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# **Quality Management System Manual**

## **AS9100D/ISO 9001:2015 MIL-STD-790**

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**QUALITY MANAGEMENT SYSTEM MANUAL APPROVALS**

APPROVED BY: \_\_\_\_\_  
Quality Manager

APPROVED BY: \_\_\_\_\_  
General Manager

APPROVED BY: \_\_\_\_\_  
Director of Operations

APPROVED BY: \_\_\_\_\_  
Controller

APPROVED BY: \_\_\_\_\_  
Engineering Manager

APPROVED BY: \_\_\_\_\_  
Director of Marketing

APPROVED BY: \_\_\_\_\_  
Director of Sales

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## **Quality Policy**

**SV Microwave** is committed to achieving profitable growth by meeting our customer requirements with optimal technology solutions and continuous process improvement.

Quality Objectives;

- Sales growth to meet budget
- Profit to exceed rate of Sales growth
- Customer quality of shipped product to exceed 98% acceptance rate
- On Time Delivery to customer will exceed 90%

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## **0.2 Controlled Circulation**

This Quality Management System Manual (“QM”) is the property of SV Microwave, Inc. (“SV”).

Copies of this QM are available to our customers or government upon request.

The original of this manual is maintained by the Quality Manager, who is solely authorized to make changes to the manual. All revisions are recorded on the Amendment Record pages of this manual.

The QM is distributed and maintained on a controlled copy basis through PDF files on a secured network.

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The government representative and SV’s customers are notified, in writing, of all changes to the inspection system, when required by contractual obligation. Any changes recommended by the government/customer may be included into the system.

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### 0.3 Amendment Record

<u>REV.</u>	<u>DATE OF REVIEW</u>	<u>DATE OF REVISION</u>	<u>SECTIONS AFFECTED</u>	<u>REMARKS</u>	<u>EFFECTIVE DATE</u>
A-W				See records on file.	06/01/05
X	10/11/05	10/31/05	ALL	Part of restructuring of the Quality System documentation to a manageable 3 tier documentation system.	2/22/06
Y	05/04/06	07/16/06	Section 3.0 Section 7.0	Revised Organizational Chart Revised to include pertinent verbiage from AS9100	7/17/06
Z	08/01/06	01/19/07		DCN 34413	1/23/07
AA	03/07/08	03/14/08		DCN 35708	3/14/08
AB	04/23/08	05/05/08		DCN 35756	5/5/08
AC	09/17/08	09/17/08		DCN 36068	9/17/08
AD	05/01/09	05/01/09		DCN 36555	05/08/09
AE	03/01/10	03/01/10		DCN 37411	03/31/10
AF	03/11/11	03/11/11		DCN38080	03/31/11
AG	4/2/2012	4/2/2012		DCN38962	04/06/12
AH	05/21/12	05/21/12		DCN39088	05/21/12
AJ	07/31/13	07/31/13		DCN39900	07/31/13
AK	07/31/14	07/31/14	Section 3.0	DCN 40631	07/31/14
AL	03/19/15	03/31/15	Various	DCN 41244	03/31/15
AM	04/01/17	04/01/17	Various	DCN 43219	04/01/17
AN	11/30/17	11/30/17	All	DCN 46997	11/30/17
AP	8/13/18	8/13/18	All	CN 87	10/30/18

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### **0.4 Acronyms**

SV Microwave, Inc.	“SV”
Material Defect Report	“MDR”
Quality Management System Manual	“QM”
Quality Management System	“QMS”
Return Material Authorization	“RMA”
Standard Inspection Procedures	“SIP”
Standard Operating Procedures	“SOP”
Standard Test Procedures	“STP”
New Release Notice	“NRN”
Drawing Change Notice	“DCN”

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## 1.0 Process Effectiveness Approach

Process Effectiveness Assessments are performed on the areas identified as critical in developing, implementing and improving the effectiveness of the Quality Management System.

## 2.0 Scope and Exclusions

### 2.1 Quality Management System Scope

WPB, FL Location: Swiss Machining and design, development, manufacturing and testing of RF Connectors, Components and Cable Assemblies.

Mesa, AZ Location: Manufacture and testing of RF Connectors, Components and Cable Assemblies

### 2.2 Quality Management System Scope Exclusions

#### 8.5.5 Post-Delivery Activities

Justification: Reference section 8.5.5 for exclusion justification of sub-paragraphs G, H and I.

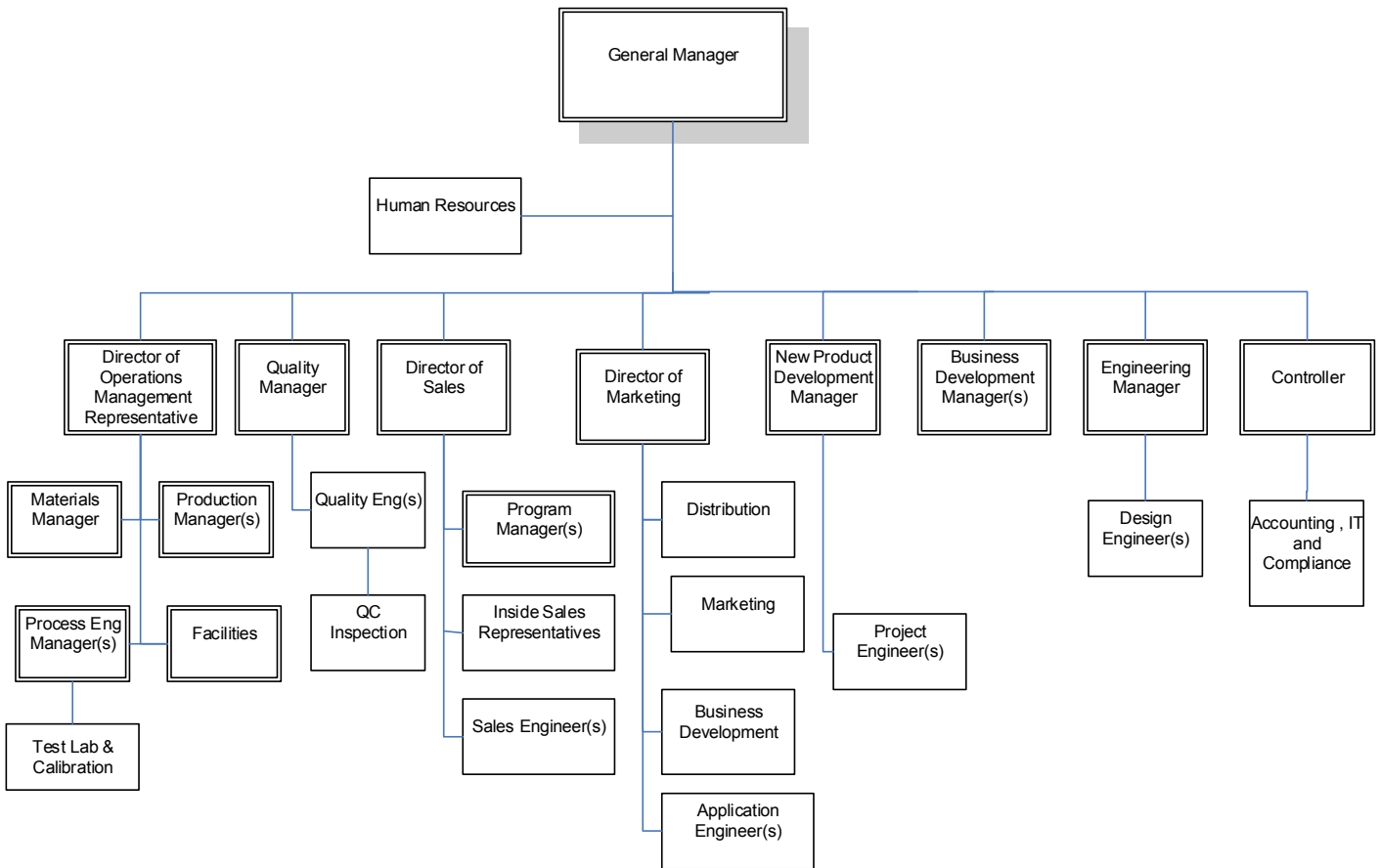
These sections are not applicable per scope exclusion. SV does not provide post-delivery support that includes these requirements. .

