1.0 About this manual

This manual was developed and is maintained by the Management Review Team for the quality management system. Requests for changes to the manual are to be submitted to the management representative. Updates of this manual are issued as required. Copies of the manual are maintained in appropriate locations to assure it is accessible to all employees. It is the responsibility of the functional managers to assure that all employees are familiar with the content of this quality manual and that they are kept informed of any changes and updates. For each clause, reference is made to any applicable quality management system procedures (QSPs).

All requirements of ISO 9001:2000 apply except for exclusions as noted and justified below:

ISO 9001:2000, Section 7.3 Design and development, is not applicable as those activities and processes are not performed by North State Machine, Inc. personnel.

ISO 9001:2000, Section 7.5.2 Validation of processes for production and service provision, is not applicable as North State Machine, Inc., is able to verify products through monitoring and measuring activities.

2.0 Introduction

North State Machine, Inc., (hereafter may be referred to as NSM) has an office and manufacturing at 1775 Tyro Road, Lexington, NC 27295. NSM is a family owned and operated business dedicated to developing and maintaining long-term relationships with customers based on excellent quality and rapid response in metal fabrication and assembly operations.

NSM is committed to providing the highest quality in metal fabrication and assembly as described in the scope below. Product performance at the customer and customer satisfaction are the benchmarks that judge our organization's success. The cornerstones of our policy are product consistency, continual improvement and company performance. Through our personal service, we learn from our customers how to better meet their requirements. Our quality commitment is designed to provide the customer with consistent quality products at a competitive cost. In addition, our quality commitment establishes our key business objectives on which associates focus their efforts for continual improvement.

This manual describes the quality management system of NSM and its compliance with the requirements of ISO 9001:2000. Its purpose is:

- **For internal use,** to communicate to all employees the company's quality policy statement and quality objectives, to provide employees with the method of compliance with ISO 9001:2000, to facilitate the implementation and maintenance of the quality management system, to assure the system's continuity and required integrity during changing circumstances, to provide effective communication and control of quality related activities and to offer a documented base for quality management system audits.
- **For external use,** to inform NSM's customers and other interested external partners about NSM's quality policy, its implemented quality management system and measures of compliance with ISO 9001:2000.

3.0 Scope and References

The quality management system described herein complies with the requirements of ISO 9001:2000 and provides guidelines for achieving a high level of customer satisfaction by supplying quality products in a timely manner that meet customers' requirements. The scope of the quality management system is: The manufacture and delivery of fabricated metal parts, assemblies and machine tooling. The references applicable to this quality management system manual are:

- **ISO 9000:2000**, Quality management systems - fundamentals and vocabulary
- **ISO 9001:2000**, Quality management systems - requirements
- **ISO 9004:2000**, Quality management systems - guidelines for performance improvement

4.0 Quality management system

4.1 General requirements

Top management of NSM is committed to establish, document, implement, maintain and continually improve the quality management system to assure that products meet specified requirements. This quality management system meets the requirements of ISO 9001:2000.

NSM defines how the requirements of the quality management system will be met, as applicable and required, and will develop, document, and make available quality management system procedures, work instructions, and other appropriate documents in order to identify, define, control, verify, measure, monitor and analyze the various processes of the organization regarding effective implementation, operation, and compliance with ISO 9001:2000, results in relation to requirements and continual improvement. These documents describe the processes, the sequence and their interaction appropriate to NSM's operation and the effective functioning and administration of the quality management system**.** Additional description of the processes in use at NSM is found in flowcharts. The availability of required resources will be assured.

In the event that processes for the delivery of products are outsourced to third parties, NSM will assure that the necessary controls are identified, established and implemented in order to assure conformity to requirements. Control of outsourcing of processes will be identified in the applicable QSPs.

References
FC-4.1-1

4.2 Documentation requirements

4.2.1 General

It is the responsibility of the Management Review Team to assure that the documentation of the quality management system includes: a quality policy, quality objectives, a quality management system manual, quality management system procedures (QSPs) covering the requirements in clauses 4.2.3, 4.2.4, 8.2.2, 8.3, 8.5.2 and 8.5.3, the necessary documents to assure the effective planning, operation and control of the quality management system processes and the records as required by ISO 9001:2000.

