North Jackson Facility

Quality Systems Manual

2058 South Bailey Road
North Jackson, Ohio 44451

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Foreward

To assure customer satisfaction across the many industries serviced by Universal Stainless & Alloy Products – North Jackson Facility (USAP-NJ), the management of USAP-NJ has determined that the company must produce, and continually improve, reliable products that meet or exceed customer and regulatory authority requirements. The globalization of the industries and the resulting diversity of regional/national requirements and expectations has complicated this objective. End-product organizations face the challenge of assuring the quality and regulatory compliance of product purchased from suppliers throughout the world and at all levels within the supply chain. USAP-NJ faces the challenge of delivering product to multiple customers having varying quality expectations and requirements.

This document incorporates and addresses quality management system requirements for the many industries serviced by USAP-NJ. Generally, these requirements are common and/or complementary. Where they are unique to a specific customer or where the requirements of a subset of customers are in opposition to the requirements of other customers or elements of this Quality Program, these special requirements will be managed through customer-specific contractual arrangements rather than the formal Quality Program.

Introduction

General

Patriot Special Metals (PSM) was developed as a green field site, beginning operations in the first half of 2011. In August of 2011, PSM was purchased by Universal Stainless & Alloy Products headquartered in Bridgeville, PA. Some functions such as Sales and Purchasing are headquartered at the Bridgeville facility, but staff located in North Jackson assist in the operation of these systems.

The quality management system requirements specified in this Quality Program are complementary to those imposed by purchase order, customer/industry specifications and formal supplier quality program requirements formally accepted by USAP-NJ.

This Quality Program Manual can be used by internal and external parties, including certification bodies, to assess USAP-NJ's ability to meet customer, regulatory and the company's own requirements.

General Manager:

Steve Laich Date: 3-4-14

Steve Laich

Quality Manager:

Timothy Reeser Date: 3-4-14

Timothy Reeser

Process Approach

In order to enhance customer satisfaction and meet customer requirements, USAP-NJ uses a process approach to developing, implementing and improving the effectiveness of the company's quality management system. This approach manages numerous linked activities and resources in order to enable the transformation of inputs into outputs. USAP-NJ has developed a detailed and integrated Order Fulfillment System (OFS) that supports the company's ability to meet customer requirements. The OFS System allows USAP-NJ to identify, control and manage the interactions and linkages between the individual processes and the overall system of processes and controls. The OFS system is a vital tool for executing the quality management system. Management oversight of the effectiveness of USAP-NJ's Quality System is provided through reports generated through the OFS System. These reports, both standard and custom, enable management to:

a) understand how well USAP-NJ is meeting requirements,

b) consider processes in terms of added value,

c) obtain results of process performance and effectiveness, and

d) continually improve processes based on objective measurement.

USAP-NJ employs the methodology known as "Plan-Do-Check-Act" (PDCA). PDCA can be briefly described as follows.

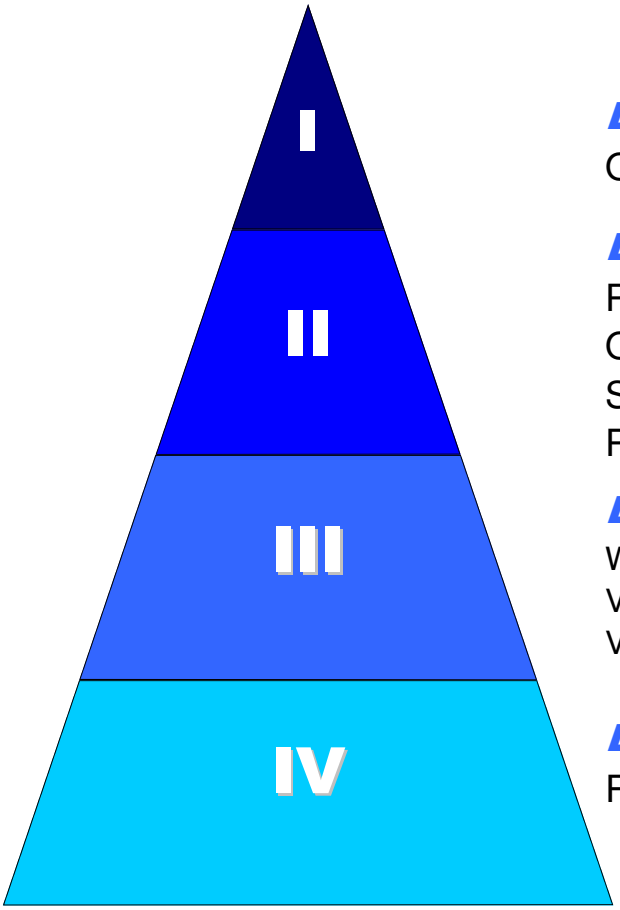
Plan: establish the objectives and processes necessary to deliver results in accordance with customer requirements and the organization's policies.

Do: implement the processes.

Check: monitor and measure processes and product against policies, objectives and requirements for the product and report the results

Act: take actions to continually improve process performance.