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### 3.0 Company Information

**Figure 1**

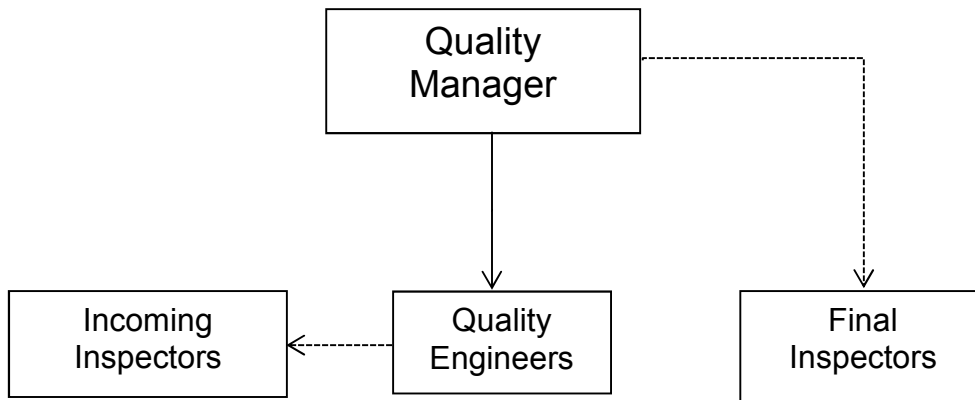
**SV MICROWAVE, INC.  
ORGANIZATIONAL CHART**



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**Figure 2**

**SV MICROWAVE, INC.  
QUALITY ORGANIZATIONAL CHART**



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## **4.0 Context of the Organization**

### **4.1 Understanding the Organization and Its Context**

#### ***SOP Q 4.1 "Quality Management System"***

“SV” has reviewed and analyzed key aspects of itself and its stakeholders to determine the strategic direction of the company. This requires understanding internal and external issues that are of concern to “SV” and its interested parties (per 4.2 below).

Such issues are monitored and updated as appropriate, and discussed as part of management reviews.

Examples of external factors:

- Regulatory changes
- Competition
- Winter Season (Western U.S.)
- Hurricane Season
- Rate changes
- Market Volatility
- New Technology

Examples of internal factors:

- Employee turnover, vacations
- Financial stability
- Company Growth
- Market strategy
- Participation in trade shows

### **4.2 Understanding the Needs and Expectations of Interested Parties**

The issues determined per 4.1 above are identified through an analysis of risks facing “SV” and its interested parties. “Interested parties” are those stakeholders who receive our Products, or who may be impacted by them, or those parties who may otherwise have a significant interest in our company.

Interested Parties Are as Follows:

- Employees
- Customers
- External Providers

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- End Users
- Parent Company
- Regulators
- Competitors
- Shareholders
- Trade Associations
- Professional Societies
- Contractors

This information is then used by senior management to determine the company’s strategic direction. This is defined in records of management review, and periodically updated as conditions and situations change. To understand the requirements of relevant interested parties SV may use one or more of the following methods to gather information:

- Review of Orders Received
- Review of Legal Requirements
- Participation in Relevant Associations
- Evaluation of Benchmarking
- Analysis of Market Surveillance
- Review of Supply Chain Relationships
- Analysis of Customer and User Surveys
- Monitoring of Customer Requirements and Satisfaction
- Industry Codes and Standards
- Statutory and Regulatory Product Requirements
- Labeling and Environmental Commitments
- Policies for Employees

**4.3 Determining the Scope of the Quality Management System**

Based on an analysis of the above issues of concern, interests of stakeholders, and in consideration of its products and services, “SV” has determined the scope of the management systems as follows:

WPB: Swiss Machining and Design, development, manufacturing and testing of RF Connectors, Components and Cable Assemblies.

Mesa: Manufacture and testing of RF Connectors, Components and Cable Assemblies

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The quality system applies to all processes, activities, facilities and employees within the company.

The Florida facility is located at:  
2400 Centrepark West Dr., Suite 100  
West Palm Beach, FL 33409  
Phone: (561) 840-1800  
Fax: (561) 844-8551  
Web: [WWW.svmicrowave.com](http://WWW.svmicrowave.com)

The Arizona facility is located at:  
716 E. Auto Center Drive, Suite 129  
Mesa, AZ 85204

The following clauses of AS9100 were determined to be not applicable to “SV”.

- 8.5.5 Post Delivery Activities sub-paragraph G, H and I.

#### **4.4 Quality Management System and Its Processes**

##### ***SOP Q 4.1 Quality Management System***

##### **4.4.1 Process Identification**

“SV” has adopted a process approach for its management system. By identifying the top-level processes within the company, and then managing each of these discretely, this reduces the potential for nonconforming Products discovered during final processes or after delivery. Instead, nonconformities and risks are identified in real time, by actions taken within each of the top-level processes.

*Note: not all activities are considered “processes” – the term “process” in this context indicates the activity has been elevated to a higher level of control and management oversight. The controls indicated herein are applicable only to the top-level processes identified.*

The following top-level processes have been identified for “SV”:

- Management
- Internal Auditing
- Corrective Action
- Engineering (WPB, FL only)
- Purchasing
- Parts Receiving
- Production

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- Quality

Each process may be supported by other activities, such as tasks or sub-processes. Monitoring and control of top level processes ensures effective implementation and control of all subordinate tasks or sub-processes.

Each top-level process has a **Procedure** which defines:

- applicable inputs and outputs
- process owner(s)
- applicable responsibilities and authorities
- applicable risks and opportunities
- critical and supporting resources
- criteria and methods employed to ensure the effectiveness of the process
- quality objectives related to that process

The sequence of interaction of these processes is illustrated in **SOP 04.1 Appendix “A”**.

“SV”’s quality management system also addresses any and all customer and applicable statutory and regulatory requirements.

#### **4.4.2 Process Controls & Objectives**

Each process has at least one objective established for it; this is a statement of the intent of the process. Each objective is then supported by at least one “metric” or key performance indicator (KPI) which is then measured to determine the process’ ability to meet the quality objective.

*Note: some processes have multiple objectives and multiple metrics. This is determined by the nature of the process, its impact on Products, and associated risks.*

*Note: Whereas ISO 9001 discusses process measurements and “quality objectives” as separate concepts, “SV” combines them; i.e., quality objectives are used to control the processes. Additional objectives for Products may be assigned, but these will also be used to measure process effectiveness.*

Throughout the year, metrics data is measured and gathered by process owners or other assigned managers, in order to present the data to “SV” Management. The data is then analyzed by “SV” Management in order that “SV” Management may set goals and make adjustments for the purposes of long-term continual improvement.

