



# SUPPLIER QUALITY MANUAL

## Table of Contents

Preface.....	2
Quality System Requirements.....	2
Key Characteristics.....	2
Material Performance Test Data.....	2
Process Capability and Control.....	3
Sub- Supplier Control.....	3
Supplier Problem Solving and Prevention.....	3
Supplier Incoming Quality Process.....	3
Action.....	4
Product Identification and Traceability.....	5
Gaging.....	5
Documentation and Record Retention.....	5
Delivery.....	6
Packaging and Shipping Guidelines.....	6
Preventative Maintenance.....	6
Supply Agreement.....	7
Supplier Performance Ratings.....	7
Product Certification.....	7
Third Party Sorting and Rework.....	7
Product Control and Containment Requirements.....	7
Quality Clauses.....	8
Confidentiality.....	9

## **Preface**

Phillips Service Industries (PSI) and its subsidiaries are committed to working with its supplier community to ensure customer satisfaction through total conformance to quality and delivery requirements.

This supplier quality manual has been designed to help out suppliers understand the quality-related standards, requirements, methodologies, and practices that suppliers should have in place to assure the on-time shipment of quality parts to PSI. Communication is Key to the success of any quality system. We value straightforward and timely transmission of information in order to facilitate conformance to requirements of containment and resolution of non-conformance issues.

It is the intent of PSI to build strong and long lasting relationships with its suppliers and we are committed to developing partnerships that mutually benefit both PSI and our supplier community. As we continually strive to improve the quality of our products and processes, it is essential that our suppliers join us in this pursuit. PSI stands ready to assist suppliers whenever possible to more fully understand product and delivery requirements, but the sole responsibility for quality and on-time delivery remains with our suppliers.

## **Quality System Requirements**

PSI currently maintains registration to ISO 9001:2008 and/or AS9100C and requires all present and potential component and production suppliers to operate within a comprehensive, documented quality system which meets the intent of this standard. As evidence, suppliers must provide either 1) A copy of their third party registration to an active version of ISO 9001: 2008 or AS9100 or 2) Provide written confirmation and objective evidence of a system that is compliant to the ISO standard (self certify).

Registered suppliers must submit their initial and renewal quality system certifications to PSI procurement within 30 days of receiving the certificate from their registrar. Also, suppliers are required to immediately notify their PSI purchasing representative if their registrar places them on "Probation".

PSI may, at its discretion, perform an on-site quality systems assessment prior to awarding new business, or as an ongoing verification of supplier performance.

## **Key Characteristics**

Key Characteristics are any product or process characteristics that affect safety or compliance with regulations, fit, function, performance or subsequent processing of product. Key Characteristics shall be identified and specifically addressed in the Work Instructions and other associated documents. Designated Key Characteristics are identified on drawings/specifications or in a separate document. Suppliers are also responsible for ensuring that relevant Key Characteristics are explained, understood and controlled by their sub-suppliers.

## **Material Performance Test Data**

The supplier is responsible for conducting and submitting all design and/or performance testing as specified by PSI to validate conformance to specifications. Specifications include, but are not limited to, print dimensions and specifications, functional specifications, or established industry standards. In the event that the supplier does not have the capability for such testing,

the supplier may outsource the services to a qualified and accredited sub-supplier or third-party laboratory or test facility. All testing costs are the responsibility of the supplier. In addition, the supplier is responsible for maintaining and submitting certificates of analysis and updated test results as specified and required by PSI.

### **Process Capability and Control**

The supplier is responsible to ensure process capability and control requirements are documented in their control plan, and that capability indices are achieved, monitored and improved throughout production. Suppliers may be required to provide PSI with process capability and control data at any time, or on an ongoing basis as circumstances dictate.

### **Sub- Supplier Control**

Each supplier is responsible for the control and continuous improvement efforts of its suppliers. Suppliers shall require their suppliers of production goods and services to conform to the requirements specified herein and must implement and document appropriate controls, all special process suppliers must be approved by PSI, such as heat treat, plating and NDT.