Documentation Scheme



Level I

Quality Manual

Level II

Process Specifications (PS-xxx)
Quality Specifications (QS-xx)
Standard Operating Procedures (SOP-xx)
Process Flow Diagrams (PFD-xx)

Level III

Work Instructions (WI-xxx)
VIM Internal Chemistry (VIC-xx)
VIM Process Parameters (VPP-xx)

Level IV

Records & Forms (xxx)

USAP-NJ Organizational Chart

The USAP Organizational chart is located in document QS-037.

1 - SCOPE

1.1 General

USAP-NJ's scope of supply includes the following:

Melting, Forging, Heat Treatment, and Finishing of Metal Products.

1.2 Application

USAP-NJ has determined that the following requirements are not applicable to the operations at this site and are documented as exclusions:

Clause 7.3, Design and Development of IS0 9001/AS9100 has been excluded from the quality management system. USAP-NJ does not design or develop delivered products. Products are manufactured based on customer and industry design requirements and specifications.

Clause 7.5.1.4, Post Delivery Support of AS9100 has been excluded from the quality management system. USAP-NJ does not provide service operations at customer's facilities. USAP-NJ also does not perform any activities at any customer's locations.

2 - NORMATIVE REFERENCE

2.0 Quality Management System References

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

- American National Standard ANSI/AS 9001/ASQ Q9000-2005, Quality Management Systems - Vocabulary.

- American National Standard ANSI/AS 9001/ASQ Q9001-2008, Quality Management Systems – Requirements
- American National Standard ANSI/AS 9001/ASQ Q9004-2000, Quality Management Systems – Guidelines for performance Improvements
- Society of Automotive Engineers SAE AS 9100 Rev C (2009) - Quality Management Systems – Requirements
- General Electric Specifications S-1000 & S-400
- ISO 17025 -2005

3 - DEFINITIONS

3.0 Quality Management System Definitions

- Customer owned property - Any type of instrumentation, accessories, manuals, documents, or shipping containers that belong to a customer.
- Customer supplied product - Any type of service or material supplied to be utilized in the manufacture, modification or repair of customer-owned property.
- Product – The end item result of meeting all contract terms and conditions. (eg: manufactured goods, merchandise, services etc.)
- Records – Documentation of those activities wherein records of said activities must be maintained will be specified in the procedure or work instruction level documents, as applicable
- Key Characteristics- The features of a material, process, or part whose variation has a significant influence on product fit, performance, service life, or manufacturability.
- Risk - An undesirable situation or circumstance that has both a likelihood of occurring and a potentially negative consequence.
- Special requirements - Those requirements identified by the customer, or determined by the organization, which have high risks to being achieved thus, requiring their inclusion in the risk management process. Factors used in the determination of special requirements include product or process complexity, past experience and product or process maturity.
- Critical items - Those items (e.g., functions, parts, software, characteristics, processes) having significant effect on the product realization and use of the product; including safety, performance, form, fit, function, producibility, service life, etc.; that require specific actions to ensure they are adequately managed.

4 – QUALITY MANAGEMENT SYSTEM

4.1 General requirements

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

To implement the quality management system, USAP-NJ has developed Process Specifications and an integrated Order Processing/Shop Order/Test Order system through which USAP-NJ has:

- Determined the processes needed for the QMS and their application throughout the organization and documented them on the Process Flow Diagram at the end of this section of the Quality Manual
- Determined the sequence and interaction of these processes, and illustrated them on the Process Flow Diagram
- Determined criteria and methods needed to ensure that the operation and control of the processes are effective
- Ensured the continuing availability of resources and information necessary to achieve planned results and continual improvement of these processes
- Established systems to monitor, measure and analyze these processes, and
- Established processes to identify and implement actions necessary to achieve planned results and continual improvement of these processes

4.2 Documentation Requirements

4.2.1 General

The QMS documentation includes:

- A documented Quality Policy
- This Quality Manual
- Documented Procedures
- Documents identified as needed for the effective planning, operation and control of our processes, and
- Records
- Records required by statutory and regulatory authorities.

USAP-NJ ensures that personnel have access to quality management system documentation and are aware of relevant procedures. We also provide customer or statutory and regulatory authorities access to quality management system documentation.

4.2.2 Quality manual

This Quality Manual has been prepared to describe USAP-NJ's QMS. The scope and permissible exclusions of the QMS are described in section one of this manual. Each section of the manual references documented QMS procedures relating to the requirements outlined in that section. The Process Flow Diagram at the end of section 4 provides a description of the interaction between the processes of the QMS system. The relationship between the AS 9100 standard and documented procedure has been indicated by use of a numbering system that correlates to the AS 9100 standard.

4.2.3 Control of documents

All of the QMS documents are controlled according to the Document Control Procedure (QS-02). This procedure defines the process for:

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

4.2.4 Control of records

Records are maintained to provide evidence of conformity to requirements and of the effective operation of the QMS. The records, including those created by or maintained by suppliers, are maintained according to the Control of Records Procedure (QS-03). This procedure requires that records remain legible, readily identifiable and retrievable. The procedure defines the controls needed for identification, storage, protection, retrieval, retention time and disposition of records. Records are made available for review by customers and regulatory authorities in accordance with contract or regulatory requirements.