The specific quality objectives for each process are defined in **6.2**.

Metrics, along with current standings and goals for each objective, are recorded in records of management review.

When a process does not meet a goal, or an unexpected problem is encountered with a process, the corrective and preventive action process is implemented to research and resolve the issue. In addition, opportunities for improvement are sought and implemented, for the identified processes.

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**4.4.3 Outsourced Processes**

Any process performed by a third party is considered an “outsourced process” and must be controlled, as well. The company’s outsourced processes, and the control methods implemented for each, are defined as:

**External Auditing**

Contract external auditors (i.e. Registrars) shall have evidence of having attended, at a minimum, the 36-hour RAB/ANAB or IRCA ISO 9001 Lead Assessor course. Furthermore, the service provider shall be subject to all other normal supplier evaluation and monitoring. The external auditors shall have evidence of also being certified to audit AS9100 Quality Management Systems.

**Calibration Services.**

Calibration providers must provide evidence of compliance to ISO 10012 and/or accreditation to ISO 17025. Additionally they must comply with the requirements of ANSI Z540.3-2006 “Requirements for the Calibration of Measuring/Test Equipment”. Certificates must provide evidence of standards traceability to NIST, and must meet all the requirements of section 7.1.5 of this Quality Manual. Furthermore, the service provider shall be subject to all other normal vendor evaluation and monitoring.

The type and extent of control to be applied to the outsourced process take into consideration:

- a) the potential impact of the outsourced process on the company’s capability to provide product that conforms to requirements,
- b) the degree to which the control for the process is shared,
- c) the capability of achieving the necessary control through the purchasing contract requirements.

**5.0 Leadership**

**5.1 Leadership & Commitment**

***SOP Q 5.0 Management Responsibility***

**5.1.1 General**

“SV” Management provides evidence of its leadership and commitment to the development and implementation of the management system and continually improving its effectiveness by:

- a) taking accountability of the effectiveness of the management system;

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- b) ensuring that the **Quality Policy** and quality objectives are established for the management system and are compatible with the strategic direction and the context of the organization;
- c) ensuring the integration of the management system requirements into the organization's other business processes, as deemed appropriate (see note);
- d) promoting awareness of the process approach;
- e) ensuring that the resources needed for the management system are available;
- f) communicating the importance of effective quality management and of conforming to the management system requirements;
- g) ensuring that the management system achieves its intended results;
- h) engaging, directing and supporting persons to contribute to the effectiveness of the management system;
- i) promoting continual improvement;
- j) supporting other relevant management roles to demonstrate their leadership as it applies to their areas of responsibility.

*Note: "business processes" such as accounting, employee benefits management and legal activities are out of scope of the QMS.*

**5.1.2 Customer focus**

Management of "SV" adopts a customer-first approach which ensures that customer needs and expectations are determined, converted into requirements and are met with the aim of enhancing customer satisfaction.

This is accomplished by assuring:

- a) customer and applicable statutory and regulatory requirements are determined, understood and consistently met;
- b) the risks and opportunities that can affect conformity of products and services and the ability to enhance customer satisfaction are determined and addressed;
- c) the focus on enhancing customer satisfaction is maintained.
- d) Product conformity and on-time delivery performance are measured and appropriate action is taken if planned results are not, or will not be, achieved.

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**5.2 Policy**

“SV” Management has developed the Quality Policy, defined in section 3.0 above, that governs day-to-day operations to ensure quality.

The Quality Policy is released as a standalone document as well, and is communicated and implemented throughout the organization.

The Quality Policy of “SV” is as follows:

**SV Microwave is committed to achieving profitable growth by meeting our customer requirements with optimal technology solutions and continuous process improvement.**

**5.3 Organizational Roles Responsibilities and Authorities**

“SV” Management has assigned responsibilities and authorities for all relevant roles in the company. These are communicated through the use of the company organizational structure as defined in the *“SV” Organizational Chart in section 3.0 above.*

In addition, the following overall QMS responsibilities and authorities are assigned as follows:

<b>Responsibility</b>	<b>Assigned To</b>
Ensuring that the management system conforms to applicable standards	“SV” Management via Internal Audits
Ensuring that the processes are delivering their intended outputs	Applicable process owner via Metrics and Management Meetings
Reporting on the performance of the management system and providing opportunities for improvement for the management system	Management Representative via Management Review Meetings
Ensuring the promotion of customer focus throughout the organization	“SV” Management via Quarterly Meetings
Ensuring that the integrity of the management system is maintained when changes are planned and implemented	“SV” Management via Management Review Meetings & Customer Feedback

The Director of Operations has been assigned the role of ISO Management Representative when having a single point of contact to represent the “SV” quality system is useful or required by customer or regulations.

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## 6.0 Planning

### 6.1 Actions to Address Risks and Opportunities

#### **SOP Q 7.1.1 Project and Risk Management**

*Note: "SV" deviates slightly from the approach towards risk and opportunity presented in ISO 9001. Instead, "SV" views "uncertainty" as neutral, but defines "risk" as a negative effect of uncertainty, and "opportunity" as a positive effect of uncertainty. "SV" has elected to manage risks and opportunities separately, except where they may overlap. Formal risk management may not be utilized in all instances; instead, the level of risk assessment, analysis, treatment and recordkeeping will be performed to the level deemed appropriate for each circumstance or application.*

"SV" considers risks and opportunities when taking actions within the management system, as well as when implementing or improving the management system; likewise, these are considered relative to products and services. Risks and opportunities are identified as part of the "Context of the Organization Exercise" defined in [Context of the Org Proc. Title], as well as throughout all other activities of the QMS.

Risks and opportunities are managed in accordance with the procedure SOP Q 7.1.1 Project & Risk Management. This procedure defines how risks are managed in order to minimize their likelihood and impact, and how opportunities are managed to improve their likelihood and benefit.

### 6.2 Quality Objectives and Planning to Achieve Them

As part of the adoption of the process approach, "SV" utilizes its process objectives, as discussed in 4.4 above, as the main quality objectives for the QMS. These include overall product-related quality objectives; additional product-related quality objectives may be defined in work instructions or customer requirements.

The process objectives have been developed in consideration that they:

- a) be consistent with the quality policy;
- b) be measurable via the use of KPI's;
- c) take into account applicable requirements;
- d) be relevant to conformity of products and services and to enhancement of customer satisfaction;
- e) be monitored;
- f) be communicated;
- g) be updated as appropriate.

Process quality objectives are defined in the minutes of management review per section 9.3 below.

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The planning of process quality objectives is defined in section 4.4. above.

**6.3 Planning of Changes**

Changes to the quality management system and its processes are carried out in a planned manner.

**7.0 Support**

**7.1 Resources**

**SOP Q 6.0 Resource Management**

**7.1.1 General**

“SV” determines and provides the resources needed:

- a) to implement and maintain the management system and continually improve its effectiveness
- b) to enhance customer satisfaction by meeting customer requirements

Resource allocation is done with consideration of the capability and constraints on existing internal resources, as well as needs related to supplier expectations.

Resources and resource allocation are assessed during management reviews.

**7.1.2 People**

Senior management ensures that it provides sufficient staffing for the effective operation of the management system, as well its identified processes.

