines how Nelson Nameplate manages specific resources.
- 6.2 Human Resources
 - 6.2.1 General: Personnel performing work affecting quality will be competent on the basis of appropriate education, training, skills and experience. All personnel affecting quality are defined by the organization chart as detailed in [PR-QUA-016](#).
 - 6.2.2 Competence, Awareness and Training are addressed in [PR-QUA-015](#). At a minimum this includes:
 - 6.2.2.1 Job descriptions that identify the necessary competence for all personnel affecting product quality ([PR-QUA-016](#)).
 - 6.2.2.2 Training to personnel as necessary to ensure competence in relationship to the job description.
 - 6.2.2.3 A process to evaluate and ensure that the training is effective.
 - 6.2.2.4 Training to personnel on the relevance and the importance of their activities as well as how those activities contribute to the achievement of our quality objectives.
 - 6.2.2.5 New employee orientation to all permanent and temporary personnel within fifteen (15) working days of employment ([PR-QUA-025](#)).
 - 6.2.2.6 A training class on basic quality concepts within twelve (12) months of employment for all permanent personnel ([PR-QUA-011](#)).
 - 6.2.2.7 Additional training to support quality improvement ([PR-QUA-022](#)).
 - 6.2.2.8 Records of education, training, skills and experience.
- 6.3 Infrastructure
 - 6.3.1 Nelson Nameplate defines, provides and maintains the infrastructure needed to achieve product conformity. Our infrastructure is addressed in [PR-QUA-006](#), as well as Section 7.5.1. At a minimum, they include:
 - 6.3.1.1 Buildings, workspace and associated utilities.
 - 6.3.1.2 Process equipment including computer systems.
 - 6.3.1.3 Support services such as phone systems.

- 6.4 Work Environment: Nelson Nameplate maintains a suitable environment to prevent a negative impact on product quality. Work environment controls are addressed in [PR-QUA-006](#) and include:
- 6.4.1 Temperature.
 - 6.4.2 Humidity.
 - 6.4.3 Lighting.
 - 6.4.4 Cleanliness.
 - 6.4.5 Protection from electrostatic discharge.

Applicable Procedures

- [PR-QUA-006](#) Production Planning Procedure
- [PR-QUA-011](#) Basic Quality Concepts Training Procedure
- [PR-QUA-015](#) Training Procedure
- [PR-QUA-016](#) Control of Organization Chart and Job Descriptions
- [PR-QUA-022](#) Additional Training Procedure
- [PR-QUA-025](#) Orientation Training Procedure

SECTION 7: PRODUCT REALIZATION

7.1 Planning of Product Realization

7.1.1 Nelson Nameplate has planned and developed the processes needed for product realization. The systems defined in this Quality Manual provide guidance on how this is accomplished.

7.1.2 Our Quality System includes:

7.1.2.1 The definition of Quality Objectives (See Section 5.3.2).

7.1.2.2 The definition of requirements for the product (See Section 7.2 and 7.5).

7.1.2.3 Processes, documents and resources needed to satisfy customer requirements (See Sections 7.4 and 7.5).

7.1.2.4 Identification of the resources needed to support the operation and maintenance of the product (See Section 6.3).

7.1.2.5 Defined verification, validation, monitoring, inspection, test and criteria for product acceptance (See Sections 7.2, 7.4, 7.5 and 8.2.4).

7.1.2.6 Records necessary to provide evidence of product conformity (See Sections 7.4, 7.5 and 8.2.4).

7.2 Customer Related Processes: The Customer Service organization of Nelson Nameplate is responsible for customer related processes.

7.2.1 Determination of Requirements Related to the Product: The contract review process is responsible for determining and reviewing the requirements before order acceptance. This is done to ensure that Nelson engages in business consistent with its commitment and ability to meet stated requirements and produce conforming product. Details outlining these processes are found in [PR-SLS-001](#) and [PR-SLS-002](#). During contract review:

7.2.1.1 Customer Service reviews all potential orders. This includes verification that the customer's requirements are adequately defined, understood, obtainable, planned and documented. The goal is to ensure that Nelson Nameplate can meet the requirements including the requirements for delivery. This review extends to issues involving risks with new technical requirements, short delivery time, flow down requirements, and statutory and regulatory requirements contractually related to the product.

7.2.1.2 Nelson Nameplate also endeavors to understand customer requirements that are not stated by the customer but are necessary for intended use, where known.

7.2.1.3 Nelson Nameplate will confirm the requirements before order acceptance when the customer provides no documented statement of requirements.

7.2.1.4 Requirements differing from those previously expressed are resolved.

7.2.1.5 Customer Service, as necessary, ensures the coordination of different groups in the organization during the contract review process.