Related Procedures

Document Control	QS-02
Control of Records	QS-03

The QMS System Diagram is located in procedure QS-023

5 - MANAGEMENT RESPONSIBILITY

5.1 Management commitment

The Plant Manager has been actively involved in implementing the quality management system (QMS). It has provided the vision and strategic direction for the growth of the QMS, and established quality objectives and the quality policy

To continue to provide leadership and show commitment to the improvement of the QMS, management will do the following.

- Communicate to the organization the importance of meeting customer as well as statutory and regulatory requirements, (QS-18 - Quality Program Orientation)
- Establish the quality policy, (QS-18 Quality Program Orientation)
- Ensure that quality objectives are established, (QS-18 Quality Program Orientation)
- Conduct management reviews, (QS-16 - Management Review of Quality System),
- Ensure the availability of resources. (QS-16 - Management Review of Quality System)

5.2 Customer focus

USAP-NJ strives to identify current and future customer needs, to meet customer requirements and exceed customer expectations.

USAP-NJ's top management ensures that customer requirements are understood and met, by requiring compliance with documented customer communication procedures. Customer requirements are determined, converted into internal requirements, and communicated to the appropriate people in our organization (QS-017 Customer Satisfaction). Product conformity and on time delivery performance are measured. Management ensures that action is taken if planned results are not achieved.

5.3 Quality policy

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

Management reviews the quality policy at each management review meeting to determine the policy's continuing suitability for our organization. The Quality Policy is documented in QS-18.

5.4 Planning

5.4.1 Quality objectives

Quality objectives are established to support our organization's efforts in achieving our quality policy and reviewed annually for suitability. Quality Objectives have been established for the facility and are described in QS-18. Quality objectives are measurable, and reviewed against performance goals at each management review meeting.

5.4.2 Quality management system planning

Through QS-16 Management Review of Quality System and QS-02 Document Control, top management ensures that:

- the planning of the quality management system is carried out in order to meet the requirements given in 4.1, as well as the quality objectives, and
- the integrity of the quality management system is maintained when changes to the quality management system are planned and implemented.

5.5 Responsibility, authority and communication

5.5.1 Responsibility and authority

An organizational chart has been established to show the interrelation of personnel in the organization. Job descriptions define the responsibilities and authorities of each of the positions on the organizational chart. Job descriptions and the organizational chart are reviewed and approved by top management for adequacy. These documents are available throughout the organization to help employees understand responsibilities and authorities. Job responsibilities and authorities are defined and communicated within the organization. (QS-22 Competence-Awareness and Training). An organizational chart is located in procedure QS-37.

5.5.2 Management representative

The Quality Assurance Manager been appointed by the General Manager as management representative. As management representative, they have the following responsibility and authority:

- Ensure that processes needed for the quality management system are established and implemented.
- Report to top management on the performance of the quality management system, and note needed improvements.
- Promote awareness of customer requirements throughout the organization.
- Act as a liaison with external parties such as customers or auditors on matters relating to the QMS
- Resolve matters pertaining to quality issues
- Organizational freedom and unrestricted access to top management to resolve matters

pertaining to quality.

5.5.3 Internal communication

Top management ensures that appropriate communication processes are established within the organization and that communication takes place regarding the effectiveness of the quality management system. (see QS-18 Quality Program Orientation)

5.6 Management review

5.6.1 General

Through QS-16 Management Review of Quality System, top management reviews the organization's quality management system at planned intervals (at least once per year) to ensure its continuing suitability, adequacy and effectiveness.

This review includes assessing opportunities for improvement and the need for changes to the quality management system, including the quality policy and quality objectives.

Records from management reviews are maintained (see 4.2.4).

5.6.2 Review input

In accordance with QS-16 Management Review of Quality System, the input to management review includes (at a minimum) information on:

- Results of audits
- Customer feedback
- Process performance and product conformity
- Company level quality data
- Status of preventive and corrective actions
- Follow-up actions from previous management reviews
- Planned changes that could affect the quality management system
- Recommendations for improvement

5.6.3 Review output

During these review meetings, management will identify appropriate actions to be taken regarding the following issues:

- Improvement of the effectiveness of the quality management system and its processes
- Improvement of product related to customer requirements
- Resource needs

Responsibility for required actions is assigned to members of the management review team. Any decisions made during the meeting, assigned actions, and their due dates are recorded in the minutes of management review.

Related Procedures:

Document Control Reviews	QS-02
Management Review Process	QS-16
Customer Satisfaction	QS-17
Quality Program Indoctrination	QS-18
Competence-Awareness and Training	QS-22
QMS System Diagram	QS-23
Organizational Chart	QS-37

6 - RESOURCE MANAGEMENT

6.1 Provision of resources

Through QS-16 Management Review of Quality System, USAP-NJ determines and provides the resources needed:

a) to implement and maintain the quality management system, continually improve its effectiveness, and

b) to enhance customer satisfaction by meeting customer requirements .

6.2 Human resources

6.2.1 General

Per QS-22 (Competence-Awareness and Training) performing work affecting product quality shall be competent on the basis of appropriate education, training, skills and experience.