### **Supplier Problem Solving and Prevention**

Suppliers shall have trained personnel with the ability to quickly and permanently resolve product and process issues using structured data driven problem resolution tools and techniques. Problem resolution must be conducted using a defined, structured process that includes verification of root cause and validation of corrective action effectiveness. Problem solving activities must also be documented utilizing a formal process, e.g., the 8-Discipline (8D) process and/or equivalent. PSI Quality Assurance personnel can assist you with this when requested.

### **Supplier Incoming Quality Process**

PSI utilizes a 3-Step Incoming Quality Process to resolve supplier performance issues.

#### ***Step 1 - Remedial Communication (NCRM Process)***

A Supplier Nonconforming Material Report (NCRM) is issued when a PSI receiving site receives material or service that fails to conform to applicable quality and delivery specifications. Within 24 hours of receipt, the supplier is required to return the NCRM to the PSI facility procurement representative who issued the NCRM with the following minimum information completed:

- 1) Acknowledgement of the problem.
- 2) The immediate containment actions that have been implemented to protect PSI and its customers.
- 3) The individual who will address the problem.

A completed NCRM with root cause identified shall be submitted no later than seven (7) calendar days after receipt of the nonconformance report, unless otherwise specified. A short-term and / or long-term plan to address root cause may also be required. Costs and charges incurred associated with shipping, handling, processing, reworking, inspecting, engineering verification and replacing supplier responsible defective material including the costs of value-

added operations prior to its discovery are the responsibility of the supplier, addressed in the NCMR and/or 8D CAR.

If a supplier believes that they have been unfairly charged for administrative fees, they shall contact their procurement representative to initiate a dispute resolution process.

### **Action**

Nonconforming products present major problems for PSI and its customers. The avoidance of nonconforming product through rigorous inspection and process control is vital. When nonconformances are detected, containment of non-conforming product is essential and full containment of non-conforming product must be achieved within twenty-four (24) hours of initial discovery and/or notification.

### ***Step 2 – On-Site Procurement/Quality Meeting***

An on-site working meeting at PSI with PSI's Procurement and Quality departments is a plant-led activity to address specific supplier performance issues not resolved in a timely fashion at Step 1. Working meetings focus on the development of an action plan to prevent or eliminate the root cause of the issue. The supplier is expected to submit periodic updates until the issue is resolved.

### ***Step 3 – On-Site Leadership Meeting***

An on-site leadership meeting is a plant-led activity involving the supplier's leadership team, and which addresses supplier performance issues not resolved in a timely fashion at Step 2. The purpose of this meeting is to identify at the leadership level of the supplier organization, all actions required for the permanent resolution of the systemic issues that led to the Supplier's unsatisfactory performance. The supplier shall come prepared to address the following:

- Summary of events relating to the Supplier's performance concerns.
- Completed NCMRs including containment actions, root cause analysis, corrective action, verification data and status.
- Preventive action plans and status to address systemic root cause(s)
- Strategic improvement plans

At the leadership meeting, both the PSI Facility and the Supplier must agree on the Corrective Action Criteria. In addition, action plans that exceed 90 days in duration may require supplier justification and may warrant interim leadership meeting reviews. The supplier is expected to submit periodic updates until the issue is resolved.

Following the leadership meeting, the supplier's situation will be included on the PSI internal Management Review agenda for discussion and determination of future business.

Suppliers may be prohibited from bidding on new business and/or may be in jeopardy of losing current business at any stage of the process. Suppliers who are placed on New Business Hold must improve their performance to PSI acceptable levels for six consecutive months in order to be removed from New Business Hold. Suppliers will be formally notified by their PSI Procurement representative when they are placed on or removed off of New Business Hold.

## **Product Identification and Traceability**

Product identification shall permit traceability to the specific supplier raw material lot numbers, as well as the manufacturing, inspection and test records. The supplier should also be able to trace where products made under similar conditions (same raw material lot, same manufacturing line/batch, etc.) were shipped. Suppliers are required to utilize and ship material on a first in first out (FIFO) basis. Sequence of batches must be identified on the packaging label by either a date code or batch/lot number. Safety related identification criteria shall conform to all government regulatory and PSI requirements. No exceptions to this requirement shall be permitted unless acknowledged in writing by PSI.