7.2.1.6 Amendments to a contract are reviewed in accordance with the [PR-SLS-003](#). Amendments are communicated internally to ensure that commitments are met.

- 7.2.1.7 Customer Service uses documented procedures to conduct contract reviews and records each review on a Sales data sheet. The Sales data sheet is generated and controlled by Nelson's Sales processing system software. The data sheet is printed upon completion and serves as a permanent record of the review.
 - 7.2.1.8 The data sheet is electronically converted to a job jacket upon order acceptance. This ensures that all requirements planned and reviewed are provided to manufacturing, inspection, shipping and all applicable support functions.
 - 7.2.2 Review of Requirements Related to the Product. During contract review, Nelson Nameplate ensures that all requirements related to the product are reviewed prior to order acceptance (See Section 7.2.1).
 - 7.2.3 Customer communications: Nelson Nameplate has determined and implemented effective arrangements to ensure good customer communications. Instructions will be available on how to address:
 - 7.2.3.1 Requests for product information.
 - 7.2.3.2 Inquiries, contracts, order handling, status, and amendments.
 - 7.2.3.3 Customer feedback, including customer complaints.
- 7.3 Design and Development: Design and development is controlled by Nelson Nameplate's customers thus is outside the scope of our quality system and has been intentionally omitted.
- 7.4 Purchasing
 - 7.4.1 Purchasing Process: Nelson Nameplate's Purchasing organization is responsible for the purchasing process. Details are described in [PR-PUR-001](#) and [PR-PUR-002](#). This process is aimed at ensuring the quality of purchased product, including those purchased from customer designated suppliers. Customer designated suppliers, including outsourced special processes, are managed the same as any other supplier and are therefore subject to assessment consistent with [PR-QUA-002](#). Purchasing is responsible for providing all our suppliers with the necessary data to supply products that meet our specified requirements. Purchasing will work closely with all our suppliers to ensure that requirements are clear, documented and understood. Assessments of suppliers are based on the products they are supplying and past performance. Criteria for selection, evaluation and reevaluation are established. Records of the evaluations and any resulting actions are maintained. [PR-PUR-002](#) details the following requirements for supplier assessments:
 - 7.4.1.1 An "Approved Supplier List" that defines the supplier and the scope of approval. Orders for items identified as "job related" are placed with suppliers on the list.
 - 7.4.1.2 Suppliers are evaluated on an ongoing basis. This evaluation is used to decide the type and extent of control exercised over the supplier. Records of these evaluations are maintained.
 - 7.4.1.3 Procedures exist that define the actions taken when supplier performance requirements are not met.

- 7.4.1.4 When required by contract, Purchasing will utilize suppliers from customer approved sources. This extends to any applicable requirements that in effect must be flowed down to our suppliers in order to ensure conformance.
- 7.4.1.5 The functions responsible for approving supplier quality systems have the authority to disapprove the use of such sources.
- 7.4.2 Purchasing Information: The Purchasing process is outlined in [PR-PUR-002](#). At a minimum, purchasing documents describe the product to be purchased and when applicable include:
 - 7.4.2.1 Requirements for approval of product, processes and equipment.
 - 7.4.2.2 Qualification of personnel.
 - 7.4.2.3 Requirements for supplier's Quality Management System.
 - 7.4.2.4 Identification of the applicable product, product and/or drawing revision level, reference specifications, process requirements, inspection instructions, certification requirements and any other relevant technical data.
 - 7.4.2.5 Requirements for test, examination, inspection and related instructions for acceptance.
 - 7.4.2.6 Requirements for test specimens when required for inspection, investigation or auditing.
 - 7.4.2.7 Supplier's notification to Nelson Nameplate of nonconforming product, anomalies, changes in product and/or process definition and, when applicable, obtaining Nelson's approval of such.
 - 7.4.2.8 The coordination and handling of supplier nonconforming material consistent with Sections 8.3.and 8.5.2.
 - 7.4.2.9 Conditions that afford the customer or regulatory agencies access to the supplier's facilities and applicable records.
 - 7.4.2.10 Flowing down to a supplier all applicable requirements including the definition of key characteristics.
- 7.4.3 Verification of Purchased Product: Nelson verifies purchased product to ensure conformance to specified purchase requirements. Details regarding such verification are specified in [PR-QUA-012](#). Additional information may also be found in Section 7.5 and 8.2 of this manual. Verification activities and requirements include:
 - 7.4.3.1 Objective evidence from the supplier (e.g., Certificate of Conformance, accompanying documentation, label identifications, test reports, statistical records, process control data).
 - 7.4.3.2 Review of the required documentation noted on the purchase order and/or job jacket.
 - 7.4.3.3 Incoming inspection.
 - 7.4.3.4 Not using purchased product until it has been verified as conforming to specifications. Nelson Nameplate does not allow product to bypass required incoming inspections.