4.2.2 Quality manual

The Management Review Team is responsible for the development and maintenance of the quality management system manual. This quality manual will outline the requirements of ISO 9001:2000, including any applicable and permissible exclusions in the scope and the justification of the exclusions. These exclusions will be limited to requirements contained in clause 7 of ISO 9001:2000. The overall responsibilities and brief descriptions of the interaction of processes of the quality management system are included in the applicable paragraphs of this manual. More details on responsibilities and quality management system processes and their interaction can be found in the referenced quality management system procedures (QSPs) and flowcharts. Each clause in this manual will show reference to any quality management system procedures that are applicable, which again may make reference to any work instructions. Another cross reference to documented procedures is found in Attachment A of this quality manual.

References
North State Machine, Inc., Quality Manual
Quality System Procedures Cross Reference (Attachment A)

4.2.3 Document and data control

NSM will develop, document and implement a procedure that establishes the effective control of internal and external documents and data needed for the operation of the quality management system. Controlled documents will be identified with the current revision status and changes made. This procedure will define: the approval, review, update and re-approval of documents and data, availability of current revisions, removal and/or proper identification of obsolete documents and data which are retained for legal or reference purposes.

A master list with current revision levels of controlled documents will be maintained. This master list will be readily available to functions concerned. Documents will be legible, readily identifiable and retrievable. As required, documents of external origin will be identified and controlled.

References
QSP-4.2.3

4.2.4 Control of quality records

NSM will develop, document and implement a procedure for the control of records to demonstrate conformance to specified requirements and the effectiveness of the quality management system as well as compliance with statutory and regulatory requirements. This procedure will specify how records will be identified and stored in a suitable place and environment to assure they remain legible, available and are protected against deterioration. Retention time of these records will be established and their disposal will be defined and documented.

References
QSP-4.2.4

5.0 Management responsibility

5.1 Quality policy and objectives/Management commitment

In addition to other activities and issues related to quality, top management of NSM will assure that the following are implemented:

- Identify customer requirements and ensure quality as a priority
- Ensure shipments to customers are made in a satisfactory manner, with consideration to type of transportation, timeliness, etc.
- Report any non-conformance to the Operations Manager for immediate attention so that decisions can

5.2 Customer focus

With focus on enhancing customer satisfaction, top management will assure that customer requirements are identified, defined and met through customer requirement reviews, management review and internal audits.

References
QSP-7.2

5.3 Quality policy

Top management of NSM will issue and implement a quality policy, which meets the needs of the organization and its customers. The quality policy will include NSM's commitment for meeting internal requirements and customer requirements as well as commitment for continual improvement, and will provide a basis and framework for the establishment and review of quality objectives. The quality policy will be communicated within the organization and will be understood and implemented by all employees. During management reviews, the quality policy will be reviewed for its continuing effectiveness and suitability.

Quality Policy

We are committed to provide quality products and service to our customers at the highest level.

5.4 Planning

5.4.1 Quality objectives

Quality objectives will be established by the Management Review Team and any appropriate managers from functional areas. These quality objectives will be consistent with the quality policy statement and will meet, as appropriate, the requirements for products. Measurement and monitoring of quality objectives will be performed.

References
QSP-5.1

5.4.2 Quality management system planning

NSM's top management is responsible for assuring planning of the quality management system to meet the requirements specified in clause 4.1 as well as the achievement of quality objectives.

Organizational change will be defined, planned and implemented in a controlled manner to maintain the integrity of the quality management system. As required, documents in the quality management system will be revised.

5.5 Responsibility, authority and communication

5.5.1 Responsibility and authority

NSM's top management will define the responsibility, authority and interrelation of functions and employees within its organization in documented quality management system procedures, an organizational chart and, as appropriate, relevant job descriptions. Any necessary changes to the quality management system requiring documentation revisions or company communication will be addressed by the appropriate managers.