New employees are screened through a comprehensive interview process prior to being hired. Tools such as the PI (Predictive Index) and Wonderlic are given to applicants based on job profile requirements. Prior experience, relevant training and/or formal education are factors considered during the interview process. When required, SV provides training, or other necessary actions to ensure employee competence and awareness.

**7.1.3 Infrastructure**

“SV” determines, provides and maintains the infrastructure needed to achieve conformity to product requirements. Infrastructure includes, as applicable:

- a) buildings, workspace and associated facilities;
- b) process equipment, hardware and software;

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- c) supporting services such as transport;
- d) information and communication technology.

Environmental, Health and Safety requirements are outlined in the SV Microwave Contingency Plan (OCP 001).

Any special tooling or equipment required is validated per the procedure ***SOP Q7.5 Product and Service Provision.***

**7.1.4 Environment for the Operation of Processes**

“SV” provides a clean, safe and well-lit working environment. “SV” manages the work environment needed to achieve conformity to product requirements. Specific environmental requirements for products are determined during quality planning and are documented in subordinate procedures, work instructions, or job documentation. Where special work environments have been implemented, these shall also be maintained per 6.3 above.

Human factors are considered to the extent that they directly impact on the quality of Products.

*Note: Social, psychological and safety aspects of the work environment are managed through activities outside of the scope of the management system. Only work environment aspects which can directly affect process efficiency or product and service quality are managed through the management system.*

**7.1.5 Monitoring and Measuring Resources**

**7.1.5.1 General**

***SOP Q 7.6 Control of Monitoring and Measurement Devices***

Where equipment is used for critical measurement activities, such as inspection and testing, these shall be subject to control and either calibration or verification.

“SV” determines and provides the resources needed to ensure valid and reliable results when monitoring or measuring is used to verify the conformity of products and services to requirements.

“SV” ensures that the resources provided:

- a) are suitable for the specific type of monitoring and measurement activities being undertaken;
- b) are maintained to ensure their continuing fitness for their purpose.

“SV” retains appropriate documented information as evidence of fitness for the purpose of the monitoring and measurement resources.

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To ensure valid results, measuring equipment is calibrated or verified (or both) against measurement standards per BS/EN ISO/IEC 17025, ANSI Z540.3 and/or MIL-STD-45662A\* prior to use and at specified intervals based on usage. Records of the results of all calibrations and verifications are maintained.

*\*MIL-STD-45662A is an obsolete military specification that is still referenced and required by some customers.*

**7.1.5.2 Measurement Traceability**

When traceability is a requirement, or is considered by “SV” to be an essential part of providing confidence in the validity of measurement results, measuring equipment shall be;

- a) calibrated or verified, or both, at specified intervals, or prior to use, against measurement standards traceable to international or national measurement standards; where no such standards exist, the basis used for calibration or verification will be retained as documented information;
  
- b) identified in order to determine the status;
  
- c) safeguarded from adjustments, damage, or deterioration that would invalidate the calibration status and subsequent measurement results.

“SV” has established, implemented and maintains a process for the recall of monitoring and measuring equipment requiring calibration or verification.

“SV” maintains a register of the monitoring and measuring equipment. The register includes the type of equipment, unique identification, location, and the calibration or verification method, frequency and acceptance criteria.

Calibration or verification of monitoring and measuring equipment is carried out under controlled environmental conditions.

“SV” determines if the validity of previous measurement results has been adversely affected when measuring equipment is found to be unfit for its intended purpose, and takes appropriate action as necessary.

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**7.1.6 Organizational Knowledge**

**SOP Q 6.0 Resource Management**

“SV” also determines the knowledge necessary for the operation of its processes and to achieve conformity of products and services. This may include knowledge and information obtained from:

- a) internal sources, such as lessons learned, feedback from subject matter experts, and/or intellectual property;
- b) external sources such as standards, academia, conferences, and/or information gathered from customers or suppliers.

This knowledge shall be maintained, and made available to the extent necessary.

When addressing changing needs and trends, “SV” shall consider its current knowledge and determine how to acquire or access the necessary additional knowledge.

**7.2 Competence**

**SOP Q 6.0 Resource Management**

Staff members performing work affecting product quality are competent on the basis of appropriate education, training, skills and experience.

*Note: the management system does not include other aspects of Human Resources management, such as payroll, benefits, insurance, labor relations or disciplinary actions.*

**7.3 Awareness**

Training and subsequent communication ensure that staff are aware of:

- a) the quality policy;
- b) quality objectives;
- c) their contribution to the effectiveness of the management system, including the benefits of improved performance;
- d) the implications of not conforming to the management system requirements.
- e) Relevant quality management system documented information changes thereto;
- f) Their contribution to product conformity;
- g) Their contribution to product safety;
- h) The importance of ethical behavior.

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**7.4 Communication**

Management of “SV” ensures internal communication takes place regarding the effectiveness of the management system. Internal communication methods include:

- a) use of corrective action processes to report nonconformities or suggestions for improvement
- b) use of the results of analysis of data
- c) meetings (periodic, scheduled and/or unscheduled) to discuss aspects of the QMS
- d) use of the results of the internal audit process
- e) regular company meetings with all employees (including Key Employees from remote facilities)
- f) internal emails
- g) memos to employees
- h) “SV”'s “open door” policy which allows any employee access to “SV” Management for discussions on improving the quality system

**7.5 Documented Information**

**SOP Q 4.2 Documentation Requirements**

**SOP Q4.2.1 Documents Control**

The management system documentation includes both documents and records.

*Note: the ISO 9001:2015 standard uses the term “documented information”; “SV” does not use this term, but instead relies on the terms “document” and “record” to avoid confusion. In this context the terms are defined by “SV” as provided for in section 3.0 above. Documents and records undergo different controls as defined herein.*

The extent of the management system documentation has been developed based on the following:

- a) The size of “SV”
- b) Complexity and interaction of the processes
- c) Risks and opportunities
- d) Competence of personnel

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Documents required for the management system are controlled. The purpose of document control is to ensure that staff have access to the latest, approved information, and to restrict the use of obsolete information. All documented procedures are established, documented, implemented and maintained.

A documented procedure, SOP Q4.2.1 Documents Control, has been established to define the controls needed for the identification, storage, retrieval, protection, retention time, and disposition of quality records. This procedure also defines the methods for controlling records that are created by and/or retained by suppliers.

These controls are applicable to those records which provide evidence of conformance to requirements; this may be evidence of Product requirements, contractual requirements, procedural requirements, or statutory/regulatory compliance. In addition, quality records include any records which provide evidence of the effective operation of the management system.

Copies of these documents are made available to the government and/or customer representatives, upon request.

SV coordinates document changes with customers and/or regulatory authorities in accordance with contract or government requirements.

All records are available for review by customer and regulatory authorities.

## **8.0 Operation**

### **8.1 Operational Planning and Control**

#### ***SOP Q 7.1 Planning of Product Realization***

“SV” plans and develops the processes needed for realization of its Products. Planning of Product realization is consistent with the requirements of the other processes of the management system. Such planning considers the information related to the context of the organization (see section 2.0 above), current resources and capabilities, as well as Product requirements.