- 7.4.3.5 In cases where we use supplier test reports to accept material, personnel will review these documents to confirm that said reports meet the applicable specifications. Periodically, we independently validate these test results.
 - 7.4.3.6 Neither Nelson Nameplate nor its customers conduct source inspection on Nelson Nameplate suppliers and, as such, the requirement for source inspection by Nelson has been intentionally omitted.
- 7.5 Production and Service Provision: Nelson Nameplate has established appropriate process controls to ensure that production and delivery activities are planned, documented, and when appropriate, supported by written instructions and workmanship criteria. Nelson Nameplate does not perform post delivery activities and therefore the sections on after sales service have been intentionally omitted.
- 7.5.1 Control of Production: Planning and controls are documented in [PR-QUA-006](#). As applicable, this includes:
 - 7.5.1.1 Process controls and control plans when key characteristics have been identified and subsequently noted on the job jacket.
 - 7.5.1.2 Identification of in-process verification points standardly documented on job jackets by specifying a process activity code. Additional verifications identified will also be specified on the job jacket. In-process verifications include cases where adequate verification of conformance cannot be performed at a later stage.
 - 7.5.1.3 The design, manufacture, control and use of tooling and/or fixtures for ensuring conformance to a specification. This includes items produced for taking variable measurements including those for key characteristics.
 - 7.5.1.4 Special Processes (See Section 7.5.2).
 - 7.5.1.5 Production in a suitable work environment (See Section 6.4).
 - 7.5.1.6 A production job jacket for information describing or relating to the product.
 - 7.5.1.7 Work instructions for operators completing the operation when the absence of such work instructions can lead to product nonconformances.
 - 7.5.1.8 Suitable equipment (See Section 7.5.1.23).
 - 7.5.1.9 The availability, use and implementation of monitoring and measuring devices embedded in work instructions and/or the production job jacket.
 - 7.5.1.10 Release and delivery activities.
 - 7.5.1.11 Accounting for all products during the manufacturing process.
 - 7.5.1.12 Initialing and dating activities for tracking purposes. The activity listed on the job jacket is initialed and dated. Initials confirm completion and conformance to written work instructions. The job jacket provides a record that all manufacturing and inspection operations have been completed as planned or as otherwise documented and authorized.
 - 7.5.1.13 The identification, detection, and elimination of foreign objects (contaminants and objects other than materials defined in the job jackets).
 - 7.5.1.14 Maintenance of the production facility including utilities and supplies such as water, compressed air, electricity, and chemical products that affect product quality (See Section 6.3).

- 7.5.1.15 Clear and suitable workmanship standards. These standards may include drawings, specifications, samples, illustrations and industry standards.
- 7.5.1.16 Production documentation. The job jacket lists all manufacturing and other activities necessary to produce conforming product. When appropriate, required process approvals, equipment and tools are noted and/or planned.
- 7.5.1.17 Drawings, parts lists, process flow charts including inspection operations, production and inspection documents.
- 7.5.1.18 Reference to specific or non-specific tools, machines and numerical control machine programs. These items are embedded in manufacturing work instruction documents or noted on the work order when the item is specific to the product, not the process. Referenced documents shall include documents describing the use and maintenance of critical manufacturing equipment.
- 7.5.1.19 Control of production process changes. Nelson Nameplate has defined the personnel with authority and responsibility to approve changes to production processes and job jackets.
- 7.5.1.20 Identifying on the job jacket the instances where, through contractual requirements, we are required to coordinate process changes with customer and/or regulatory approval prior to affecting the change.
- 7.5.1.21 Defining the method for approving changes affecting processes, equipment, tools and programs. Procedures are available to control their implementation.
- 7.5.1.22 Assessing the results of production process changes to confirm that the desired effect is not compromised.
- 7.5.1.23 Control of production equipment, tools and numerical control machine programs. These items are validated prior to production use. Validations include a first article verification to design/specification requirements. They are maintained and inspected periodically according to documented procedures. Storage requirements, including periodic checks on condition/preservation, are established for production equipment and tooling in storage.
- 7.5.1.24 Control of work transferred outside of our facility. Documented procedures exist for when Nelson subcontracts work performed outside of our facility. We have defined the process to control and validate the location and quality of that work.
- 7.5.1.25 Control of service operations. This does not apply to Nelson Nameplate and therefore it has been intentionally omitted.
- 7.5.2 Process Validation: Nelson Nameplate validates production processes where the resulting output cannot be verified by subsequent monitoring or measurement. Such processes are commonly referred to as Special Processes. Outsourced special processes are addressed in Section 7.4.1. This includes processes where deficiencies become known only after the product is in use. Validation is used to demonstrate the processes' ability to achieve planned results. Validation requirements include:
 - 7.5.2.1 Defined criteria for review and approval of the process.