References
All QSPs
Organizational Chart (Attachment B)

5.5.2 Management representative

NSM's top management will appoint the management representative for the quality management system. Irrespective of other responsibilities, the management representative will have the responsibility and authority for the implementation and administration of the quality management system and its processes and compliance with defined requirements for the achievement of increased customer satisfaction. The management representative will report to top management on the performance and need for improvement of the quality management system and will assure the promotion of awareness of meeting customer requirements throughout the organization.

5.5.3 Internal communication

It is the responsibility of top management to assure effective communication processes are in place, including communication methods to all functional areas regarding the effectiveness of the quality management system.

5.6 Management review and customer satisfaction

5.6.1 General

At least annually, NSM's Management Review Team will review and assess the quality management system regarding its suitability, adequacy, effectiveness and opportunities for improvement. Evaluation of the need for change in the quality management system, including the quality policy and quality objectives, will be part of the review process. Review activities will include the review of the quality management system and improvement opportunities resulting from: audits, customer feedback, process performance and product conformance analysis, status of preventive and corrective actions, follow-up actions from previous management reviews and changing circumstances. The results of management reviews will be actions related to the improvement of the quality management system and its processes, of products related to customer requirements as well as the establishment of required resources. Records from management reviews will be maintained. (See 4.2.4)

5.6.2 Review input:

The management review includes the review of information and improvement opportunities related to:

a) audit results
b) customer feedback and satisfaction measurements
c) process and system performance
d) product conformance
e) continual improvement plan status
f) corrective and preventive action status
g) follow-up actions from previous meeting
h) changing circumstances that could affect the quality management system.

5.6.3 Review output:

The output from management reviews include actions related to:

a) improvement and effectiveness of the quality management system
b) improvement and effectiveness of processes
c) improvement of product related to customer requirements
d) resource requirements and needs.

References
QSP-5.6

6.0 Resource management

6.1 Provisions of resources

The requirements for resources are determined during quality planning and are reviewed during management review activities. Top management will assure that the human and material resources needed for the implementation and maintenance of processes of the quality management system are identified and available in a timely manner. This includes resources for continually improving the effectiveness of the quality management system as well as resources required to meet customer requirements and assure customer satisfaction.

6.2 Human resources

6.2.1 General

Top management will assure that personnel assigned functions in the quality management system will be qualified and competent and will have required education, experience, skills and training for those functions.

6.2.2 Competence, awareness and training

NSM will establish and maintain a documented procedure for training activities, qualification requirements, competency and job awareness. The procedure will include assuring awareness of employees regarding the impact of their roles and responsibilities on the quality of product and on the achievement of quality objectives.
All functional area managers are responsible for identifying training needs and to assure that required training is provided to personnel who perform activities affecting quality.

Job qualification requirements, job competence and training requirements will be defined in relevant job descriptions as is appropriate. The effectiveness of training will be evaluated by each employee's supervisor. Records of training, applicable performance reviews, education and qualification will be maintained for each employee (see 4.2.4).

References
QSP-6.2
Job Descriptions

6.3 Infrastructure

It is the responsibility of top management and the functional area managers to identify, define, provide and maintain appropriate work facilities that are required for the performance of activities and processes in order to assure conformance to specified requirements. Facilities will include adequate workspace and associated utilities, equipment, hardware and software, suitable maintenance and other necessary supporting services.

References
QSP-6.3

6.4 Work environment

It is the responsibility of top management and the functional area managers to assure that a proper work environment for the achievement of product conformity to requirements. The work environment will meet internal and regulatory requirements regarding health and safety, work methods and working conditions.

References
QSP-7.5.1

7.0 Product realization

7.1 Planning of product realization

Processes for the delivery of products and related activities, including changes to the processes and activities, will be defined during quality planning under the responsibility of top management. All planning activities related to products will be conducted in cooperation with the functional area managers, as applicable. The planning for product realization will be consistent with section 4.1 of this manual and will include as applicable: quality objectives and requirements for the product, verification and validation and monitoring activities, necessary resources and documents, inspection and acceptance criteria and records that provide evidence that the planning process and product meet requirements. As required, functional area managers are responsible for the development of additional documents and procedures and their implementation. The output of this planning will be in forms suitable to NSM's operation.