Such planning is accomplished through:

- a) determining the requirements for the Products ;
  - Determination of requirements for the products may include consideration of:
  - Personal safety;
  - Producibility and inspectability;

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- Reliability, availability and maintainability;
  - Suitability of parts and materials used in the product;
  - Selection and development of embedded software;
  - Product obsolescence;
  - Prevention, detection and removal of foreign objects;
  - Handling, packaging and preservation;
  - Recycling or final disposal of the product at the end of its life.
- b) establishing criteria for the processes and the acceptance of Products ;
- c) determining the resources needed to achieve conformity to the Product requirements and to meet on-time delivery of products, including decisions as to which facility product is to be built in.
- d) implementing control of the processes in accordance with the criteria;
- e) determining, maintaining and retaining documented information to the extent necessary to have confidence that the processes have been carried out as planned and to demonstrate the conformity of Products to their requirements.
- f) *determining the processes and controls needed to manage critical items, including production process controls when key characteristics have been identified;*
- g) *engaging representatives of affected organization functions for operational planning and control;*
- h) *determining the process and resources to support the use and maintenance of the products and services;*
- i) *determining the products and services to be obtained from external providers;*
- j) *establishing the controls needed to prevent the delivery of nonconforming products and services to the customer.*

*As appropriate to “SV”, customer requirements, and products, “SV” plans and manages product provision in a structured and controlled manner including scheduled events performed in a planned sequence to meet requirements at acceptable risk, within resource and schedule constraints.*

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**8.1.1 Operational Risk Management**

***SOP Q 7.1.1 Project and Risk Management***

“SV” plans, implements, and controls a process for managing operational risks to the achievement of applicable requirements, which includes as appropriate to “SV” and the products:

- a. assignment of responsibilities for operational risk management;
- b. definition of risk assessment criteria (e.g., likelihood, consequences, risk acceptance);
- c. identification, assessment, and communication of risks throughout operations;
- d. identification, implementation, and management of actions to mitigate risks that exceed the defined risk acceptance criteria;
- e. acceptance of risks remaining after implementation of mitigating actions.

**8.1.2 Configuration Management**

***SOP Q 4.3 Configuration Management***

“SV” plans, implements, and controls a process for configuration management as appropriate to “SV” and its products in order to ensure the identification and control of physical and functional attributes throughout the product lifecycle. This process shall:

- a. control product identity and traceability to requirements, including the implementation of identified changes;
- b. ensure that the documented information (e.g., requirements, design, verification, validation and acceptance documentation) is consistent with the actual attributes of the products and services.

**8.1.3 Product Safety**

“SV” plans, implements, and controls the processes needed to assure product safety during the entire product life cycle, as appropriate to “SV” and the product.

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### **8.1.4 Prevention of Counterfeit Parts**

#### ***SOP Q 7.5.1 Counterfeit/Fraudulent Parts Prevention***

“SV” plans, implements, and control processes, appropriate to “SV” and the product, for the prevention of counterfeit or suspect counterfeit part use and their inclusion in product(s) delivered to the customer.

NOTE: Counterfeit part prevention processes consider:

- training of appropriate persons in the awareness and prevention of counterfeit parts;
- application of a parts obsolescence monitoring program;
- controls for acquiring externally provided product from original or authorized manufacturers, authorized distributors, or other approved sources;
- requirements for assuring traceability of parts and components to their original or authorized manufacturers;
- verification and test methodologies to detect counterfeit parts;
- monitoring of counterfeit parts reporting from external sources;
- quarantine and reporting of suspect or detected counterfeit parts.

## **8.2 Requirements for Products and Services**

### ***SOP Q 7.2 Customer-Related Process***

#### **8.2.1 Customer Communication (includes Mesa, AZ operation to the extent of customer on-site visits, customer audits, customer phone calls, etc.)**

“SV” has implemented effective communication with customers in relation to:

- a) providing information relating to Products;
- b) handling inquiries, contracts or orders, including changes;
- c) obtaining customer feedback relating to products and services, including customer complaints;
- d) handling or controlling customer property;
- e) establishing specific requirements for contingency actions, when relevant.

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**8.2.2 Determining the Requirements Related to Products and Services**

During the intake of new business “SV” captures (excludes Mesa, AZ operation):

- 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 Products;
- d) any additional requirements determined by “SV”;
- e) special requirements of the products are determined if applicable;
- f) operational risks (e.g. new technology, ability and capacity to provide, short delivery time frames) have been identified.

**8.2.3 Review of Requirements Related to Products and Services**  
**SOP Q 7.2 Customer-Related Process**

Once requirements are captured, “SV” reviews the requirements prior to its commitment to supply the Product this review ensures that “SV” has the capability and capacity to:

- a) meet all requirements specified by the customer, including requirements for delivery and post-delivery activities;
- b) meet any requirements not stated by the customer, but which “SV” knows as being necessary;
- c) meet all requirements determined necessary by “SV” itself;
- d) meet all related statutory and regulatory requirements;
- e) meet any contract or order requirements differing from those previously expressed (i.e., from a previous “SV” quote).

These reviews are coordinated with all applicable functions within “SV”.

If after the review “SV” determines that some customer requirements cannot be met or can only partially be met, “SV” contacts and negotiates a mutually acceptable compromise with the customer.

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**8.2.4 Changes to Requirements for Products and Services**

“SV” updates all relevant requirements and documents when the requirements are changed, and ensures that all appropriate staff are notified.

**8.3 Design and Development of Products and Services**

***SOP Q 7.3 Design and Development***

**8.3.1 Design and Development Planning** (excludes Mesa, AZ operation)

The product design and development is planned and controlled. Processes and procedures are established to ensure, during the design and development process, that the following are reviewed:

- a) The nature, duration and complexity of the design and development activities;
- b) Design and development stages, including process flow,
- c) Review, verification and validation that are appropriate to each design and development stage, and
- d) Responsibilities and authorities for design and development;
- e) The internal and external resources need for the design and development of the products and services;
- f) The need to control interfaces between persons involved in the design and development processes;
- g) The need for involvement of customers and users in the design and development processes;
- h) The requirements for subsequent provisions of products and services;
- i) The level of control expected for the design and development process by customers and other relevant interested parties;
- j) The documented information needed to demonstrate that the design and development requirements have been met.

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Where appropriate, the design effort is divided into the design and development efforts as distinct activities and for each activity define the task, necessary resources, responsibilities, design content, input and output data and the planning constraints.

Design and development tasks to be carried out are defined based on the specified safety/regulatory or functional objectives of the product in accordance with customer, statutory and regulatory authority requirements.

The interfaces between the various design elements involved to ensure effective communication and clear assignment of responsibility are managed.

Planning output is updated, as appropriate, as the design and development progresses.

**8.3.2 Design and Development Inputs** (excludes Mesa, AZ operation)

Inputs relating to product requirements are determined and records maintained. The design inputs include, as appropriate:

- a) Functional and performance requirements,
- b) Information derived from previous similar design and development activities;
- c) Meeting required statutory and regulatory requirements;
- d) Standards or codes of practice that SV has committed to implement;
- e) Potential consequences of failure due to the nature of the products and services.
- f) When applicable, the potential consequences of obsolescence; for example outdated materials or parts, processes, technologies etc.

Inputs are reviewed for adequacy. All requirements are verified to be complete, unambiguous and not in conflict with each other.

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**8.3.3 Design and Development Controls** (excludes Mesa, AZ operation)

“SV” applies controls to the design and development process to ensure that:

- a) The results to be achieved are defined;
- b) Reviews are conducted to evaluate the ability of the results of design and development to meet requirements;
- c) Verification activities are conducted to ensure that the design and development outputs meet the input requirements;
- d) Validation activities are conducted to ensure that the resulting products and services meet the requirements for the specified application or intended use;
- e) Any necessary actions are taken on problems determined during the reviews, or verification and validation activities;
- f) Documented information on these activities is retained;
- g) Progression to the next stage is authorized.