- 7.5.2.2 Qualification and approval prior to use.
- 7.5.2.3 Approval of equipment.
- 7.5.2.4 Qualification of personnel.
- 7.5.2.5 Use of specific methods and procedures for validation.
- 7.5.2.6 Control of the significant operations and parameters in accordance with documented process work instructions.
- 7.5.2.7 Records of validation and revalidation.
- 7.5.3 Identification and Traceability: Materials, components, and subassemblies that are incorporated into Nelson Nameplate products are identified to help ensure proper use. Nelson Nameplate maintains material traceability when required (See [PR-QUA-010](#)). In addition:
 - 7.5.3.1 Records will be kept of any differences between a customer supplied drawing or specification and any agreed upon changes (See [PR-SLS-001](#)).
 - 7.5.3.2 Product or order status is identified to help ensure that only product passing inspection is available for shipment. Implementation and defined authority for product release is detailed in [PR-QUA-013](#).
 - 7.5.3.3 When inspection stamps or similar acceptance authority media are used, [PR-QUA-013](#) will define the established controls for such media.
 - 7.5.3.4 When contractually required, the unique identification of the product's traceability is maintained.
 - 7.5.3.5 When required by contract, regulatory, or other established requirement, Nelson Nameplate will provide the following levels of traceability:
 - 7.5.3.5.1 Identification to be maintained throughout the product life.
 - 7.5.3.5.2 Traceability for all products of the same batch from receipt to final destination (scrap, delivery, stock).
 - 7.5.3.5.3 For an assembly, the identity of its components and those of the next higher assembly will be traced.
 - 7.5.3.5.4 A sequential record of product production.
 - 7.5.3.6 Product identifications are traceable to a defining technical document or the equivalent.
 - 7.5.3.7 Work in-process or staged for shipment is identified with or accompanied by a Nelson Nameplate job jacket. Each job jacket is identified with a unique number that functionally serves as a lot number.
 - 7.5.3.8 Metals and adhesives are traceable to the supplier's lot. When issued, the supplier's lot number is recorded in the job jacket. When required, the customer is provided with the above mentioned data.
- 7.5.4 Customer Supplied Property: Customer supplied property is handled with great care. Note that property extends to include customer provided materials, equipment and intellectual property including data used for production or inspection (See [PR-QUA-008](#)). In addition:
 - 7.5.4.1 Customer supplied property should be inspected and tested before to Nelson Nameplate unless contractually specified otherwise.
 - 7.5.4.2 Nelson Nameplate ensures and/or reviews the following: general visual verification, protection from damage, inadvertent use, quantity verification, and in transit damage.

- 7.5.4.3 The job jacket will call out the use of customer supplied property and any special requirements.
- 7.5.4.4 Customer Service contacts the customer in the event of loss, or unsuitability of property supplied. The property in question is kept separate from Nelson parts until dispositioned by the customer.
- 7.5.4.5 Records of the disposition of any property that is lost, damaged or found unusable are maintained.
- 7.5.5 Preservation of Product: Nelson Nameplate has methods in place to preserve the conformity of product from receipt to delivery. Details outlining how this is accomplished can be found in [PR-QUA-005](#), [PR-QUA-031](#) and [PR-QUA-032](#). This includes identification, handling, packaging, storage and protection. Where applicable, preservation is consistent with product specifications, applicable regulations, and provisions for the following:
 - 7.5.5.1 Cleaning.
 - 7.5.5.2 Prevention, detection and removal of foreign objects.
 - 7.5.5.3 Special handling for sensitive products. This may include, when required, refrigeration and other special environmental considerations.
 - 7.5.5.4 Marking and labeling items with the appropriate product information including safety warnings.
 - 7.5.5.5 When applicable, product shelf life control and stock rotation.
 - 7.5.5.6 Special handling for hazardous materials.
 - 7.5.5.7 Providing contractually required documents at delivery that are protected against loss and deterioration.
 - 7.5.5.8 Control of receipt and dispatch to and from storage areas. Periodic checks of inventory are conducted to verify the integrity and usability of materials in stock.
 - 7.5.5.9 Manufacturing management is responsible for product handling. In particular, manufacturing will ensure that containers and items used for protecting products are adequate and that equipment used is maintained.
 - 7.5.5.10 Manufacturing management will ensure that operators are trained in the use of material transportation equipment and material handling.
 - 7.5.5.11 Standard packaging is the responsibility of the Inspection and Packaging Department.
 - 7.5.5.12 The need for special packaging is determined and planned during contract review. At a minimum, special packaging requirements and/or instructions are communicated on the job jacket.
 - 7.5.5.13 Once adequately packaged, our product is delivered as specified per contract including the delivery of any specified documents. When the method of shipment is not specified, NNP standard carriers will deliver the product.
- 7.6 Control of Monitoring and Measurement Devices: Job jackets, inspection procedures and manufacturing work instructions identify the monitoring and measurements needed to provide evidence of conformance. [PR-QUA-004](#), consistent with ANSI Z540 identifies the process to control, calibrate, and maintain inspection, measuring and test equipment used. This includes:

- 7.6.1 A list of measuring and test equipment traceable to individual logs or the equivalent. Individual equipment logs include: the process for calibration, equipment type, unique item identification, location, frequency of checks, check method, recall method and acceptance criteria.
- 7.6.2 As applicable, monitoring and measuring devices such as test hardware, software, automated test equipment (ATE), plotters used to produce inspection data, employee owned equipment and tools supplied by the customer to provide evidence of product conformity.
- 7.6.3 Established processes to ensure that monitoring and measurement are carried out in a manner consistent with monitoring and measurement requirements.
- 7.6.4 Assurance that environmental conditions are suitable for the calibrations, inspections, measurements and tests being carried out.
- 7.6.5 Calibration at specified intervals or prior to use.
- 7.6.6 Calibration against measurement standards traceable to nationally recognized standards. When no standards exist, the basis used for calibration is recorded.
- 7.6.7 Adjustments as necessary.
- 7.6.8 Identification with calibration stickers in order to determine the calibration status.
- 7.6.9 Safeguards from adjustments that would invalidate the measurement result.
- 7.6.10 Protection from damage and deterioration during handling, maintenance and storage.
- 7.6.11 Recalls of test equipment by a defined method when calibration is required.
- 7.6.12 Assessing and recording the validity of previous measurements when a piece of equipment is found to be out of calibration. Appropriate action is taken on suspect equipment and product.
- 7.6.13 When applicable, confirming that computer software satisfies the intended application. This confirmation is undertaken prior to initial use and reconfirmed as necessary.
- 7.6.14 Records of calibrations, out of tolerance evaluations (See Section 7.6.12), actions and verifications are maintained.

Applicable Procedures

- [PR-PUR-001](#) Supplier Approval and Monitoring Procedure
- [PR-PUR-002](#) Purchasing Procedure
- [PR-QUA-004](#) Control of Inspection, Measurement, and Test Equipment
- [PR-QUA-005](#) Material Handling and Storage Procedure
- [PR-QUA-006](#) Production Planning Procedure
- [PR-QUA-008](#) Control of Customer Supplied Property
- [PR-QUA-010](#) Identification and Traceability
- [PR-QUA-012](#) Inspection and Test Procedure
- [PR-QUA-013](#) Inspection and Test Status Procedure
- [PR-QUA-032](#) Packaging Procedure
- [PR-QUA-035](#) Customer Focus
- [PR-SLS-001](#) Nelson Nameplate Sales Proposal Procedure
- [PR-SLS-002](#) Order Acceptance and Job Entry Procedure
- [PR-SLS-003](#) Nelson Nameplate Order Amendment Procedure