## **Gaging**

Suppliers are expected to establish and maintain a gaging system that provides accurate data to support product conformance requirements. The system should provide inspection, measuring and test equipment necessary to assure quality conformity throughout the process. All measuring equipment must be controlled, calibrated at scheduled intervals, properly used and maintained in good working condition.

## **Documentation and Record Retention**

### ***General Record Retention Requirements***

Suppliers are required to maintain production packages, and validation records, tooling records, traceability records, engineering records, purchase orders and amendments for the length of time that the part (or part family) is active for production and service requirements plus one calendar year unless otherwise specified. Quality performance records such as control charts and inspection and test results as well as Corrective Action records are to be retained for the length of time that the part (or part family) is active for production.

The above time periods are considered "minimum". All retention times shall meet or exceed the above requirements and any governmental requirements and/or those stated on the PSI purchase order.

### ***Change Approval***

Engineering changes to purchased components and assemblies may be made by PSI to meet changing customer requirements, to improve product quality, or to reduce costs. Prior to the implementation of such changes, PSI will work with its suppliers to communicate the changes and effectively transition to the new designs. Suppliers must be prepared to provide all necessary samples and testing to ensure full compliance to specification prior to production.

Under no circumstances are suppliers permitted to make product changes or deviations without the prior written consent of PSI. Suppliers will be held liable for all direct or indirect problems and costs resulting from unauthorized changes, avoid verbal instruction.

### ***Product or Process Deviations***

It is PSI's policy to accept only product that meets the requirements of the applicable drawings and specifications.

## Delivery

PSI depends upon its supplier community to comply with the delivery requirements specified on PSI purchase orders. Suppliers are expected to achieve 100% on-time delivery defined as Full Product Quantity Receipt at PSI on the purchase order due date. If suppliers are unable to meet scheduled ship dates, immediate notification to the appropriate PSI Procurement representative via phone and/or e-mail is required. Such notification shall include the reason(s) for the late shipment and the target date for delivery. A NCMR may be initiated based on impact as determined by the PSI Procurement representative. Expedited freight charges required to meet PSI requirements due to late shipments by the supplier shall be the responsibility of the supplier.

## Packaging and Shipping Guidelines

Suppliers shall ensure their products are packaged and transported in a manner that prevents damage or deterioration to the product. Suppliers shall maintain documentation detailing proper packaging, cleanliness level, storage and shipping instructions of its products. These instructions must conform to PSI receiving site requirements.

Each container, rack, box, or pallet of material shipped shall be identified as instructed by the PSI receiving site. Unique requirements will be identified and documented through formal communication.

At a minimum, each physical carton of product shall be identified with the following information:

- Supplier Name
- PSI Item Number
- PSI Item Revision Number
- PSI Item Description
- Carton Quantity
- PSI Purchase Order (and Release Number, in the case of Blanket Orders)
- Manufacture Date
- Lot Number/Serial numbers

In addition, electronic components/sub-assemblies may be required to be individually labeled / identified with the following information, when specified.

- Supplier Name
- PSI Item Number
- PSI Item Revision Number
- Manufacture Date
- Lot Number/Serial numbers

## Preventative Maintenance

Suppliers shall maintain machines, equipment and tooling in sound working condition through the use of current preventive maintenance techniques. Preventive maintenance should include documented procedures and schedules for evaluation of tooling, dies, molds, fixtures, etc. at the start or end of each production run. Machines and processes should have a recorded

history of periodic preventive maintenance. The preventive maintenance schedule should be based on unplanned downtime records, and should be used in future production planning.

Suppliers may be required to provide PSI with preventive maintenance records at any time, and a systematic review of a supplier's preventive maintenance process may be conducted at the supplier's facility as determined by the PSI Procurement representative.

### **Supply Agreement**

For the mutual benefit of PSI and its suppliers, it may be desirable to enter into long-term supply agreements. PSI will consider such requests on a case-by-case basis.

### **Supplier Performance Ratings**

While there are numerous metrics that can be tracked regarding supplier performance, the two primary metrics that PSI uses to determine supplier performance are outlined below.