6.2.2 Competence, awareness and training

Through guidance described in QS-22 Competence-Awareness and Training, USAP-NJ management:

- determines the necessary competence for personnel performing work affecting product quality,
- provides training or takes other actions to satisfy these needs,
- evaluates the effectiveness of the actions taken,
- ensures that its personnel are aware of the relevance and importance of their activities and how they contribute to the achievement of the quality objectives, and
- maintains appropriate records of education, training, skills and experience (see 4.2.4).

All employees are trained on the relevance and importance of their activities and how they contribute to the achievement of the quality objectives.

6.3 Infrastructure

Per QS-16 Management Review of Quality System, through annual management planning, and review activities USAP-NJ determines, provides and maintains the infrastructure needed to achieve conformity to product requirements. Infrastructure includes, as applicable:

a) buildings, workspace and associated utilities,

b) process equipment (both hardware and software), and

c) supporting services (such as transport or communication).

d) Preventive maintenance plans

6.4 Work Environment

A work environment suitable for achieving product conformance is maintained. Requirements are determined during quality planning and documented in the quality plan. The work environment is managed for continuing suitability. Data from the quality system is evaluated to determine if the work environment is sufficient for achieving product conformance, or if preventive or corrective action related to the work environment is required.

USAP-NJ determines and manages the work environment needed to achieve conformity to product requirements. (See QS-29 Forge Department Processing and QS-31 Handling and Storage of Material).

Factors included when determining suitable environment may include:

a) Temperature
b) Humidity
c) Lighting
d) Noise
e) Air quality

Related Documents

Management Review of Quality System	QS-16
Personnel Qualifications and Training	QS-22
Forge Department Material Processing	QS-29
Handling and Storage of Material	QS-31

7 - PRODUCT REALIZATION

7.1 Planning of product realization

USAP-NJ plans and develops the processes needed for product realization. Planning of product realization is consistent with the requirements of the other processes of the quality management system (see 4.1).

In planning for product realization, the organization determines the following, as appropriate:

a) quality objectives and requirements for the product; (these are primarily imposed by the customer via Industry and/or Customer Specifications – USAP-NJ does not design products. Other objectives and requirements are established and/or imposed through Supplier Quality Programs and conditions in contracts)

b) the need to establish processes, documents, and provide resources specific to the product; (see Process Specification Index)

c) required verification, validation, monitoring, inspection and test activities specific to the product and the criteria for product acceptance; (see QS-09 Specification Control)

d) records needed to provide evidence that the realization processes and resulting product meet requirements (see 4.2.4); (see QS-03 Records, QS-09 Specification Control

e) Configuration management appropriate to the product (QS-07 Configuration Management)

f) Resources necessary to support use and maintenance of the product

g) Resources to support operation and maintenance of the product.

The output of this planning is the Traveler/Test Order which is the industry-standard approach and is suitable for the organization's method of operations.

7.1.1 Project Management

Management assigns responsibility for project management and ensuring that product realization is planned and managed in a controlled manner, meeting requirements at acceptable risk, within resource and schedule constraints.

7.1.2 Risk Management

Risks are managed according to the Risk Management procedure (QS-05). The process of risk management includes;

- Assigning responsibility for risk management
- Defining risk criteria
- Identification, assessment and communication of risks
- Identification, implementation and management of actions to mitigate risks
- Acceptance of risks remaining after implementation of mitigating actions

7.1.3 Configuration Management

Configuration management is defined in QS-07, Configuration Management. The procedure defines the process for:

- Configuration management planning
- Configuration identification
- Change control
- Configuration status accounting
- Configuration audit

7.1.4 Control of Work Transfers

Temporary or permanent transfer of work is planned to control and verify the conformity of the work to requirements. Planning takes place according to QS-12 Control of Work Transfers.

7.2 Customer-related processes

7.2.1 Determination of requirements related to the product

All contract review for USAP-NJ is performed by staff located at USAP-Corporate as described in procedure SOP-8. The Technology group at USAP-NJ may perform a cursory process review to ensure all aspects of the order are correctly understood including:

a) requirements specified by the customer, including the requirements for delivery and post-delivery activities,

b) requirements not stated by the customer but necessary for specified or intended use, where known,

c) statutory and regulatory requirements related to the product, and

d) any additional requirements determined by the organization.

7.2.2 Review of requirements related to the product

Through SOP-8, Procedure SPP6.2, and SPP 3.1, USAP-Bridgeville reviews the requirements related to the product. A review is conducted for potential orders which meet conditions that could affect quality prior to our commitment to supply a product to the customer, upon recognition of a change of manufacturing circumstances pertaining to an order, or a significant customer-imposed change request. The review ensures that:

a) product requirements are defined,

b) contract or order requirements differing from those previously expressed are resolved,

c) the organization has the ability to meet the defined requirements including items such as short delivery times and new technology, *and*

d) Any special requirements are reviewed and determined

e) Any risks have been identified

Records of the results of the review and actions arising from the review are maintained by USAP-Corporate per SPP16.

Where the customer provides no documented statement of requirement, the customer requirements are confirmed by USAP-Corporate before acceptance.

Where product requirements are changed, the USAP--ensures that relevant documents are amended and that relevant personnel are made aware of the changed requirements through guidelines provided in SPP3.1.