SECTION 8: MEASUREMENT, ANALYSIS AND IMPROVEMENT

- 8.1 General Requirements: Nelson Nameplate has planned and implemented monitoring, measurement, analysis and improvement processes needed to:
 - 8.1.1 Demonstrate conformity of product (See Section 8.2).
 - 8.1.2 Ensure conformity of the Quality Management System (See Section 8.2).
 - 8.1.3 Continually improve the effectiveness of the Quality Management System (See Sections 8.4 and 8.5).
 - 8.1.4 Implement, as applicable, statistical techniques supporting:
 - 8.1.4.1 Process control.
 - 8.1.4.2 Selection and inspection of key characteristics.
 - 8.1.4.3 Process capability measurements.
 - 8.1.4.4 Statistical process control.
 - 8.1.4.5 Design of experiments.
 - 8.1.4.6 Sampling inspection.
 - 8.1.4.7 Failure Mode and Effect Analysis.
- 8.2 Monitoring and Measurement
 - 8.2.1 Customer Satisfaction: Consistent with [PR-QUA-035](#), Nelson Nameplate monitors information relating to customers' perceptions as to whether Nelson Nameplate has met their requirements. This information is collected, analyzed and acted upon with the objective of enhancing customer satisfaction.
 - 8.2.2 Internal audit: The Quality Manager is responsible for ensuring that internal audits are conducted at planned intervals. This is done to ensure that the Quality Management System conforms to this manual as well as to ISO 9001/AS9100. In addition, the goal of internal auditing is to ensure the effective implementation and maintenance of the Quality Management System. Documented procedures exist in [PR-QUA-019](#) and include requirements for:
 - 8.2.2.1 A published schedule of the planned assessment.
 - 8.2.2.2 Adjusting the schedule to more frequent assessments based on status changes in the area such as operation changes, management changes, previous assessment history, or other changes that the Quality Manager deems significant.
 - 8.2.2.3 The audit criteria, scope, frequency and methods.
 - 8.2.2.4 Selection of auditors and conduct of audits to ensure objectivity and impartiality of the audit process.
 - 8.2.2.5 Assigning auditors to conduct assessments outside their area of responsibility. Auditors will not audit their own work.
 - 8.2.2.6 The responsibilities and requirements for planning, conducting, documenting, reporting and maintaining audit results/records.

- 8.2.2.7 The management responsible for the area audited is responsible for taking action based on audit results. These responsibilities include ensuring root cause and corrective action are identified and actions are taken without undue delay.
- 8.2.2.8 Follow-up activities including a verification of the actions taken and the verification that the action taken had the desired results.
- 8.2.2.9 Flowing down Quality Manual requirements. Such flow downs are found in audit tools (e.g. guides, check sheets, documents) used for performing and documenting internal audits. The acceptability of the tools will be measured against the effectiveness of the internal audit process and overall organization performance as discussed during Management Review.
- 8.2.2.10 Conformance to contract and/or regulatory requirements.
- 8.2.3 Monitoring and Measurement of Process: Quality Management System processes are monitored and, where necessary, measured to demonstrate the ability of the process to achieve planned results (See [PR-QUA-034](#)). When planned results are not achieved, the group collecting the measurements takes action to ensure conformity. In the event of process nonconformity, Nelson Nameplate:
 - 8.2.3.1 Takes appropriate actions to correct the nonconforming process.
 - 8.2.3.2 Evaluates whether the process nonconformity resulted in product nonconformity.
 - 8.2.3.3 Identifies and controls the nonconforming product consistent with Section 8.3.
- 8.2.4 Monitoring and Measurement of Product: Nelson Nameplate monitors and measures product characteristics at defined points to ensure that the product requirements have been met (See [PR-QUA-012](#)). Monitoring and measuring specific to each product type and/or contractual requirement is specified on each job jacket. This includes when:
 - 8.2.4.1 Key characteristics, additional inspections and/or documentation are contractually required or identified. In such cases they are monitored and controlled.
 - 8.2.4.2 Sampling plans are used for product acceptance. Nelson Nameplate ensures that the plans used are statistically valid and appropriate for use. When contractually required, the plan will preclude the acceptance of lots whose samples have known nonconformities and the sampling plan will be approved by the customer.
 - 8.2.4.3 Product is pending inspection or verification. The product will not be used until it has been inspected or verified as conforming and all required measurement and monitoring activities have been completed.
 - 8.2.4.4 Record maintenance as evidence of product conformity is a contractual requirement. The job jacket will contain a record of the person authorizing the release of product consistent with work instructions defining acceptance criteria and authority. As a result, such records provide evidence that the realization process and resulting product meets the customer's requirements.