7.2 Customer-related processes

7.2.1 Determination of requirements related to the product

Customer requirements for product, packaging, delivery and post delivery, applicable functional and performance requirements, as well as standards, statuary and legal requirements related to the product will be determined by the Management Review Team and applicable functional managers. As appropriate, these identified requirements will be used as input for quality planning.

7.2.2 Review of requirements related to the product

It is the responsibility of the Management Review Team to develop, document, implement, and maintain procedures applicable to the review and acceptance of the requirements of products supplied by NSM.
Prior to the submission of a proposal or the acceptance of a contract or order, the proposal, contract or order will be reviewed to assure that all requirements are adequately determined and documented, that any differences between proposal and contract or order are resolved and that any missing or ambiguous specifications or statements are clarified and documented. Verbal requirements will be confirmed prior to formal acceptance of the order or contract. Where required, and prior to submission of a proposal or the acceptance of a contract or order, appropriate research and reviews are conducted to assure that NSM has the capability to meet the customer's requirements. Results of reviews and follow-up actions will be recorded.

If amendments or changes to existing orders or contracts are required, NSM's capability in meeting these new requirements will be verified and confirmed by the functions concerned. As required, documents are updated and personnel affected will be informed of the change. Records of contract reviews, follow-up actions and related activities are maintained according to established procedure.

References
QSP-7.2

7.2.3 Customer communication

Responsibilities for communication with customers regarding product and service information, general inquiries, ordering and order status, changes to existing orders, customer complaints, nonconforming products and customer feedback will be defined and included in applicable quality management system procedures.

References
QSP-7.2

7.3 Design and development

Design and development activities for and processes for products are not performed by NSM or its personnel. An exclusion has been taken as described in section 1.0 of this quality manual.

7.4 Purchasing

7.4.1 Purchasing process

NSM will assure that purchased product conforms to specified purchase requirements. The type and extent of control applied to suppliers and purchased product will be dependent upon the effect of the purchased product on subsequent product realization or the final product. Suppliers will be evaluated and selected according to defined selection criteria and their ability to supply product that meets specified requirements. The selection results and related actions, including appropriate re-evaluations, will be recorded (see 4.2.4).

References
QSP-7.4.1
QSP-7.4.2

7.4.2 Purchasing information

NSM will assure the adequacy of specified purchase requirements prior to their communication to the supplier. Purchasing information will describe the product to be purchased, including as appropriate:

a) requirements for approval of product, procedures, processes and equipment
b) requirements for qualification of personnel
c) any quality management system requirements.

References
QSP-7.4.2

7.4.3 Verification of purchased product

NSM will establish and implement the inspection or other activities necessary for assuring that purchased product meets specified purchase requirements. If there is a need for NSM or its customers to verify purchased products at a supplier's premises, the verification arrangements and applicable methods of product release will be part of the purchasing information.

7.5 Work environment and production provision

7.5.1 Work environment and control of production provision

NSM plans and carries out production processes under controlled conditions which 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 devices
e) the implementation of monitoring and measurement
f) the implementation of release, delivery and post-delivery activities.

References
QSP-7.5.1

7.5.2 Validation of processes for production provision

NSM will validate the resulting output of production processes by subsequent measurement or monitoring activities. An exclusion has been taken as described in section 1.0 of this quality manual.

7.5.3 Identification and traceability

Where appropriate, procedures will be established and maintained for the identification of product during all stages of product realization. As applicable, this identification will define the product and its status at all stages within respect to monitoring and measurement requirements, as well as any required data for traceability. Applicable traceability records will be maintained (see 4.2.4).

References
QSP-7.5.3

7.5.4 Control of customer property

NSM will exercise care with customer property while it is under NSM's control or being used by NSM.
NSM will identify, protect and safeguard customer property provided for use or incorporation into product. If any customer property is lost, damaged or otherwise found to be unsuitable for use, this will be reported to the customer and recorded (see 4.2.4).