7.2.3 Customer communication

Through SOP-8, SPP14.1 and SPP14.4, USAP-Corporate has determined and implement effective arrangements for communicating with customers in relation to:

a) product information,

b) enquiries, contracts or order handling, including amendments, and

c) customer feedback, including customer complaints.

7.3 Design and Development

Design and Development is excluded from this program. USAP-NJ does not design or develop end user products. Products are manufactured based on customer design requirements and specifications.

7.4 Purchasing

7.4.1 Purchasing process

All quality critical purchasing for USAP-NJ is managed and controlled at the USAP-Corporate location through procedure SPP6.2. Through WI-066 Identification and Inspection of Incoming Forge Stock, and WI-042 Melt Shop Receiving and approval, USAP-NJ ensures that purchased product conforms to specified purchase requirements. The type and extent of control applied to the supplier and the purchased product are dependent upon the effect of the purchased product on subsequent product realization or the final product. These processes are managed and controlled by the purchasing department at USAP-Corporate.

USAP-Corporate evaluates and selects suppliers based on their ability to supply product in accordance with the company's requirements. Criteria for selection, evaluation and re-evaluation are established in USAP-Corporate procedure SPP6.2. Records of the results of evaluations and any necessary actions arising from the evaluation are maintained per USAP-Corporate procedure SPP6. USAP-Corporate is responsible for the quality of all products purchased from suppliers, including customer-designated sources (as stated above, USAP-NJX is responsible for verification of received goods, however SCARS originate at USAP-Corporate.

7.4.2 Purchasing information

USAP-Corporate procedure SPP6 describes the product to be purchased, including where appropriate:

a) requirements for approval of product, procedures, processes and equipment,

b) requirements for qualification of personnel,

c) quality management system requirements.

The organization shall ensure the adequacy of specified purchase requirements prior to their communication to the supplier.

7.4.3 Verification of purchased product

USAP-Corporate procedure SPP6, WI-042 Melt Shop Receiving and approval, and WI-066 Identification and Inspection of Incoming Forge Stock, USAP-NJ has established and implemented the inspection or other activities necessary for ensuring that purchased product meets specified purchase requirements.

The Purchasing procedure QS-10 describes the process used to verify that purchased product meets specified purchase requirements. Purchased product is not used or processed until it has been verified as conforming to specified requirements unless it is released under positive recall procedure. If test reports are used to verify purchased product, the data must meet applicable specifications. Test reports for raw material are periodically validated by the USAP-Corporate Purchasing Department .

Where specified in the contract, the customer or the customer's representative is given the right to verify at the suppliers premises and organization's premises that product conforms to specified requirements

Where USAP-NJ or USAP-NJ's customer intends to perform verification at the supplier's premises, the organization shall state the intended verification arrangements and method of product release in the purchasing information.

7.5 Production and Service Provision

7.5.1 Control of production and service provision

USAP-NJ plans and carries out production and service provision under controlled conditions. Controlled conditions include, as applicable:

- The availability of information that describes the characteristics of the product
- The availability of work instructions
- The use of suitable equipment
- The availability and use of monitoring and measuring equipment
- The implementation of monitoring and measurement processes
- The implementation of release, delivery and post-delivery activities
- accountability for all product during manufacture (e.g., item quantities, split orders, nonconforming product), item accountability to ensure bad items cannot accidentally return to the product stream
- evidence that all production and inspection/verification operations have been completed as planned, or as otherwise documented and authorized,
- provision for the prevention, detection, and removal of foreign objects,
- monitoring and control of utilities and supplies such as water, compressed air, electricity and chemical products to the extent they affect product quality, and criteria for workmanship, which shall be stipulated in the clearest practical manner (e.g., written standards, representative samples or illustrations).

Planning considers, 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 design, manufacture, and use of tooling so that variable measurements can be taken, particularly for key characteristics, and
- Special processes (see 7.5.2).

7.5.1.1 Production Process Verification

Production processes are verified through appropriate documentation and travelers. Where appropriate and/or required by customers, additional verification testing will be performed on each billet (eg. Macrostructure, Hardness, Ultrasonic testing, etc.). This testing may be performed by USAP-NJ personnel, or subcontracted to approved vendors. USAP-NJ produces materials to customer specification, and tests each piece as required by PO or specification. First article inspection requirements are satisfied because each heat is tested as required by customer PO.

7.5.1.2 Control of Production Process Changes:

Authorized people for approving changes to production processes are identified in the Procedure QS-33. USAP-NJ controls and documents changes affecting processes, production equipment, tools and software programs according to this procedure.

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 (N.C.) Machine Programs

Production equipment, tools and programs are validated prior to use and maintained and inspected periodically according to documented procedures. Validation prior to production use includes verification of each article produced to the design data/specification. Storage requirements, including periodic preservation/condition checks, have been be established for production equipment or tooling in storage. See QS-06 Control of Production and Service Provision.

7.5.1.4 Post delivery support

While USAP-NJ does not provide specific post delivery support, we will provide advice within our sphere of knowledge to assist customers as requested.