- 8.2.4.5 Final release will not occur until all planned activities have been satisfactorily completed unless otherwise approved by the Quality Manager or General Manager or President and, when applicable, the customer.
- 8.2.5 Inspection Documentation: Measurement requirements for product acceptance are part of the production documentation or job jacket as specified in Section 8.2.4 and [PR-QUA-012](#). As applicable, they include:
 - 8.2.5.1 Accept/reject criteria.
 - 8.2.5.2 Where in the production process measurement and test activities are performed.
 - 8.2.5.3 Records of measurement results.
 - 8.2.5.4 Inspection equipment as identified in the inspection and test documentation. Suitable documentation on the use and maintenance of these test equipments is maintained.
 - 8.2.5.5 Actual test results data when required.
 - 8.2.5.6 Evidence that product meets the defined requirements.
- 8.2.6 First Article Inspection: [PR-QUA-012](#) outlines the process for First Article Inspection. This process provides for the inspection, verification and documentation of a representative part from the first production run. As production process changes are introduced, the First Article Inspection is updated appropriately.
- 8.3 Control of Nonconforming Product: Nonconforming product is identified, controlled and prevented from inadvertent use or shipment (See [PR-QUA-018](#)). It includes:
 - 8.3.1 The responsibilities including the responsibility for material review.
 - 8.3.2 The authority including the authority for disposition of nonconforming product.
 - 8.3.3 Nonconforming product returned from the customer (See [PR-QUA-002](#)).
 - 8.3.4 The process for approving personnel making material dispositions.
 - 8.3.5 The process for taking action to eliminate the detected nonconformity.
 - 8.3.6 Contacting the customer for acceptance by concession. Product designated as “use-as-is” will not be used unless specifically authorized by the customer. When contractually required, the customer is contacted for repair or rework authorization.
 - 8.3.7 When contractually required, a process for conspicuously and permanently marking or positively controlling scrap material until physically rendered unusable.
 - 8.3.8 Maintaining records of the nonconformance and subsequent actions taken including any concessions obtained.
 - 8.3.9 A reverification requirement. All product corrected to conform is reinspected per [PR-QUA-012](#), the applicable job jacket and contractual requirements.
 - 8.3.10 A process for handling nonconforming product detected after delivery. Nelson Nameplate will take action appropriate to the effects, or potential effects, of the nonconformity.

8.3.11 When contractually required, a process for ensuring the timely reporting of nonconformances that may affect reliability or safety. Notification includes a clear description of the nonconformance, which includes as necessary parts affected, customer and/or Nelson Nameplate part numbers, quantity and dates delivered. Parties requiring notification may include suppliers, internal departments, customers, distributors, and regulatory authorities.

8.4 Analysis of Data

8.4.1 Nelson Nameplate identifies, collects and analyzes data to demonstrate suitability and effectiveness of our Quality Management System and to evaluate where continual improvement can occur.

8.4.2 Our analysis of data shall include:

8.4.2.1 Customer satisfaction data (See Section 8.2.1).

8.4.2.2 Conformity to product requirements (See Section 8.2.4).

8.4.2.3 Characteristics and trends of processes and products including opportunities for preventive actions (See Sections 8.2.2, 8.2.3 and 8.2.4).

8.4.2.4 Supplier evaluations and ratings (See Section 7.4.1).

8.5 Improvement

8.5.1 Continual Improvement: Nelson Nameplate strives to continually improve our Quality Management System. This is accomplished through the use and corresponding actions prescribed by our quality policy (See Section 5.3), policy objectives (See Section 5.3.2), audit results (See Section 8.2.2), Quality Improvement Team (See Section 5.4.1.1), data analysis (See Section 8.4), corrective action process (See Section 8.5.2), preventive actions (See Section 8.5.3.) and management review (See Section 5.6).

8.5.2 Corrective Action: Nelson Nameplate strives to eliminate nonconforming product by investigating the cause and implementing corrective actions in accordance with a documented procedure. Actions proposed and taken will be to the degree appropriate for the magnitude and risks associated with the nonconformance (See [PR-QUA-003](#)). Quality oversees the investigation. An investigation includes the following activities and responsibilities:

8.5.2.1 Reviewing nonconformities and customer complaints regarding product quality – Quality.

8.5.2.2 Identifying the process where the lapse occurred – Quality.

8.5.2.3 Determining the causes of nonconformities – Area supervisor as determined in Section 8.5.2.2.

8.5.2.4 Evaluating the need for action to ensure that nonconformities do not recur – Quality Manager.

8.5.2.5 Determining and implementing action needed - Area supervisor as determined in Section 8.5.2.2.

8.5.2.6 Maintaining records of the actions taken – Quality.

8.5.2.7 Reviewing corrective action taken – Quality Manager.

8.5.2.8 Flowing down corrective action responsibilities when it is determined that the supplier is responsible for the root cause and applicable corrective action – Purchasing.

- 8.5.2.9 Notifying the Steering Committee to take action on ineffective corrective actions or those lacking a timely response – Quality Manager.
- 8.5.3 Preventive Action: Preventive actions are aimed at eliminating a potential nonconformance and/or trend. Preventive actions will be appropriate to the effects of the potential problem (See [PR-QUA-003](#)).
- 8.5.4 Preventive action procedures include:
 - 8.5.4.1 The metrics covered during Management Review thus providing the appropriate sources of information used to determine potential nonconformities and their causes.
 - 8.5.4.2 A process for evaluating actions to prevent occurrence.
 - 8.5.4.3 A process for determining and implementing actions needed.
 - 8.5.4.4 Records of actions taken.
 - 8.5.4.5 The process for ensuring appropriate management review of relevant actions taken for preventive action.