- ***On-Time Delivery Percentage***
  - Defined as the percentage of purchase order line items that are received complete on or before the purchase order line due date.
- ***Quality Rating (PPM)***
  - Defined as the percentage of conforming product quantity divided by the total product quantity received multiplied by one million.

Comparison of a supplier's performance to established targets is one method used by our facilities to determine if a supplier should be issued a NCMR, invited to an on-site quality review meeting, or placed on New Business Hold. Meeting established improvement targets does not relieve the supplier of the responsibility for 100% on-time delivery of defect free parts.

### **Product Certification**

Circumstances may require that a signed certificate of analysis accompany each shipment of specified components or materials, as determined by the PSI Procurement representative or Quality department. The certificate of analysis must contain the actual results of physical testing, measurements and/or analysis specified by the contract confirming compliance with all identified requirements.

The supplier should have a system capable of providing the requested certificate of analysis within 24 hours of such a request.

### **Third Party Sorting and Rework**

In the event of a non-conformance in which the supplier cannot supply certified replacement product in a timely manner, PSI may elect, at its discretion, to sort and rework product in house or to contract for third-party sorting and rework of product. Charges for sorting and rework are the responsibility of the supplier.

### **Product Control and Containment Requirements**

#### ***Control of New Production Parts***

- a) Suppliers are required to identify which part in the lot was approved as a first piece inspection when submitting completed parts to Quality Assurance.

- b) New Production control requirements will be documented by the supplier, and must be reviewed by the PSI receiving site Quality department for concurrence prior to any Production Runs. Concurrence from the receiving site does not relieve the supplier of any responsibility or accountability to deliver 100% conforming product.
- c) Suppliers may be required to submit inspection data with each lot shipped. This may include variable measurement data, where applicable.

#### ***Containment for Nonconforming Parts***

Suppliers shall implement standard product containment immediately upon notification of a nonconformance. Containment shall include at a minimum:

- a) Submission of a documented action plan for the containment of all parts within the supply chain. This includes, but is not limited to parts at the supplier, in transit and at the receiving plant. Regular communication of the containment results directly to PSI.
- b) Communication of the manner in which product will be identified as quality assured/inspected by container or individual product.
- c) On-site support as necessary.
- d) Utilization of a third party inspection service when circumstances prevent the supplier from providing expedient and efficient containment.

Suppliers whose standard containment actions are found to be ineffective may be placed on Third-Party Containment. Third-Party Containment includes all of the standard containment requirements specified above, with the added requirement of inspection by a third party. The third party will be contracted and paid for by the supplier. PSI may elect to have the supplier go directly to Third-Party Containment.

The supplier shall remain in containment (either standard or third-party) unless otherwise notified by PSI until permanent corrective action has been implemented and its effectiveness validated. Suppliers may exit from standard or third-party containment when the following criteria have been met:

- a) 30 days of production have shown zero defects at the point of containment unless otherwise specified. If a defect is found at containment during this time the counter is reset and 30 clean days must be achieved from that point.
- b) A Nonconforming Material Report (NCMR) with supporting evidence for the concern that caused the containment to be initiated has been submitted to the PSI receiving site procurement and/or QA Representative and closure has been accepted by PSI.

Suppliers are expected to accept all costs and charges associated with the containment activity such as shipping, handling, processing, reworking, inspecting, and replacing defective material including the costs of value-added operations prior to the discovery of the nonconformance, as well as third-party inspection costs.

#### **Quality Clauses**

The Quality Assurance clauses are applied and defined on purchase orders to flow our requirements to our suppliers.

Beaver Aerospace & Defense, Inc. or their Customers reserve the right to inspect all materials, special processes, inspection and test data, procedures, or facilities which are pertinent to the respective purchase order. All quality data must be maintained on file for seven (7) years and/or as required by Customer.

Unless otherwise noted, the latest revision to applicable Customer and Government Specifications shall apply.

### **Confidentiality**

In the course of normal business activities, confidential PSI information may need to be shared with the supplier community. In such cases, PSI requires its suppliers to complete and submit a copy of the PSI Non-Disclosure Agreement or a Proprietary Information Agreement in order to protect proprietary information and intellectual property. Failure to submit this agreement when requested will result in disqualification for new business projects.