If a customer detects a problem with a product after delivery, a Customer Complaint is opened (QS-08 Corrective and Preventive Action, SCAR's, and Customer Complaints). The complaint will document actions to be taken, including investigation and verification activities.

7.5.2 Validation of processes for production and service provision

Per QS-29 Forge Department Material Processing, QS-27 Pyrometry, QS-10 Purchasing and Supplier Evaluation, QS-02 Document Control, and QS-03 Quality System Records, USAP-NJ (along with purchasing support from USAP-Corporate) validates any processes for production and service provision where the resulting output cannot be verified by subsequent monitoring or

measurement. This includes any processes where deficiencies become apparent only after the product is in use or the service has been delivered.

Validation of these "special processes" demonstrates the ability of these processes to achieve planned results. USAP-NJ has established arrangements for these processes including, as applicable

a) defined criteria for review and approval of the processes,

b) approval of equipment and qualification of personnel,

c) use of specific methods and procedures,

d) requirements for records (see 4.2.4), and

e) revalidation.

7.5.3 Identification and traceability

Per QS-32 Identification and Traceability, QS-11 Nonconformance Procedure, and QS-03 Records, USAP-NJ identifies the product by suitable means throughout product realization.

- USAP-NJ maintains the identification of the configuration of the product in order to identify any differences between the actual configuration and the agreed configuration.
- Product is identified with respect to monitoring and measurement requirements.
- When acceptance authority media such as stamps, electronic signatures or passwords are used USAP-NJ establishes and documents controls for the media.
- According to the level of traceability required by contract, statutory and regulatory, or other established requirement, USAP-NJ system provides for:
  - Identification to be maintained throughout the product life;
  - For a given product, a sequential record of its production (manufacture, assembly, inspection) to be retrieved.

In order to maintain traceability, USAP-NJ controls and records the unique identification of the product (see 4.2.4) on each product (per specification) and in the OFS computer system.

7.5.4 Customer property

Per QS-18 Customer Supplied Material, QS-11 Nonconformance Procedure and QS-08 Corrective and Preventive Action, USAP-NJ exercises care with customer property while it is under USAP-NJ's control or being used by the organization. USAP-NJ identifies, verifies, protects and safeguards customer property provided for use or incorporation into the product. If any customer property is lost, damaged or otherwise found to be unsuitable for use, this shall be reported to the customer by the USAP-Corporate Sales group records are maintained in the OFS system (see 4.2.4).

NOTE: Customer property can include intellectual property.

7.5.5 Preservation of product

Per WI-013 Final Inspection and QS-31 Handling and Storage of Material, and requirements stated in the traveler, USAP-NJ preserves the conformity of product during internal processing and delivery to the intended destination. This preservation includes, as applicable, identification, handling, packaging, storage and protection. As applicable, preservation also applies to the constituent parts of a product.

Preservation of product also includes, where applicable in accordance with product specifications and/or applicable regulations, provisions for:

- Cleaning;
- Prevention, detection and removal of foreign objects;
- Special handling for sensitive products
- Marking and labeling including safety warnings;
- Shelf life control and stock rotation;
- Special handling for hazardous materials.

7.6 Control of monitoring and measuring equipment

The Technical group at USAP-Corporate and USAP-NJ determines the monitoring and measurement to be undertaken and the monitoring and measuring devices needed to provide evidence of conformity of product to determined requirements (see 7.2.1). Calibration requirements are described in QS-01 (Calibration Program), and records are maintained as described in QS-03 (Quality System Records).

USAP-NJ has established processes to ensure 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 ensure valid results, measuring equipment is:

- Calibrated to NIST requirements, verified or both at specified intervals, or prior to use, against measurement standards traceable to international or national measurement standards.
- Adjusted or re-adjusted as necessary
- Identified to enable the calibration status to be determined
- Safeguarded from adjustments that would invalidate the measurement result
- Protected from damage and deterioration during handling, maintenance and storage
- Be recalled according to a defined method when requiring calibration

In addition, USAP-NJ assesses and records the validity of the previous measuring results when the equipment is found not to conform to requirements. USAP-NJ takes appropriate action on the equipment and any product affected. Records of the results of calibration and verification are maintained (see 4.2.4).

USAP-NJ maintains a register of the monitoring and measuring equipment. The process used for their calibration is defined in Quality Specifications, work instructions, and/or equipment manuals and includes details of equipment type, unique identification, location, frequency of checks, check method and acceptance criteria.

When used in the monitoring and measurement of specified requirements, the ability of computer software to satisfy the intended application is confirmed. This is undertaken prior to initial use and reconfirmed as necessary.

USAP-NJ ensures that environmental conditions are suitable for the calibrations, inspections, measurements and tests being carried out.