References
QSP-7.5.4

7.5.5 Preservation of property

NSM will establish and maintain procedures to preserve the conformity of product during internal processing and delivery to the intended destination. Preservation will include identification, handling, storage, packaging and protection and will apply to the constituent parts of a product.

References
QSP-7.5.5

7.6 Control of monitoring and measuring devices

NSM will determine the monitoring and measurement to be undertaken and the monitoring and measuring devices needed to provide evidence of conformity of product to predetermined requirements. NSM will establish processes to assure that monitoring and measurement can be carried out and are carried out in a manner that is consistent with the monitoring and measurement requirements.

Where necessary to assure valid results, monitoring and measuring equipment will:

a) be calibrated or verified at specified intervals, or prior to use, against measurement standards traceable to international or national standards; where no such standards exist, the basis used for calibration or verification will be recorded;
b) be adjusted or re-adjusted as necessary;
c) be identified to enable the calibration status to be determined;
d) be safeguarded from adjustments that would invalidate the measurement result;
e) be protected from damage and deterioration during handling, maintenance and storage.

In addition, NSM will assess and record the validity of the previous monitoring or measuring results when the equipment is found not to conform to requirements. NSM will take appropriate action on the equipment and any

product affected. Records of the results of calibration and verification will be maintained (see 4.2.4).

When used in the monitoring and measurement of specified requirements, the ability of computer software to meet the intended application will be confirmed. This will be done prior to initial use and reconfirmed as necessary.

References
QSP-7.6

8.0 Measurement, analysis and improvement

8.1 General

NSM will plan and implement appropriate monitoring, measuring, analysis and improvement activities to demonstrate the conformity of product to specified requirements, the conformity of the quality management system to planned objectives, and the achievement of continual improvement of the quality management system. Appropriate methodologies such as statistical techniques will be determined and applied.

8.2 Monitoring and measurement

8.2.1 Customer satisfaction

At least once every twelve months, NSM will conduct a customer satisfaction survey in order to obtain input and feedback directly from customers regarding NSM's achievement of customer satisfaction. Other feedback information from customer complaints and unsolicited reports from customers will also be used as customer satisfaction input. The customer satisfaction criteria will be in alignment with defined customer needs, expectations and/or requirements determined during quality planning activities. Customer satisfaction will be discussed, measured and acted upon, as appropriate, during management review activities.

8.2.2 Conducting internal quality audits

It is the responsibility of the Management Review Team to establish, maintain and implement documented procedures for planning and conducting internal audits. The procedure will define the auditing process, responsibilities, reporting, necessary actions and records. Internal audits will verify whether the quality management system meets the requirements of the ISO 9001:2000 standard, and whether it is effectively implemented and maintained. Internal audits will verify if the outputs and objectives of quality planning specified in clause 7.1 are met. The management representative will manage the internal audit process.

Internal audits will be planned and scheduled, taking into consideration the status and importance of the processes and areas to be audited as well as the results of previous audits. All requirements in the quality management system will be audited at least once per year. The management representative will assure that qualified personnel, independent of those having direct responsibility of the area or activity to be audited, conduct internal audits. Required corrective action will be taken by management of the area audited. When applicable, follow-up audits will be conducted to verify the effectiveness of implemented corrective action. Internal audits will be recorded (see 4.2.4). Internal audit results will be reported to top management and will be part of management review.

References
QSP-8.2.2

8.2.3 Monitoring and measurement of processes

NSM will apply appropriate and suitable methods for the monitoring and, where applicable, measurement of the processes of the quality management system. These methods will confirm the ability of the processes in meeting planned results. If results do not meet requirements, correction and corrective action will be taken, as appropriate, to assure conformity of the product.