Participants in design and development reviews shall include representatives of functions concerned with the design and development stage(s) being reviewed.

**8.3.3.1** When tests are necessary for verification and validation, these tests shall be planned, controlled, reviewed, and documented to ensure and prove the following:

- a) Test plans or specifications identify the test item being tested and the resources being used, define test objectives and conditions, parameters to be recorded and relevant acceptance criteria;
- b) Test procedures describe the test methods to be used, how to perform the test, and how to record the results;
- c) The correct configuration of the test item is submitted for the test;

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- d) The requirements of the test plan and the test procedures are observed;
- e) The acceptance criteria are met.

Monitoring and measuring devices used for testing shall be controlled as defined in clause 7.1.5. At the completion of design and development, the organization shall ensure that reports, calculations, test results, etc., are able to demonstrate that the design for the product or service meets the specification requirements for all identified operational conditions.

**8.3.4 Design and Development Outputs** (excludes Mesa, AZ operation)

“SV” ensures that design and development outputs:

- a) Meet the input requirements;
- b) Are adequate for the subsequent processes for the provision of products and services;
- c) Include or reference monitoring and measuring requirements, as appropriate, and acceptance criteria;
- d) Specify the characteristics of products and services that are essential for their intended purpose and their safe and proper provision;
- e) Specify, as applicable, any critical items, including any key characteristics, and specific actions to be taken for these items;
- f) Are approved by authorized person(s) prior to release.

“SV” defines the data required to allow the product to be identified, manufactured, verified, used, and maintained.

“SV” retains documented information on design and development outputs.

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**8.3.5 Design and Development Changes** (excludes Mesa, AZ operation)

“SV” identifies, reviews and controls changes made during, or subsequent to, the design and development of products and services, to the extent necessary to ensure that there is no adverse impact on conformity to requirements

“SV” has implemented a process with criteria for notifying its customer, prior to implementation, about changes that affect customer requirements.

“SV” retains documented information on:

- a) Design and development changes;
- b) The results of reviews;
- c) The authorization of the changes;
- d) The actions taken to prevent adverse impacts.

Design and development changes are controlled in accordance with the configuration management process.

**8.4 Control of Externally Provided Processes, Products and Services**

**SOP Q 7.4 Scheduling and Purchasing Procedure**

“SV” ensures that purchased Product conform to specified purchase requirements. The type and extent of control applied to the supplier and the purchased products or services are dependent on the effect on subsequent Product realization or the final product. “SV” is responsible for the conformity of all externally provided processes, products and services, including from sources defined by the customer. “SV” ensures, when required, that customer designated or approved external providers, including process sources, are used. “SV” identifies and manages the risks associated with the external provision of processes, products, and services, as well as the selection and use of external providers.

“SV” requires that external providers apply appropriate controls to their direct and sub-tier external providers, to ensure that requirement are met.

“SV” evaluates and selects suppliers based on their ability to supply products and services in accordance with the organization's requirements. Criteria for selection, evaluation and re-evaluation are established.

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Purchases are made via the release of formal purchase orders and/or contracts which clearly describe what is being purchased. Received products or services are then verified against requirements to ensure satisfaction of requirements. Suppliers who do not providing conforming products or services may be requested to conduct formal corrective action.

“SV” shall:

- a. define the process, responsibilities, and authority for the approval status decision, changes of the approval status, and conditions for a controlled use of external providers depending on their approval status;
- b. maintain a register of its external providers that includes approval status (e.g., approved, conditional, disapproved) and the scope of the approval (e.g., product type, process family);
- c. periodically review external provider performance including process, product and service conformity, and on-time delivery performance;
- d. define the necessary actions to take when dealing with external providers that do not meet requirements;
- e. define the requirements for controlling documented information created by and/or retained by external providers.

Verification activities of externally provided processes, products, and services are performed according to the risks identified by “SV”. These shall include inspection or periodic testing, as applicable, when there is high risk of nonconformities including counterfeit parts.

When externally provided product is released for production use pending completion of all required verification activities, it shall be identified and recorded to allow recall and replacement if it is subsequently found that the product does not meet requirements.

When “SV” delegates verification activities to the external provider, the scope and requirements for delegation is defined and a register of delegations is maintained. “SV” periodically monitor the external provider’s delegated verification activities.

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When external provider test reports are utilized to verify externally provided products, “SV” implements a process to evaluate the data in the test reports to confirm that the product meets requirements. When a customer or organization has identified raw material as a significant operational risk (e.g., critical items), “SV” implements a process to validate the accuracy of test reports.

“SV” ensures the adequacy of requirements prior to their communication to the external provider.

“SV” communicates to external providers its requirements for:

- a. the processes, products, and services to be provided including the identification of relevant technical data (e.g., specifications, drawings, process requirements, work instructions);
- b. the approval of:
  - 1. products and services;
  - 2. methods, processes, and equipment;
  - 3. the release of products and services;
- c. competence, including any required qualification of persons;
- d. the external providers’ interactions with “SV”;
- e. control and monitoring of the external providers’ performance to be applied by “SV”;
- f. verification or validation activities that “SV”, or its customer, intends to perform at the external providers’ premises;
- g. design and development control;
- h. special requirements, critical items, or key characteristics;
- i. test, inspection, and verification (including production process verification);
- j. the use of statistical techniques for product acceptance and related instructions for acceptance by “SV”;

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- k. the need to:
  - implement a quality management system;
  - use customer-designated or approved external providers, including process sources (e.g., special processes);
  - notify “SV” of nonconforming processes, products, or services and obtain approval for their disposition;
  - prevent the use of counterfeit parts (see 8.1.4);
  - notify “SV” of changes to processes, products, or services, including changes of their external providers or location of manufacture, and obtain “SV”’s approval;
  - flow down to external providers applicable requirements including customer requirements;
  - provide test specimens for design approval, inspection/verification, investigation, or auditing;
  - retain documented information, including retention periods and disposition requirements;
  
- l. the right of access by “SV”, their customer, and regulatory authorities to the applicable areas of facilities and to applicable documented information, at any level of the supply chain;
  
- m. ensuring that persons are aware of:
  - their contribution to product or service conformity;
  - their contribution to product safety;
  - the importance of ethical behavior.

Verification of externally provided products, processes and service:

A verification process has been implemented to ensure that purchased products, processes and services meet specified purchased requirements.

Verification activities include, as appropriate:

- a) Obtaining objective evidence of the quality of the product, process or service from the suppliers.
  - It is not SV’s standard policy to perform (or authorize suppliers to perform) verification of product conformance at the supplier’s facility. If performed, this verification does not replace SV’s Incoming Inspection, nor absolve the supplier for submitting conforming product.

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- b) All incoming products, processes and services (brazing, plating, heat treat, annealing, etc.) are inspected by the supplier at their premises and verified by SV's Incoming Inspection personnel prior to acceptance.
  - On-site audits (supplier site) are performed where determined necessary.
  - Where specified in the contract, the customer or the customer's representative shall be afforded the right to verify at the supplier's premises and SV's premises that subcontracted products, processes or services conform to specified requirements.
  - Verification by the customer will not be used by SV as evidence of effective control of quality by the supplier and shall not absolve the organization of the responsibility to provide acceptable produce, nor shall it preclude subsequent rejection by the customer.
  