Related Documents

Calibration Program	QS-01
Document Control	QS-02
Quality System Records	QS-03
Control of Service & Provision	QS-06
Corrective and Preventive Action, SCAR's, and Customer Complaints	QS-08
Customer Specification Control	QS-09
Purchasing & Supplier Evaluation	QS-10
Nonconformance Procedure	QS-11
Approved Supplier List	QS-15
Customer Supplied Material	QS-19
Pyrometry	QS-27
Forge Department Material Processing	QS-29
Handling and Storage of Material	QS-31
Identification and Traceability and Inspection Status	QS-32
North Jackson Contract Review	SOP-8
Final Inspection, Packaging and Shipping	WI-013
Melt Shop Receiving and Approval	WI-041
Identification and Inspection of Incoming Forge Stock	WI-066

8 - MEASUREMENT, ANALYSIS AND IMPROVEMENT

8.1 General

Per QS-16 Management Review of Quality Management System, QS-20 Continual Improvement, QS-17 Customer Satisfaction, QS-11 Nonconformance Procedure and through regular, scheduled Senior Management Meetings, USAP-NJ plans and implements the monitoring, measurement, analysis and improvement processes needed

a) to demonstrate conformity of the product,

b) to ensure conformity of the quality management system, and

c) to continually improve the effectiveness of the quality management system.

USAP-NJ determines applicable methods, including statistical techniques, and the extent of their use.

8.2 Monitoring and Measurement

8.2.1 Customer Satisfaction

As one of the measurements of the performance of the quality management system, USAP-NJ monitors information relating to customer perception as to whether the organization has met customer requirements. Per QS-17 Customer Satisfaction, the methods for obtaining and using this information are determined.

8.2.2 Internal Audit

Per QS-04 Internal Audits, USAP-NJ conducts internal audits at planned intervals to determine whether the quality management system

a) conforms to the planned arrangements (see 7.1), to the requirements of this International Standard and to the quality management system requirements established by USAP-NJ, and

b) is effectively implemented and maintained.

An audit program is planned, taking into consideration the status and importance of the processes and areas to be audited, as well as the results of previous audits. The audit criteria, scope, frequency and methods are defined. Selection of auditors and conduct of audits ensure objectivity and impartiality of the audit process. Auditors do not audit their own work. The responsibilities and requirements for planning and conducting audits, and for reporting results and maintaining records (see 4.2.4) are defined in QS-04 Internal Audits. Audits are conducted on a processes basis.

The management responsible for the area being audited ensure that actions are taken without undue delay to eliminate detected nonconformities and their causes. Follow-up activities include the verification of the actions taken and the reporting of verification results (see 8.5.2).

8.2.3 Monitoring and measurement of processes

Through QS-16 Management Review of Quality System, QS-11 Nonconformance Procedure and QS-08 Corrective and Preventive Action, USAP-NJ applies suitable methods for monitoring and, where applicable, measurement of the quality management system processes. These methods demonstrate the ability of the processes to achieve planned results. When planned results are not achieved, correction and corrective action are taken, as appropriate, to ensure conformity of the product and USAP-NJ:

- Takes appropriate action to correct the nonconforming process,
- Evaluates whether the process nonconformity has resulted in product nonconformity,
- Determines the scope of the process nonconformity, and
- Identifies and controls the nonconforming product in accordance with clause 8.3.

8.2.4 Monitoring and measurement of product

Per the Technical review performed by Corporate staff, the application of Customer and Industry Specifications, QS-11 Nonconformance Procedure, and QS-03 Records, USAP-NJ monitors and measures the characteristics of the product to verify that product requirements have been met. This activity is carried out at appropriate stages of the product realization process in accordance with the planned arrangements (see 7.1).

Evidence of conformity with the acceptance criteria is maintained. Records indicate the person(s) authorizing release of product (see 4.2.4).

Measurement requirements for product acceptance are documented. This documentation is located in the shop traveler and in various computer systems (such as OFS), and includes:

- Criteria for acceptance and/or rejection,
- Where in the sequence measurement and testing operations are performed,
- What records are required (critical items)
- A record of the measurement results, and
- Type of measurement instruments required. Specific instructions associated with their use is located in Work Instructions.

When key characteristics have been identified, they are monitored and controlled. When the organization uses sampling inspection as a means of product acceptance, the plan is statistically valid and appropriate for use.

Product is not typically shipped until it has been inspected or otherwise verified as conforming to specified requirements. In the unusual event that product is released without inspection, it is identified and recorded to allow recall and replacement if it is subsequently found that the product does not meet requirements.

Records indicate the person authorizing release of product, and provide evidence that the product meets requirements.

Products are not released until all requirements of specifications and additional customer requirements are fulfilled.

All documents required by PO or specification shall accompany the product or otherwise be available at the delivery of the product (for example, Bill of lading, certificate of analysis, etc).

8.3 Control of Nonconforming Product and Process

Through QS-11 Nonconformance Procedure and USAP-NJ's Order Fulfillment System (OFS) and USAP's NCR System, USAP-NJ ensures that product which does not conform to product requirements is identified and controlled to prevent its unintended use or delivery. The controls and related responsibilities and authorities for dealing with nonconforming product are defined in a documented procedure (QS-11). This process includes:

- Appropriate action to eliminate the nonconformity
- Disposition of the nonconforming material
- Taking action to control the material, precluding its original use
- Taking appropriate action when nonconforming product is detected after delivery
- When nonconforming product is corrected it is subject to re-verification to demonstrate conformity to the requirements.
- Records of the nature of nonconformities and any subsequent actions taken, including concessions obtained, are maintained (see 4.2.4).