References
QSP-7.5.1
QSP-8.2.2

8.2.4 Monitoring and measurement of product

NSM will monitor and measure the characteristics of the product to verify that product requirements have been met. This will be carried out at appropriate stages of the product realization process in accordance with the planned arrangements. Evidence of conformity with the acceptance criteria will be maintained and records will indicate the person authorizing release of product (see 4.2.4). No product will be released until the planned arrangements have been satisfactorily completed, unless otherwise approved by a relevant authority and, where applicable, by the customer.

References
QSP-8.2.4

8.2.4-2 Performing First Article Inspection

NSM will assure that first article inspection (FAI) requirements are verified so that the product can be manufactured and tested in accordance with the prerequisite specifications and drawings in respect of production scheduling, shop orders, production resources and staff skills. All employees are responsible for manufacture of the products in accordance with the technical specifications, contractual agreements, approved quality assurance scheduling, approved procedures and manufacture scheduling.

References
QSP-8.2.4-2

8.3 Control of nonconforming product

NSM will assure that product which does not conform to specified requirements is identified and controlled to prevent its unintended use or delivery. NSM will address nonconforming product by the following ways:

a) by taking action to eliminate the detected nonconformity;
b) by authorizing its use, release or acceptance under concession by a relevant authority and, where applicable, by the customer;
c) by taking action to preclude its original use or application.

Records of the nature of nonconformities and any subsequent actions taken, including concessions obtained, will be maintained (see 4.2.4). When nonconforming product is corrected it will be subject to re-verification to demonstrate conformity to the requirements. In the event nonconforming product is detected after the delivery, NSM will take action appropriate to the effects, or potential effects, of the nonconformity.

References
QSP-8.3

8.4 Analysis of data

NSM will determine, collect and analyze appropriate data to demonstrate the suitability and effectiveness of the quality management system and to evaluate where continual improvement of the effectiveness of the quality management system can be made. This will include data generated as a result of monitoring, measurement and other relevant sources. The analysis of data will provide information relating to customer satisfaction, conformity to product requirements, characteristics and trends of processes and products, including opportunities for preventive action, and suppliers.

8.5 Improvement

8.5.1 Continual improvement

Continual improvement is the responsibility of all personnel. It is the responsibility of the Management Review Team to coordinate and document activities for the continual improvement of the quality management system. Continual improvement will be based on the quality policy statement, quality objectives, audit results, analysis of data, results of corrective and preventive actions and management reviews.

8.5.2 Corrective action

NSM will take action to eliminate the cause of nonconformities in order to prevent recurrence. The corrective action taken will be appropriate to the effects of the nonconformities encountered. NSM will establish documented procedures for an organizational approach for corrective action. The corrective action process will address the identification of nonconformities and their review, including customer complaints. Nonconformities will be analyzed, root causes will be determined and necessary action will be taken to prevent reoccurrence of the nonconformity. Corrective actions will be recorded and results will be monitored and reviewed regarding their implementation and effectiveness. Records of corrective actions will be maintained (see 4.2.4).

References
QSP-8.5.2

8.5.3 Preventive action

Potential problems or nonconformities will be identified and preventive action will be taken to prevent their occurrence. Preventive action will be appropriate to the probability of occurrence and the importance, risk and impact of the potential problems or nonconformities. NSM will establish a documented procedure for an organizational approach for preventive action. The procedure will define the process for the identification of potential problems or nonconformities and their causes, the analysis of their impact and probability of occurrence, the need for preventive action, the implementation of actions, and the recording (see 4.2.4) and review and monitoring of results of these preventive actions taken.

References
QSP-8.5.3

8.5.4 B/E Aerospace Requirements

NSM has established a procedure which details the requirements of B/E Aerospace in regards to producing and maintaining quality products.

References
QSP-8.5.4

8.5.6 Procedure for Shop Order

To establish a procedure for when a Purchase Order is received and/or rework purchase order for any vendor parts.

References
QSP-8.5.6

8.5.7 Engineering Changes

To establish a procedure by which an engineering change has occurred.

References
QSP-8.5.7

APPROVAL

Kim Smith 8-28-15

_____DATE:_____

President

35

REVISION LEVEL_____

8-28-15

REVISION DATE_____

8-28-15

RELEASE DATE_____