- c) Review of the required documentation
  - Where SV utilizes test reports to verify purchased product, the data in those reports shall be acceptable per applicable specifications. SV periodically validates test reports for raw material.
  
- d) Inspection of products, processes or services upon receipt. No purchased product is released from Incoming Inspection until it has been verified as conforming to specified requirements, unless it is released under positive recall procedure.
  
- e) A supplier certification/Dock-to-Stock program is continuously targeted, enabling elimination of inspection activity at SV incoming.
  
- f) Where the organization delegate's verification activities to the supplier, the requirements for delegation shall be defined and a register of delegations maintained.

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**8.5 Production and Service Provision**

**8.5.1 Control of Production and Service Provision**

**SOP Q 7.1 Planning of Product Realization**

To control its provision of Products, “SV” considers, as applicable, the following:

- a) the availability of documents or records that define the characteristics of the Products as well as the results to be achieved;
- b) the availability and use of suitable monitoring and measuring resources;
- c) the implementation of monitoring and measurement activities at appropriate stages to verify that criteria for control of processes or outputs, and acceptance criteria for products and services, have been met;
  - 1. Ensuring that documented information for monitoring and measurement activity for product acceptance includes:
    - criteria for acceptance and rejection;
    - where in the sequence verification operations are to be performed;
    - measurement results to be retained (at a minimum an indication of acceptance or rejection);
    - any specific monitoring and measurement equipment required and instructions associated with their use;
  - 2. ensuring that when sampling is used as a means of product acceptance, the sampling plan is justified on the basis of recognized statistical principles and appropriate for use (i.e., matching the sampling plan to the criticality of the product and to the process capability).
- d) the use of suitable infrastructure and environment;
- e) the appointment of competent persons, including any required qualifications;
- f) the validation and revalidation of special processes if applicable (see below);
- g) the implementation of actions to prevent human error;
- h) the implementation of release, delivery and post-delivery activities;
- i) the establishment of criteria for workmanship (e.g., written standards, representative samples, illustrations);
- j) the accountability for all products during production (e.g., parts quantities, split orders, nonconforming product);

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- k) the control and monitoring of identified critical items, including key characteristics, in accordance with established processes;
- l) the determination of methods to measure variable data (e.g., tooling, on-machine probing, inspection equipment);
- m) the identification of in-process inspection/verification points when adequate verification of conformity cannot be performed at later stages;
- n) the availability of evidence that all production and inspection/verification operations have been completed as planned, or as otherwise documented and authorized;
- o) the provision for the prevention, detection, and removal of foreign objects;
- p) the control and monitoring of utilities and supplies (e.g., water, compressed air, electricity, chemical products) to the extent they affect conformity to product requirements (see 7.1.3);
- q) the identification and recording of products released for subsequent production use pending completion of all required measuring and monitoring activities, to allow recall and replacement if it is later found that the product does not meet requirements.

Equipment, tools, and software programs used to automate, control, monitor, or measure production processes are validated prior to final release for production and are maintained.

Storage requirements are defined for production equipment or tooling in storage including any necessary periodic preservation or condition checks.

At this time, “SV” does not utilize any in-house “special processes” where the result of the process cannot be verified by subsequent monitoring or measurement.

“SV” has implemented production process verification activities to ensure the production processes are able to produce products that meet requirements. SV uses a representative item from the first production run or new part or assembly to verify that the production processes, production documentation and tooling are capable of producing parts and assemblies that meet requirements. This process shall be repeated when changes occur that invalidate the original results (e.g., engineering changes, manufacturing process changes, tooling changes).

### **8.5.2 Identification and Traceability**

#### ***SOP Q 7.5 Product and Service Provision***

Where appropriate, “SV” identifies its Product or other critical process outputs by suitable means. Such identification includes the status of the Product with respect to monitoring and measurement requirements. Unless otherwise indicated as nonconforming, pending inspection or disposition, or

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some other similar identifier, all Product shall be considered conforming and suitable for use. If unique traceability is required by contract, regulatory, or other established requirement, “SV” controls and records the unique identification of the Product.

“SV” maintains the identification of the configuration of the products in order to identify any differences between the actual configuration and the required configuration.

When acceptance authority media are used (e.g., stamps, electronic signatures, passwords), “SV” has established controls for the media.

### **8.5.3 Property Belonging to Customers or External Providers**

#### ***SOP Q 7.5 Product and Service Provision***

“SV” exercises care with customer or supplier property while it is under the organization’s control or being used by the organization. Upon receipt, such property is identified, verified, protected and safeguarded. If any such property is lost, damaged or otherwise found to be unsuitable for use, this is reported to the customer or supplier and records maintained.

For customer intellectual property, including customer furnished data used for design, production and / or inspection, this is identified by customer and maintained and preserved to prevent accidental loss, damage or inappropriate use.

### **8.5.4 Preservation**

#### ***SOP Q 7.5 Product and Service Provision***

“SV” preserves conformity of product or other process outputs during internal processing and delivery. This preservation includes identification, handling, packaging, storage, and protection. Preservation also applies to the constituent parts of a product.

Preservation of outputs also includes, when applicable in accordance with specifications and applicable statutory and regulatory requirements, provisions for:

- a. cleaning;
- b. prevention, detection, and removal of foreign objects;
- c. special handling and storage for sensitive products;
- d. marking and labeling, including safety warnings and cautions;

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- e. shelf life control and stock rotation;
- f. special handling and storage for hazardous materials.

**8.5.5 Post-Delivery Activities**

As applicable, “SV” does not service any product sold.

**8.5.6 Control of Changes**

***SOP Q 7.5 Product and Service Provision***

“SV” reviews and controls both planned and unplanned changes to processes to the extent necessary to ensure continuing conformity with all requirements.

Persons authorized to approve production provision changes are identified.

Process change management is controlled.

**8.6 Release of Products and Services**

Acceptance criteria for Products are defined in appropriate subordinate documentation. Reviews, inspections and tests are conducted at appropriate stages to verify that the requirements have been met. This is done before Products are released or services are delivered.

When required to demonstrate product qualification, “SV” ensures that retained documented information provides evidence that the products meet the defined requirements.

“SV” shall ensure that all documented information required to accompany the products and services are present at delivery.

Each process utilizes different methods for measuring and releasing Products.

**8.7 Control of Nonconforming Outputs**

***SOP Q 8.4 Control of Nonconforming Product***

“SV” ensures that Products or other process outputs that do not conform to their requirements are identified and controlled to prevent their unintended use or delivery.

“SV” takes appropriate action based on the nature of the nonconformity and its effect on the conformity of products. This shall also apply to nonconforming products detected after delivery of products.

“SV”’s nonconformity control process is maintained as documented information including the provisions for:

- defining the responsibility and authority for the review and disposition of nonconforming

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- outputs and the process for approving persons making these decisions;
- taking actions necessary to contain the effect of the nonconformity on other processes, products, or services;
- timely reporting of nonconformities affecting delivered products and services to the customer and to relevant interested parties;
- defining corrective actions for nonconforming products and services detected after delivery, as appropriate to their impacts (see 10.2).

“SV” deals with nonconforming outputs in one or more of the following ways:

- a. correction;
- b. segregation, containment, return, or suspension of provision of products and services;
- c. informing the customer;
- d. obtaining authorization for acceptance under concession by a relevant authority and, when applicable, by the customer.