Product dispositioned for scrap is conspicuously and permanently marked, or positively controlled, until physically rendered unusable.

In addition to any contract or statutory and regulatory authority reporting requirements, the Sales Group at USAP-Corporate provides for timely reporting of delivered nonconforming product that may affect reliability or safety. Notification includes a clear description of the nonconformity, which includes as necessary items affected, customer and/or organization part numbers, quantity, and date(s) delivered.

Use-as-is disposition is only used with authorization by a representative of the customer. The organization also does not use dispositions of use-as-is or repair, unless specifically authorized by the customer, if

- The product is produced to customer design, or
- The nonconformity results in a departure from the contract requirements.

8.4 Analysis of Data

Through QS-17 Customer Satisfaction, QS-16 Management Review of Quality System, QS-11 Nonconformance Procedure, and QS-20 Continual Improvement, USAP-NJ determines, collects and analyses 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 includes data generated as a result of monitoring and measurement and from other relevant sources.

The analysis of data provides information relating to

a) customer satisfaction (see 8.2.1),

b) conformity to product requirements (see 7.2.1 and 8.2.4),

c) characteristics and trends of processes and products including opportunities for preventive action, and

d) suppliers.

8.5 Improvement

8.5.1 Continual improvement

Through QS-16 Management Review of Quality System, QS-11 Nonconformance Procedure, QS-04 Internal Audits, QS-20 Continual Improvement, USAP-NJ 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.

8.5.2 Corrective action

Through QS-11 Nonconformance Procedure, USAP's NCR system and QS-08 Corrective and Preventive Action, SCAR's, and Customer Complaints, USAP-NJ takes action to eliminate the cause of nonconformities in order to prevent recurrence. Corrective actions are appropriate to the effects of the nonconformities encountered. A documented procedure has been established to define requirements for

- Reviewing nonconformities (including customer complaints),
- Determining the causes of nonconformities,
- Evaluating the need for action to ensure that nonconformities do not recur,
- Determining and implementing action needed,
- Records of the results of action taken (see 4.2.4), and
- Reviewing the effectiveness of the corrective action taken.
- Flow down of the corrective action requirement to a supplier, when it is determined that the supplier is responsible for the root cause, and specific actions where timely and/or effective corrective actions are not achieved.
- Identification of additional nonconforming product

8.5.3 Preventive action

Through QS-16 Management Review of Quality System, QS-08 Corrective and Preventive Action, SCAR's, and Customer Complaints, USAP-NJ determines action to eliminate the causes of potential nonconformities in order to prevent their occurrence. Preventive actions are appropriate to the effects of the potential problems. A documented procedure has been established to define requirements for

a) determining potential nonconformities and their causes,

b) evaluating the need for action to prevent occurrence of nonconformities,

c) determining and implementing action needed,

d) records of results of action taken (see 4.2.4) , and

e) reviewing the effectiveness of preventive action taken.

Related Documents

Records	QS-03
Internal Audit	QS-04
Corrective & Preventive Action, SCAR's, and Customer Complaints	QS-08
Nonconformance Procedure	QS-11
Management Review of QMS	QS-16
Customer Satisfaction	QS-17
Continual Improvement	QS-20
Tender and Contract Review	QS-28

Rev#	Date	Revisions
0	10-25-10	New
1	6-3-11	Added Signatures, General update to AS9100 Rev C Requirements
2	9-7-11	Changed Patriot to Universal, Removed "Quality" from Quality Records statements, Added info about the sale to Universal, Changed Title from Pres to VP. Changed Org Chart.
3	1-14-12	Para 1.1 – Clarified scope Moved the QMS diagram to QS-23
4	6-18-12	Update Org Chart Para 1.1 – Added Melting to scope Para 7.4.1 – Added reference for melt shop
5	12-3-13	Page 5 – Added new document types Org Chart moved to QS-37 Para 5.5.1 - Org Chart moved to QS-37 Para 5.5.2 – Title change to General Manager who appoints QA Manager Para 7.2.1 – Contract review now a corporate function Para 7.2.2 – Removed reference to NJX procedures. Added reference to SOP-8 and USAP-Corporate documents Para 7.2.3 – Removed reference to NJX procedures. Added reference to SOP-8 and USAP-Corporate documents Para 7.4.1 – Added reference to USAP-corporate purchasing documents and system. Removed reference to QS-10 Para 7.4.2 – Added reference to USAP-corporate purchasing documents and system. Removed reference to QS-10 Para 7.4.3 – Added reference to USAP-corporate purchasing documents and system. Removed reference to QS-10 Para 7.5.2 – Added reference to USAP-Corporate Para 7.5.4 – Added reference to USAP-corporate purchasing documents and system. Removed reference to USAP-NJ documents Para 7.5.5 – Added reference to traveller Para 7.6 – Added reference to USAP-Corporate for technical requirements Para 8.2.4 – Changed reference from USAP-NJ review to USAP-Corporate review Para 8.2.4 – Added reference to traveller Para 8.3 – Changed OP to OFS
6	3-4-14	Added Table of Contents Added reference to GE specs S-1000 and S-400 Added reference to ISO 17025