Applicable Procedures

- [PR-QUA-002](#) Procedure For Issuing Return Material Authorization Numbers
- [PR-QUA-003](#) Corrective and Preventive Action Procedure for Nonconformances
- [PR-QUA-012](#) Inspection and Test Procedure
- [PR-QUA-018](#) Control of Nonconforming Product Procedure
- [PR-QUA-019](#) Internal Quality Assessment Procedure
- [PR-QUA-034](#) Metrics and Objectives Procedure
- [PR-QUA-035](#) Customer Focus

APPENDIX

DIAGRAM #1: QUALITY MANAGEMENT SYSTEM PROCESS DOCUMENTATION STRUCTURE

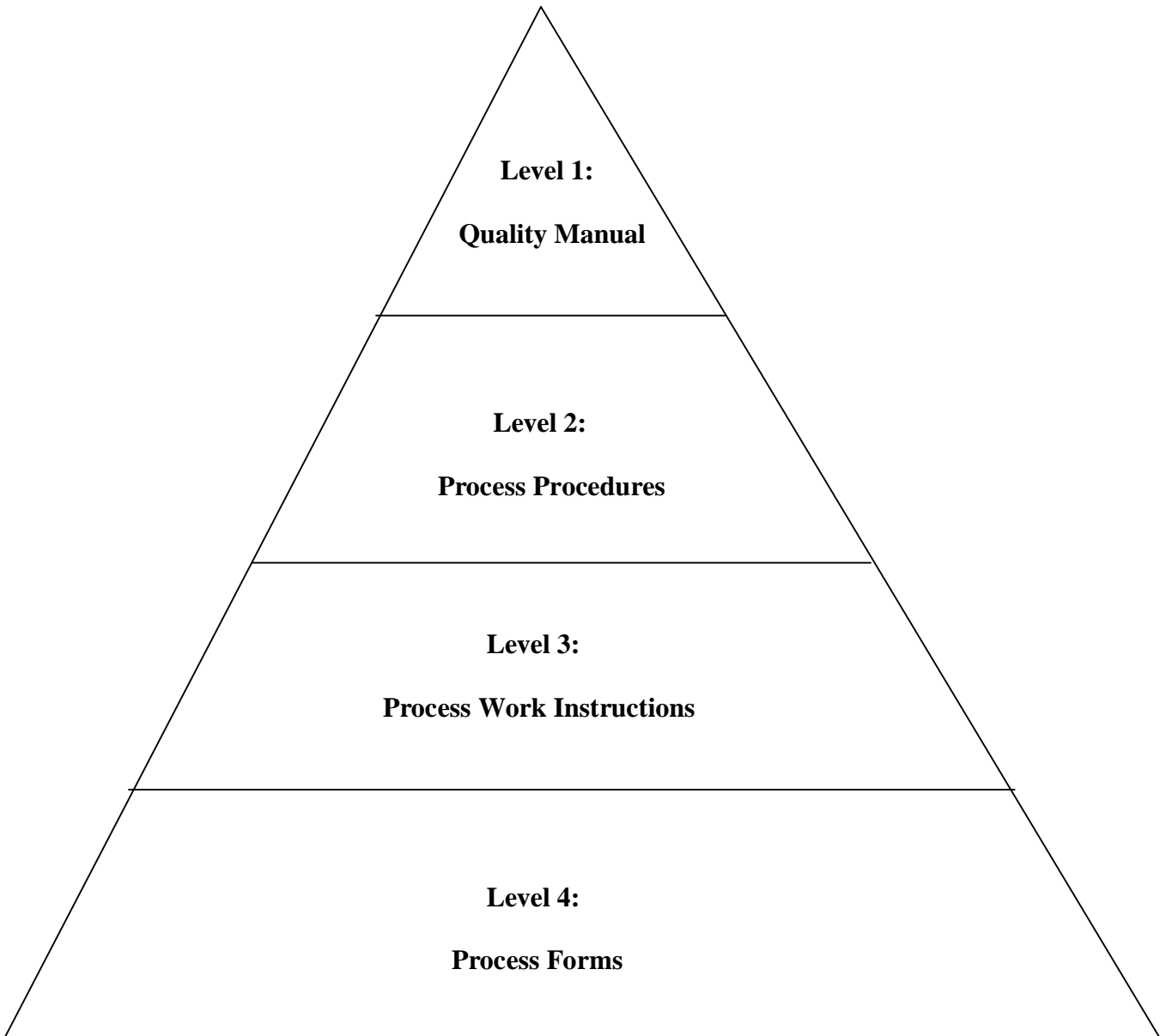


DIAGRAM #2: QUALITY MANAGEMENT SYSTEM PROCESS INTERACTION