Dispositions of use-as-is or repair for the acceptance of nonconforming products shall only be implemented:

- after approval by an authorized representative of the organization responsible for design or by persons having delegated authority from the design organization;
- after authorization by the customer, if the nonconformity results in a departure from the contract requirements.

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

Counterfeit, or suspect counterfeit, parts are controlled to prevent reentry into the supply chain. Conformity to the requirements are verified when nonconforming outputs are corrected.

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## **9.0 Performance Evaluation**

### **9.1 Monitoring, Measurement, Analysis and Evaluation**

#### **9.1.1 General**

“SV” has determined which aspects of its quality management system must be monitored and measured, as well as the methods to utilize and records to maintain, within this Quality Manual Document and subordinate documentation.

Monitoring and measurement of the processes, as defined in 4.4 above, ensure that “SV” Management evaluates the performance and effectiveness of the quality management system itself.

When specified in the individual customer specification, a statistical process control (SPC) program system in accordance with ANSI/EIA-557-B-2006 is established.

#### **9.1.2 Customer Satisfaction**

##### ***SOP Q 8.1 Customer Satisfaction Procedure***

As one of the measurements of the performance of the management system, “SV” monitors information relating to customer perception as to whether “SV” has met customer requirements. The methods for obtaining and using this information may include one or more of the following:

- recording customer complaints
- product rejections or returns
- repeat orders for product
- changing volume of orders for product
- trends in on-time delivery
- obtain customer scorecards from certain customers
- submittal of customer satisfaction surveys

Information to be monitored and used for the evaluation of customer satisfaction includes, but is not limited to, product and conformity, on-time delivery performance, customer complaints, and corrective action requests. “SV” develops and implements plans for customer satisfaction improvement that address deficiencies identified by these evaluations, and assess the effectiveness of the results.

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The corrective action system shall be used to develop and implement plans for customer satisfaction improvement that address deficiencies identified by these evaluations, and assess the effectiveness of the results.

### **9.1.3 Analysis and Evaluation**

#### ***SOP Q 8.5 Analysis of Data***

“SV” analyzes and evaluates the data and information arising from monitoring and measurement in order to evaluate:

- a) conformity of Products;
- b) the degree of customer satisfaction;
- c) the performance and effectiveness of the quality management system;
- d) if planning has been implemented effectively;
- e) the effectiveness of actions taken to address risks and opportunities;
- f) the performance of external providers;
- g) the need for improvements to the quality management system.

Statistical techniques used may be defined in appropriate documented procedures; in all cases, the methods are based on established standards or are otherwise determined to be statistically valid.

### **9.2 Internal Audit**

#### ***SOP Q 8.2 Internal Audits***

“SV” conducts internal audits at planned intervals to determine whether the management system conforms to contractual and regulatory requirements, to the requirements of ISO 9001/AS9100 and MIL-STD-790 standards, and to management system requirements. Audits also seek to ensure that the management system has been effectively implemented and is maintained.

### **9.3 Management Review** (includes Mesa, AZ operation review as part of overall Management Review in WPB facility)

#### ***SOP Q 5.0 Management Responsibility***

“SV” Management reviews the management system, at planned intervals, to ensure its continuing

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suitability, adequacy and effectiveness. The review includes assessing opportunities for improvement, and the need for changes to the management system, including the *Quality Policy* and quality objectives.

Management review frequency, agenda (inputs), outputs, required members, actions taken and other review requirements are defined in the management review meeting minutes.

Records from management reviews are maintained.

**10.0 Improvement**

**10.1 General**

“SV” uses the management system to improve its processes, products and services. Such improvements aim to address the needs and expectations of customers as well as other interested parties, to the extent possible.

Improvement shall be driven by an analysis of data related to:

The results of analysis shall be used to evaluate:

- a) conformity of products and services;
- b) the degree of customer satisfaction;
- c) the performance and effectiveness of the management system;
- d) the effectiveness of planning;
- e) the effectiveness of actions taken to address risks and opportunities;
- f) the performance of external providers;
- g) other improvements to the management system.

**10.2 Nonconformity and Corrective Action**

**SOP Q 8.7 Corrective and Preventive Action**

“SV” takes corrective action to eliminate the cause of nonconformity in order to prevent recurrence.

When a nonconformity occurs, including any arising from complaints, “SV”:

- a. reacts to the nonconformity and, as applicable:
  - 1. takes action to control and correct it;
  - 2. deals with the consequences;

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- b. evaluates the need for action to eliminate the cause(s) of the nonconformity, in order that it does not recur or occur elsewhere, by:
  - 1. reviewing and analyzing the nonconformity;
  - 2. determining the causes of the nonconformity, including, as applicable, those related to human factors;
  - 3. determining if similar nonconformities exist, or could potentially occur;
- c. implements any action needed;
- d. reviews the effectiveness of any corrective action taken;
- e. updates risks and opportunities determined during planning, if necessary;
- f. makes changes to the quality management system, if necessary;
- g. flows down corrective action requirements to an external provider when it is determined that the external provider is responsible for the nonconformity;
- h. takes specific actions when timely and effective corrective actions are not achieved.

Corrective actions shall be appropriate to the effects of the nonconformities encountered. These activities are done through the use of the formal Corrective Action system.

### **10.3 Continual Improvement**

#### ***SOP Q 8.6 Continuous Improvement***

Through the process effectiveness reviews, done as part of Management Review, “SV” works to continually improve the suitability, adequacy and effectiveness of the quality management system. This includes seeking opportunities for improvement.

“SV” monitors the implementation of improvement activities and evaluate the effectiveness of the results.

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## **11.0 MIL-STD-790 Requirements**

### **11.1 Test Facilities**

All test facilities, and any equipment used for qualification and/or conformance testing, are identified. These are documented on the individual test packages delivered with the samples.

### **11.2 GIDEP Alerts**

The appropriate qualifying activity is notified of all pending GIDEP alerts prior to their issuance.

### **11.3 Sub-assembly Facilities**

Sub-assembly facilities are not utilized without prior approval of the appropriate qualifying activity in accordance with the authorized qualification system.

### **11.4 Distributors**

Only Class A Distributors are selected and authorized to store, pack, handle and distribute our QPL products.

## **12.0 Reference Documents**

The QM is in accordance with the following documents:

- MIL-I-45208 “Inspection System Requirements”\*,
- MIL-STD-790 “Standard Practice for Established Reliability and High Reliability Qualified Products (QPL) Systems for Electrical, Electronic, and Fiber Optic Parts Specification”,
- ANSI/ASQ Z1.4-2008 “Sampling Procedures and Tables for Inspection by Attributes”,
- MIL-STD-45662 “Calibration System Requirements”\*,
- ANSI Z540.3 - 2006, “Requirements for the Calibration of Measuring/Test Equipment”,
- BS/EN ISO/IEC 17025-2005, “General Requirements for the Competence of Testing and Calibration Laboratories”,
- ISO 9001 “Quality Management Systems – Requirements”,
- ISO 9004 “Quality Management Systems - Guidelines for Performance Improvements”,

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DOCUMENT**

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- SAE AS9100 “International Aerospace Standard for Quality Systems Model for Quality Assurance in Design, Development, Production, Installation, and Servicing”, and
- AMS/EIA-557-B-2006 “Statistical Process Control Systems”.

\*MIL-I-45208 and MIL-STD-45662 are obsolete military specifications that are still referenced and required by some customers.

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